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AGRICULTURE AND NATURAL RESOURCE POLICY 2017-2026



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ABBREVIATIONS AND ACRONYMS

Abbreviations	Acronyms
AEZ	Agro-Ecological Zone
AfDB	African Development Bank
AEU	Agricultural Engineering Unit
AGOA	Africa Growth Opportunities Act
ANR	Agriculture and Natural Resources
ANRP	Agriculture and Natural Resources Policy
ANRWG	Agriculture and Natural Resources Working Group
AUIBAR	African Union Inter- African Bureau for Animal Resources
CAADP	Comprehensive Africa Agriculture Programme
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CF	Community Forest
CRR	Central River Region
Cus	Credit Unions
CVO	Chief Veterinary Officer
DPWM	Department of Parks and Wildlife Management
ECOWAS	Economic Community of West African States
ECOWAP	ECOWAS Agricultural Policy
FAO	Food and Agriculture Organization of the United Nations
GAWFA	Gambia Women Finance Association
GBOS	Gambia Bureau of Statistics
GDP	Gross Domestic Product
GEAP	Gambia Environmental Action Plan
GEF	Global Environmental Facility
GIS	Geographic Information System
GNCA	Gambia National Carpentry Association
GNAIP	Gambia National Agricultural Investment Plan
HACCP	Hazard Analysis Control Critical Point
IsDB	Islamic Development Bank
IFAD	International Fund for Agricultural Development
IPM	Integrated Pest Management
LED	Local Economic Development
LiDeSA	Livestock Development Strategy for Africa
MCS	Monitoring Control Surveillance
MECCNAR	Ministry of Environment, Climate Change, and Natural Resources
MFI	Micro Finance Institution
MOA	Ministry of Agriculture
MOFWR	Ministry of Fisheries and Water Resources
NACOFAG	National Coordinating Farmers Association of the Gambia
NAWEC	National Water and Electricity Company
NAWFA	National Women Farmers Association
NBR	North Bank Region
NDP	National Development Plan
NEA	National Environment Agency

NEMA	National Environment Management Act
NEMC	National Environment Management Council
NEPAD	New Partnership for African Development
NFTP	Non-Forest Timber Products
NGO	Non-Governmental Organization
NSS	National Seed Secretariat
OMVG	Organization of the Gambia River Basin
PA	Protected Areas
R&D	Research and Development
SACAs	Savings and Credit Associations
SDF	Social Development Fund
SDG	Sustainable Development Goals
TAD	Transboundary Animal Diseases
URR	Upper River Region
UTG	University of The Gambia
VISACA	Village Savings and Credit Association
WALIC	West Africa Livestock Innovation Center
WASH	Water Sanitation and Health
WCR	West Coast Region
WFP	World Food Programme

EXECUTIVE SUMMARY

The Gambia is predominantly an agriculture and natural resource-based economy. The ANR sector generates 40% of the foreign exchange earnings, employs 46% of the labour force (IHS, 2015/16), 72% of the poor and 91% of the extremely poor are dependent on the sector for their livelihood. The ANR sector contributed 26% (2013), 23% (2014), 22% (2015 and 2016 each) and 21 percent (2017) to The Gambia's Gross Domestic Product (GDP). The sector is dominated by subsistence-oriented rain-fed crop, traditional livestock rearing and unsustainable exploitation of natural resources. In the face of increasing and frequent adverse climatic events in recent decades, the crop sub-sector performance has been weak and below the annual national population growth rate of 3.1%. The sub-sector registered a general decline in yields of major crops - rice (36 percent), maize (26 percent), millet (17.7 percent), groundnuts (8.7 percent). With regards to rice (the staple food) only 17% of national requirement is domestically produced culminating in huge import bills; current annual rice imports exceed USD70 million. Consequently, those dependent on the sector for livelihood have been experiencing deepening income poverty, food and nutrition security.

Demand and prices for livestock and livestock products show an increasing trend due to population growth, urbanization and increased income. However, productivity is low thus the country relies on imports of live animals, processed chicken meat and eggs, and dairy products to meet the growing demand. The fisheries sub-sector is lucrative business and foreign exchange earner for operators and fish is the main source of animal protein in the diets of most Gambians with a national per capita consumption of estimated at 25kg. A large population depends on fisheries both directly and indirectly for livelihood through fishing and linkages to fish processing and trade. The fisheries sector is identified as one with great potential for value addition and provision of rural incomes in the country.

With the expiry of the 2009-2015 ANR Policy and the change in Government in 2017, a renewed impetus has been created requiring a change in policy context and thrust. This requires addressing key challenges particularly of value addition, productivity enhancement, sustainable natural resources exploitation and climate resilience. In this regard, the 2017-2026 ANR policy was formulated and finalized in May 2017 and revised in May 2020. These two ANR Policy documents were amalgamated to form the Final ANR Sector Policy 2017-2026, which harmonizes the two policy documents with increased attention/emphasis on natural resources and environment issues/challenges and how these challenges relate to the need to promote smart agricultural production and productivity. In this regard, the Vision of the policy is that of a *“market-led, commercialized, efficient and effective, competitive and dynamic ANR in the context of sustainable development.”* The over-arching policy objective is *“maximization of poverty reduction and enhancement of food, nutrition and income securities through the optimal utilization of the resources consistent with the integrity of the environment.”*

STRATEGIES

The realization of the Final ANR policy objectives will be pursued through eight strategies: (i) optimizing resource use (land, labour, capital and entrepreneurship/management); (ii) integration and acceleration of agro-based industries; (iii) strengthening and enhancing research and development efforts and technology diffusion; (iv) greater investment and technological resources from the private sector; (v)

reformed marketing strategy; (vi) expanded food production; (vii) human resources development; and (viii) development of viable self-reliant ANR institutions.

Agriculture and Natural Resources SECTORAL POLICIES

Food and cash crops development policies: The crop subsector is the largest contributor to GDP and is one of the key drivers towards food security, poverty alleviation and in spurring economic growth. The development of the value chains provide significant potential for rapid growth and linkages with other sectors. Within the crop sub-sector groundnuts account for 5.3% of The Gambia's Gross Domestic Product (GDP), and other crops 8.3%. Key Specific objectives for the crop sector of the ANR policy are: to increase production and productivity of food crops and vegetables through rehabilitation, intensification and expansion of cropping systems and processes; to enhance higher level of expansion and development of the food industry sub-sector; and to achieve wider and more effective participation and representation of subsistence farmers/operators especially women in modern and commercial production, agribusiness and trade. Specific crop strategies developed for rice, coarse grains (millet, maize, sorghum), cowpea, soybean, root and tubers (cassava, sweet potato), groundnuts, sesame and cotton emphasize improving productivity, value added and marketing. The Horticultural subsector strategic objective is to exploit the potential niche and enhance the competitiveness of the industry to effectively contribute towards the national ANR policy as further outlined in the Horticultural Strategy (2015-2035). The crop sector is further supported by the seed policy, mechanization, extension and irrigation strategies.

Livestock development policy: The livestock sub-sector contributes about 5% of GDP (GBOS, 2018) and 25 to 30% to the agricultural GDP. The key policy strand of the sub-sector include: transform the livestock subsector from traditional low-output-low-output production systems to a competitive, commercial, value chain based and private sector led; diversify the livestock feed base to enhance the availability and access to quality feeds; improve animal health and reduce impact of animal diseases on livestock production, productivity, welfare and public health; improve value addition and marketing of livestock and livestock products; and, strengthen livestock research, extension and access to credit and inputs.

Fisheries development policy: The fisheries sub-sector plays a pivotal role in food and nutrition security and income generation; it contributes about 6% to GDP. Key policy strands include: to pursue sustainable management and optimal utilization of fish and fisheries; strengthen monitoring, control and surveillance systems on fisheries resources; improve marketing, processing and preservation of fish and fisheries. Capacity building for fisher folks shall be prioritized in the next five years.

The forestry sub-sector policy: Forestry accounts for 0.5% of GDP. The specific forest policy goal will continue to maintain 30% of the total land area into forest, of which 75% will be sustainably managed under community and private sector participation. The policy strand of forestry sub-sector for the period will be improving and maintaining forest resources through greater involvement of the local communities and the private sector in the effective management of existing natural forest cover through; prioritize institutional development aligned to the decentralization framework; monitor sustainable forest management and utilization of forest resources; promote marketing and income generation by granting local communities user and management rights; and ensure that cross sectoral linkages, Research and Program Development shall be fully endorsed and executed by all core agencies.

Biodiversity/Parks and Wildlife Development policy: The specific biodiversity/parks and wildlife policy goal will continue to be the expansion of protected areas coverage of 10% of total surface area. The biodiversity wildlife and parks subsector policy strand is aimed at addressing the underlying causes of biodiversity loss through greater and systematic involvement of the population, in particular satellite local communities, in their effective management and the specific parks and wildlife. This will be effected through: to conserve and manage Wildlife in accordance with Gambia's obligations under international conventions and agreements; to ensure efficient management of Protected Areas in accordance with internationally accepted standards; and conserve, and by Regulation, control trade in Wildlife; and, to solicit Institutional Support for Wildlife Conservation efforts by promoting awareness on the importance of Wildlife Protection in cooperation with other Government agencies and civil society.

Water Resources and climate change policy: The availability of water resources and management instruments are crucial to the attainment of goals on poverty, hunger and environmental sustainability. Addressing Climate change issues, on the other hand, is critical as The Gambia is susceptible to climate related risks such as droughts/dry spells, sea level rise and floods which pose a serious threat to socio-economic development.

The policy strand of water resources and climate change hinge on: transformation of the Legal and Institutional Framework; Promote Water Resources Information and Knowledge Sharing among stakeholders and in public; engage in Trans-boundary Water Sharing and Collaborative water resource management as a pre-requisite requirement in our regional cooperation; and, promote Adaptation efforts and Resilience building and Ecosystem Management in Response to the Emerging Climate Change.

Environmental management policy: The environmental management policy will be based on sound partnership among the farming community, the private and public sectors in the integration of ANR policy and production systems and effective implementation of the Gambia Environmental Action Plan (GEAP II) and SEA Policy (2017-2021). The policy guidelines are: to ensure efficient and effective waste and sewage management; to assume efficient management and control of all hazardous chemicals and pesticides by implementing relevant international instruments through existing laws to minimize their effects on human health; to regulate sand and gravel mining, and ensure efficient management of Coastal Zones; and, to promote and scale up integrated approach to sector coordination and harmonization for sustainable natural resource utilization and management

SUPPORTING POLICIES/STRATEGIES

A number supporting policies/strategies outlined for sustainable ANR sector development include: the National agricultural extension policy; Research and Development strategy; Cooperative development policy; Irrigation Development strategy; Agricultural credit/finance; Microfinance strategy; enterprise policy; Agricultural Mechanization and marketing policy.

CROSS CUTTING POLICIES/STRATEGIES

A number of policies/strategies of a cross-cutting nature to the ANR have been outlined and include: the Macroeconomic framework; National Nutrition policy; National youth policy; Trade policy; National Transport policy; National policy for Decentralization and local development; and the Gender empowerment and mainstreaming policy.

IMPLEMENTATION

The implementation mechanism of the ten-year policy requires that ANR stakeholders are effectively coordinated in a harmonized manner. The Policy coordination is to be provided through an Inter-Ministerial Council with a rotating chairperson among the Three ministries (MOA, MECCNAR, and MOFWR). The needed technical support will be provided through the ANR Working Group (ANRWG) which is the technical working group for enhanced coordination of interventions in the ANR. Implementation of the policy will require greater commitment by government to fund the Inter-Ministerial Council and ANR working Group.

ASSUMPTIONS, RISKS/MITIGATION

The achievement of the objectives of the policy is premised on a number of key assumptions including: economic stability, and continuity of government commitment to the sector; sufficient resources will be allocated for implementation of the policy; and that progressive improvement of the national infrastructure, and community participation is ensured. A number of risks including insufficient domestic and external funding; inadequate implementation and decision-making capacity; inadequate monitoring and supervision; and inconsistent sub-sector leadership and decision-making are envisaged during the implementation. These need to be fully mitigated in the coordination and implementation process of the policy for better realization of policy goals and objectives.

AGRICULTURE AND NATURAL RESOURCES (ANR) POLICY 2017 – 2026

1. INTRODUCTION

The revised policy framework is complementary to the previous ANR policy (2017-2026)¹ and the Supplementary Agriculture and Natural Resources (ANR) Policy² and not a replacement of any of the two documents. It can thus be used alongside them. It should be noted that the role of the Agriculture and Natural Resources (ANR) Policy framework is to: provide guidance on government priorities and strategic direction for the ANR stakeholders and institutions involved in planning, developing, regulation and financing; ensure that the strategic directions are aligned with that of the regional ECOWAS Agricultural Policy (ECOWAP), the continental African Union (AU) Comprehensive Africa Agricultural Development Programme (CAADP) of the New Partnership for Africa's Development (NEPAD) and the United Nations (UN) Sustainable Development Goals (SDGs); provide a platform for dialogue and to provide guidance on the roles and responsibilities of key stakeholders; and, provide guidance on priorities for investment and reform that enables and facilitate achievement of the strategic objectives for the ANR within the policy framework.

The Revised Agriculture and Natural Resources (ANR) Sector Policy 2017-2026 framework is organized in the context of the following thematic chapters. Chapter 1 examines the introductory part of the policy that comprises the country location, population, weather; economic context; review of the performance of the ANR Sector; rationale; the vision statement that premises on the trajectory of industrialization, policy objectives, regional, continental and global linkages, macro-sectoral Framework (2017-2026) that hinges on the production and value added, employment and investment pathway.

Chapter 2 describes the key strategic issues/challenges of the ANR sector categorized under three broad groups: overall sector constraints; sub-sectoral specific constraints; and, institutional support services and system-wide constraints. The mitigation of these challenges will depend largely on the resolution of relatively few but key strategic policy issues in the document. Chapter 3 deals with the sub-sectoral policies and strategies (crops, livestock, horticulture, fisheries, water resources and climate change, biodiversity/parks and wildlife, forestry and environment). It describes the subsector value chains development with special focus on the food security, poverty alleviation and spurring economic growth. For each of the sub-sectors focus is made on delineating the policy guidelines, policy statement and issues, policy objectives and policy strategies.

Supportive policy prescriptions are outlined in chapter 4 which focuses on services delivery to the various subsectors covering following policies: agricultural extension; research and development; cooperative development; irrigation, agricultural credit/finance; microfinance; entrepreneurship; agricultural mechanization; and marketing. Chapter 5 focuses on cross-cutting policies/strategies comprising macro-economics ; nutrition; youth; trade; transport and, the decentralization and local development.

¹ Sambou Lamin Kinteh (2016). Agriculture and Natural Resources (ANR) Policy (2017-2016). Republic of The Gambia/World Banjul

² Republic of The Gambia (2017). Supplementary Agriculture and Natural Resources (ANR) Policy. Updated Draft.

Chapter 6 deals with the implementation processes and provides the enabling environment and direction for enhanced coordination and partnership among the ANR subsector stakeholders. In this regard, effectively and efficiently, the policy has to be well coordinated in a harmonized manner for effectiveness and efficiency. Policy coordination will be provided through an Inter-Ministerial Council with a rotating chairperson among the Three ministries (MECCNAR, MOA and MOFWR). The needed technical support will be provided through the ANR Working Group (ANRWG) which is the technical working group for enhanced coordination of interventions in the ANR and the Gambia Environment Action Plan (GEAP) and the National Climate Change Committee (NCC) charged with decisions and policy making regarding climate change. In addition, the chapter also looks at the coordination role of stakeholders, resource mobilization and monitoring and evaluation (M&E). Finally, Chapter 7 provides the assumption and risks envisaged during the implementation. These assumptions and risks need to be fully mainstreamed in the coordination and implementation process of the policy for better realization of policy goals and objectives.

1.1 Location, Population and Climate

The Republic of The Gambia is located on the West African coastline and stretches some 480 km inland from west to east on either side of the River Gambia. It varies in width from 48 km in the estuary of the river to 24 km inland. The country also lies between latitude 13°28'N and longitude 16°34'W with a total land area of about 10,689 km². The population of The Gambia was estimated at 1,857,181 with an annual growth rate of 3.3 percent (GBoS, 2013). It comprised 919,305 (49.5 percent) males and 937,876 percent) females and about 42.2 percent of the population live in rural areas with a population density of 176 persons per km² one of the highest in the Africa. At present trends, this total population is expected to double in the next 16 to 17 years, spurred on by a high fertility rate, a decline in infant mortality rates and immigration, which accounts for about 1.7 percent of population growth. The high fertility level of 5.4 births per woman has resulted in a very youthful population structure. Forty-two percent of the country's residents are below age 15 years, and about 22 percent are between age 15 and 24 years. Over 70 percent of the population is below 30 years of age³ and about 59.6 percent of the population lived in urban areas in 2015, which was a substantial increase from the 28.4 percent recorded in 1980⁴. In 2018, the Human Development Index (HDI) of the Gambia was estimated at 0.466 and ranked 174 out of 189 countries (UNDP, HDI 2019).

Its ecology is predominantly drought Sahelian shrub-land. The River Gambia runs the entire length of the country from the Fouta Djallon highlands in Guinea Conakry to the Atlantic Ocean thus dividing the country into two halves: north and south banks. It is mainly surrounded to the north, south and east by the Republic of Senegal and to the west with a short Atlantic Ocean coastline. The country has a Sudano-Sahelian climatic condition mainly characterized by a long dry season (November to May) and a short, erratic and unevenly distributed rainy season (June to October). Annual rainfall ranges from 850 mm to 1200 mm, while the temperatures average from 18°C to 30°C during the dry season and from 23°C to 33°C in the rainy season. Given the uncertainties of climate change that the country faces which may lead to favorable rains, drought or flooding, the agriculture and natural resources sector is continuously subjected to considerable crops, livestock and natural resources commodities' production and productivity boost or stressful alternation. This characteristic production and productivity trend of the ANR sector persisted

³ Ibid 11

⁴ Economic Commission for Africa (2017)

throughout the two decades of the autocratic rule of Jammeh Government (1994-2016) as depicted in detail in the situational analysis of the ANR sector section below.

1.2 Economic Context

The Agriculture and Natural Resources Sector (ANR) Policy 2017-2026 is being implemented within the prevailing macroeconomic situation of the country. Historical evidence has shown that the main characteristics of the Gambian economy are its small size, narrow productive and market base and limited diversification depending mainly on services (tourism and re-export trade) and agriculture. It also has a small export base, with groundnuts, cashew, mangoes, vegetables (green beans) and fisheries as the main agricultural and natural resources export commodities.

In the past, particularly during the autocratic rule of the Second Republic (1994 to 2016), The Gambia's macroeconomic situation had been challenging and erratic largely epitomized by an unpredictable and shaky governance structure with sudden policy shifts and slippages; weak institutional management; excessive borrowing (rising debt to the GDP ratio) aggravated by expansionary budgetary spending also underpinned by the persistent inadequacy and controversial legal and environmental frameworks and limited enforcement of existing laws and regulations. The debt-to-Gross Domestic Product (GDP) ratio grew up to 130 percent of the GDP in 2017 (GATP 2020-2030) and hence the country classified as a debt distressed nation (GATP, 2020-2030). Consequently, the country became susceptible to economic and exogenous shocks that seriously affected economic growth as manifested prominently in the agriculture and natural resources sector's less desirable performance.

The Gambia's GDP at current prices using the new 2013 base year, stood at GMD 49.2 billion⁵ equivalent to slightly above US\$1 billion (exchange rate at GMD 48.50 per US\$) in 2018. Between the period 1999 and 2018, the real GDP growth fluctuated substantially and reached 5.4 percent in 2018 from 3.5 percent in 2017. Largely attributed to this GDP growth trend was associated with services (including tourism, trade, financial and insurance) sector that expanded by 10 percent in 2018⁶. In addition, the robust growth in transport, construction, and telecommunications also supported the GDP growth. Regardless of the positive GDP growth, only US\$530 was the GDP per capita of the country in 2018 which was just one-third of the Sub-Saharan average of US\$1,553 and far less than 4 percent of the world's average. The country's Gini coefficient was estimated at 0.356 in 2016 and regarded as among the most income unequal countries of the ECOWAS region.

However, inflation decreased to an estimated 6.2 percent in 2018 from 8 percent in 2017. The local currency the Gambian Dalasi (GMD) remained stable with increasing gross international reserves slightly reaching 3.1 months in 2018 from 2.9 months in 2017⁷. These successes were underpinned by the emerging fiscal discipline embarked upon by the new government and sustained by increased financial assistance from development partners.

⁵ Rebasings and compilation of Gross Domestic Product – 2013 base year, GBoS, June 2018.

⁶ World Data Atlas – Gambia – Economy, Knoema, 2018

⁷ [African Economic Outlook \(AEO\) 2019](#)

Services, agriculture and industrial sectors are the main drivers of the Gambian economic growth. The services sector contributed 58 and 61 percent to GDP in 2013 and 2017 respectively. This was followed by the agriculture sector which contributed 26 percent (2013), 23 percent (2014), 22 percent (2015 and 2016 each) and 21 percent (2017). Agriculture is predominantly subsistence with groundnuts being the main cash and export crop. The Industrial Sector, in the same period, contributed 12 to 17 percent to the nation's economy⁸. In addition, the Fisheries and Aquaculture Sector contributes about 6.5 percent to GDP (NDP, 2018-2021) signifying its importance for food, nutrition and income security and export potentials while wholesale and retail trade also contributed an average of 25 percent of GDP⁹ in 2018 reflecting the importance of re-exports trade to The Gambian economy despite the frequent Gambia-Senegal border closures/instabilities. The tourism sector has contributed approximately 20 percent of GDP in 2016 and has been the largest foreign exchange earner. However, over the years remittances and international aid have played an important role in sustaining the economy. With the outbreak of the COVID-19 pandemic this year (2020), such exogenous economic opportunities are seriously being curtailed thus leading to economic hardship for most vulnerable households who relied heavily on such foreign-based remittances.

1.3 Review of the Performance of The ANR Sector

The Gambia is still an agriculture and natural resources-based economy despite increased share of the services sector in the GDP in recent years. It constitutes between 30–40 percent of all foreign exchange earnings from exports; employs 46 percent of the country's labour force as well as 72 percent of the poor and 91 percent of the extremely poor; and serves as the primary source of livelihood for 80 percent of rural population (IHS¹⁰, 2015/16). The ANR sector is also mainly dominated by subsistence-oriented rainfed crop and livestock production system cum extensive exploitation of the natural resource base of the country. The Gambia lagged behind other African countries in agriculture, forestry, and fishing value added average annual percent growth (WDI, 2018). During the period 2008-2018, the Gambia registered less than 3 percent in average value addition while other West African countries recorded well above 3 percent. In the light of this, the weak ANR sector's performance despite some favourable natural conditions resulted in: a gyrated ANR sector output growth trend recorded 8.5 percent between 1995-2003, -1.1 percent 2003-2008 and 2.45 percent in 2008-2017. Consequently, the agriculture and natural resources sector is currently capable of providing only 50 percent of the country's national food consumption requirements and the remaining 50 percent catered for by increased food imports particularly rice which is the staple food of the country. For instance, 83 percent of the country's rice consumption was imported worth US\$35.7 million which accounted for 3.7 percent of GDP in 2016.

During the period (1994-2016), The Gambia encountered intermittent low annual agricultural production levels closely associated with low agricultural productivities reflected by declining crop yields: rice (36 percent), maize (26 percent), millet (17.7 percent), groundnuts (8.7 percent), although yields of cassava and cashew increased. Given the declining trend of agricultural productivity, any increases in national production levels were highly attributed primarily to cultivated area expansion estimated at 2 percent per annum over the stated period under review. Rice being the staple crop of the country, its yield gaps increased to 35.6 percent of West African countries and 18.7 percent of the sister country Senegal.

⁸ Rebasings and compilation of Gross Domestic Product – 2013 base year, GBoS, June 2018.

⁹ Gambia Trade Policy Reform Report (WTO, March 2018)

¹⁰ Integrated Household Survey (IHS)

The foregoing situational analysis has shown that the country's economic growth is highly correlated to agriculture and natural resources sector growth. The sector encountered great fluctuations from year to year due to over-dependence on rainfall for production. In the light of this, the sector registered weak performance during the period under review that brought about multiple adverse effects on the economy, population welfare with higher poverty rate and aggravated income inequality.

1.4 Rationale

It is important to note that from the 1960s to date, the agriculture and natural resources sector remained at the center stage of the three Governments' development policies agenda. In the 2000s, two main national policy strategic documents were prepared and implemented and these included: the general economic development documents and sector-specific policy documents. The general economic development documents comprised the Poverty Reduction Strategy Paper (PRSP I, 2003–2005), Poverty Reduction Strategy Paper II (PRSP II, 2007–2011) and the Programme for Accelerated Growth and Employment (PAGE, 2012–2015) while sector-specific documents consisted of Agriculture and Natural Resource Policy (ANRP, 2009–2015), the Gambia National Agriculture Investment Plan I (GNAIP I, 2011–2015) under CAADP¹¹-NEPAD¹²/AU¹³ and Gambia National Agriculture Investment Plan II (GNAIP II, 2019–2026). All these national development policy documents clearly emphasized and accorded high priority to the development of the ANR sector for increased economic welfare status to about 80 percent of the population who depends on the sector for survival. The main development strategy deployed included: production and productivity enhancements to ensure increased food, nutrition and income security.

Despite the fact that the ANR sector continuously enjoyed high priority of the governments' policy pronouncements since 1960s, several implementation challenges hampered satisfactory achievement of the ANR sector's development objectives. These challenges included: low budget allocations (below Maputo Declaration of allocating at least 10 percent of the national budget to the ANR sector); scarcity of qualified staff; limited institutional capacity still constraining performance of Ministries of Agriculture (MOA) and Natural Resources in formulating new sectoral policies, development strategy and programmes and only a proportionate quantum of financial assistance pledged for funding the National Development Programme (NDP, 2018-2021) was received hence creating a funding gap . In view of this funding gap, all NDP activities may not be implemented by 2021 thus limiting the desired level of expected achievements.

Therefore, irrespective of the cardinal policy prominence accorded to the development of ANR in the past and up to 2018 by the two past governments, the sector continued to suffer from the foregoing challenges: lack of comprehensive, coherent and harmonized ANR sectoral policies aimed at achieving increased food and cash crop production; improved nutritional standards of the population and diversification of the ANR base with minimum destruction to the environment. In addition, the sector was also plagued with inappropriate ANR commodities' pricing and fiscal issues (including inflation and

¹¹ Comprehensive Africa Agriculture Development Programme

¹² New Partnership for Africa's Development

¹³ Africa Union

inefficient taxes) as well as ineffective fertilizer subsidy policies that aggravated the sector's weak performance.

Despite the Government's stated policy objectives and strategies over the last twenty years of achieving increased food and cash crop production, improved nutritional standards of the population and diversification of the ANR base without damage to the environment, the low rate of performance of the sector vis-à-vis population growth has resulted in a remarkable deterioration of these cardinal policy objectives. The food sub-sector has in particular, experienced persistent decline and the country now depends on imports for approximately 50 percent of its requirements, at a huge cost ranging from D84 million in 1994 to about D1.923 billion in 2014 for only rice imports at cost insurance and freight (CIF) value whereas other non-rice imports of locally produced food commodities ranged from about D115 million in 1995 to D1.716 billion in 2015.

At the macro level, the overriding objectives of policies directed at ANR were aimed at a more favourable environment for producers, which will encourage increased productivity and production, employment, incomes and improved food security. In The Gambia, where small-holder farming/operations are predominant, this meant creating conditions in which small farmers/operators particularly women and youth farmers/operators who are predominant in most farming and agro-business activities, will be stimulated to produce more efficiently and generate surplus for the market. The realization of these macro level policy objectives continues to be a mirage/unsatisfactory.

At the micro level, policy measures have not created adequate opportunities for increased production of food and cash crops, livestock, and fish products by small farmers/operators. This was due to the fact that knowledge of these opportunities were inadequate, as the relevant information or data were not available or readily accessible, and were not linked to interpretations in terms of options for improvement in specific farming/production systems or other local initiatives. As a result, traditional farming/production methods continue to be used by the majority of farmers and operators at the detriment of environmental integrity. These methods, as has been demonstrated, are no longer adequate to cope with the increased pressure of population on the ANR sector, and thus, the expectations for improved living conditions for the majority of the populations have not yet been realized.

The foregoing conclusions from the brief analysis of the ANR sector's performance over the last two decades, 1995 to 2015, in the context of the structural changes in the economy and developments in international trade as envisioned by "The Gambia Incorporated.....Vision 2020" clearly indicated the emerging and persistent constraints facing the sector's present and future development. These major constraints which debouched the lacklustre nature of the commitment to the implementation of Vision 2020 include inter alia:

- i. Slow rate of technological development and innovation with regards to product development, process and packaging, production systems and varietal improvements;
- ii. Increasing labour shortages, wages and cost of production, as well as ageing farm labour due to exodus of able-bodied rural youths through the 'back way' or rural-urban drift in preference for non-farm jobs;

- iii. Increasing cost of new land development for irrigation and/or relative scarcity resulting from more remunerative alternative uses and illogical expropriation of large tracks of fertile farm lands from their traditional owners or would-be productive users;
- iv. Relatively low growth rate and magnitude of capital expenditure in ANR that impedes its rapid transformation, structural changes and integration with manufacturing, tourism and hotel industries;
- v. Inflexibility of institutional and related policy instruments that limit the ability of the sector to adjust swiftly to changing comparative advantages and diminishing international competitiveness; and,
- vi. Limited policy and development options in achieving sustainable development.

Thus, the 2017 – 2026 ANR Policy is a significant departure from the development emphasis and thrusts of the last twenty years. An economy that is built on the philosophy of Vision 2020 must have component sectors, especially ANR, which are equally vigorous and dynamic. The ANR policies of post-2015 will thus be similarly designed and will hence depart substantially in content, form and emphasis from 2009/2015 policy.

1.5 The Vision

The 2017 – 2026 ANR Policy is founded on the vision for the creation of a ***marketed-led commercialized, efficient, competitive and dynamic ANR sector in the context of sustainable development***. The structural transformation and rationalization of activities in the sub-sectors will be the main mechanisms for change. The process of change will allow the sector to contribute to and benefit from the growth and development of the economy as the latter moves along the trajectory of industrialization.

Thus, the need for the 2017 – 2026 ANR policy rests on the following:

- i. Increasing importance of land use optimization as substantial new land opening as a continued strategy for ANR development is not tenable and/or sustainable. The frontiers are fast becoming physically and agronomically limited and therefore, the increasing cost of new land, especially irrigable land development, can only be justified by socio-economic considerations. Thus, development options are limited to in-situ development which places strong emphasis on existing subsistence farms and medium sized private farms as source and base for further intensification and enhancement of output, productivity and income;
- ii. The importance of integration of ANR with manufacturing, tourism and hotel industries to provide synergistic stimulus to output and income growth of these sectors is sine-qua-non. New and additional value added employment and investment opportunities created through such integration will absorb displaced ANR labour resulting from increased appropriate mechanization. Agro-based and downstream development including related activities will thus be an important source of rural household income increases as well as reducing the exposure of the income to unstable world prices for primary ANR commodities. The fairly adequate and well distributed network of infrastructural and communication facilities and availability of adequate utilities and skills will facilitate this shift towards greater integration;
- iii. The increasing importance of productivity improvement as the main source of output growth is also a sin-qua-non. Hence the need to intensify R&D for the generation/introduction of new/improved

processes, methods and development of products and product lines that are of higher value and of standards that can compete in international markets will become a necessity;

- iv. The commercialization of ANR, operated purely as agribusiness will demand a critical mass of highly skilled and related expertise. The composition of ANR output will change in favour of those products that embody high content of knowledge and management skills. In this regard, a Human Development (HRD) Plan encompassing both extension and training curriculum, methodologies and facilities including the delivery system will be formulated to cater for the requirements for specialist advice, and consultancies, technology up-grading, informatics and greater coordination with R&D efforts;
- v. The emerging importance of accessibility to adequate food supplies to cater for not only domestic and export needs but also as an important stimulus to output and income growth of ANR apart from supporting a dynamic agro-based industrial sub-sector will be frightfully necessary. Food production has also to address questions of nutrition, food quality and variety. There is thus a need for Food and nutrition policy which addresses all the foregoing considerations;
- vi. The need for implicit/tacit regional specialization and spatial relocation of ANR research activities in particular, based on agro-ecological differences, resource endowments and development potentials will be equally important. The varying suitability of lowland ecologies for development will be the focus for future public and private initiatives for ANR development especially in rice production;
- vii. The continuing importance of efforts to narrow the gap that characterizes the women-men farmer/operator dichotomy, production and yield levels, drudgery, processing and marketing capacities due to technological, management, knowledge and informational gaps between women subsistence farmers and their male counterparts still persist, resulting in fairly wide income differences and efficiency of resource use. Thus the narrowing of these gaps will form an important agenda for women farmer education encompassing training and extension and broader enhancement of technical, management, entrepreneurial capacities to facilitate the involvement of organized women groups and individuals in commercial and agribusiness undertakings; and,
- viii. The concerns for the conservation of the environment and the sustainable use of ANR resources demand consideration in the socioeconomic planning and development paradigm. ANR whose development draws heavily, particularly on land, forestry and water resources has now to come to terms with trade-offs involved in sustainable development and these have changed the rationale and the determination of optimal development in policy formulation, project planning and resource exploitation plans. Resolving these trade-offs and developing ANR sector on sustainable basis will be an important departure from traditional planning approaches and considerations.

1.6 Policy Objectives

Apropos to the aforesaid vision of our ANR Policy, the structural transformation and rationalization of interventions envisaged in the sub-sectors will thus be guided by the attainment of ***the over-arching objective of the ANR Policy (2017/2026) of maximization of poverty reduction and enhancement of food, income and nutrition securities through the optimal utilization of the resources of the sector consistent with safeguarding the integrity of the environment.***

In specific terms therefore, the objectives of the 2017 – 2026 ANR Policy are:

- i. To achieve higher level of production and productivity of primary commodities through rehabilitation, intensification and expansion of ANR production systems and processes;
- ii. To enhance higher level of expansion and development of the food industry sub-sector;
- iii. To achieve wider and more effective participation and representation of subsistence farmers/operators especially women and youths in modern and commercial production, agribusiness and trade;
- iv. To achieve a balanced development among the ANR sector and other sectors of the economy; and,
- v. To enhance the economic and structural integration of the ANR sector with the rest of the economy especially, manufacturing, tourism and hotel industries.

1.7 Regional, Continental and Global Linkages

The Vision and objectives of the ANR as cited above is intricately linked to the national, Sub-regional (ECOWAS), continental (AU) and to the global (SDG) development frameworks. At the national level, it is linked with National Development Plan which as its third strategic priority envisions a modernized agricultural and fisheries sector for sustained economic growth, food and nutrition security and poverty reduction. The regional ECOWAP Policy has the objective of *“contributing in a sustainable manner, to meeting the food needs of the people, economic social development and poverty reduction in member states.”* At the continental level, it is aligned with the Comprehensive Africa Agricultural Development Programme (CAADP) of the New Partnership for Africa’s Development (NEPAD). In this regard, it is specifically in line with the Livestock Development Strategy for Africa (LiDeSA) (2015-2035) has the goal of transforming the African livestock sector for enhanced contribution to socio-economic development and equitable growth. The LiDeSA is guided by the vision of the Accelerated African Agricultural Growth and Transformation Goals of the Malabo Declaration, and is informed by the CAADP results framework.

At the global level, it aligned with the United Nations, Sustained Development Goals (SDGs) planned to be achieved by 2030. Key SDGs are 1 (no poverty); 2 (zero Hunger), 5 (gender equality), 13 (climate action), 15 (life on land) and 17 (partnership) are particularly relevant and provide rallying points.

Macro-Sectoral Framework The projections of value-added, production, employment, factor productivities, local raw materials utilization rate and sources of growth of output embody the underpinning and objectives of the ANR Policy (2017-2026) consistent with basically market driven growth of the economy. Value added in ANR is expected to grow at 6.14% per annum in the period 2017-2026 to be driven principally by crops (vegetables and fruits), livestock and fisheries production. Total employment in ANR is projected to grow at a rate of 1.05% per annum compared to 23.94% for manufacturing, by deliberate and conscious structural adjustment in the sector through expansion of agro-based industrial development and appropriate mechanization of crop production to enable the latter to absorb more labour from the labour force and off the land.

1.7.1 Production and Value-Added

Although the overall ANR production base is unlikely to substantially expand and diversify in terms of natural resources of land, fauna and flora, range of crops and non-crop activities, it will however be rationalized and deepened. More emphasis will be given to the development of crops, in particular horticulture (olericulture, pomology and floriculture), upland and tidal rice, and also fisheries, forestry and livestock production whose potentials for import substitution will be harnessed and promoted to

expand their export markets and marketing. An important stimulus to ANR production growth will come from cereals especially coarse grain intensive production for the domestic market including food and intensive livestock production raw materials. A two-way synergistic stimulus will be realized through a broader and deeper integration of crops and livestock production systems.

Food production will be increased substantially through intensive and limited expanded cultivation of tidal and upland rice to improve the self-sufficiency level of domestic rice from the 2004 level of about 20% to meet a target of about 50% and the societal nutritional needs such as fish, beef, mutton, poultry, fruits and vegetables. The shares of these major food items in the daily household calorie consumption per adult equivalent in **Table 2.1** will be substantially altered from the present composition pattern towards a more balanced nutritional status by the year 2026. A strategy of import substitution and export in fisheries, horticulture and livestock sub-sectors will be pursued to improve dynamism and ANR's share of the economy. This will be supported by renewed R&D efforts to improve existing comparative advantages and enhance competitiveness to create a diversified export structure and expanded export markets. The bulk of this increase in value-added will come from import-substitution supplemented by some exports.

Table 2.1: Daily Household Calorie Consumption per Adult Equivalent, Urban and Rural Areas Compared (calories per adult equivalent and in percent of total calorie consumption)

Food Equivalent Category	Urban Sample		Rural Sample	
	Calories	% share	Calories	% share
Dairy products	74.5	2.4	58.4	2.3
Fish	188.4	6.6	144.3	5.9
Fruit/vegetables/roots	147.3	5.0	83.8	3.5
Grain products	210.2	7.1	64.8	2.6
Groundnut	90.0	3.1	207.8	8.7
Groundnut oil	289.3	10.3	124.6	5.3
Meat	33.4	1.1	32.5	1.3
Palm oil	168.0	5.8	61.5	2.5
Rice	1,205.2	44.1	943.9	37.4
Sugar	244.2	8.6	186.1	7.5
Other grains	155.1	5.1	577.1	22.5
Other	20.9	0.7	12.9	0.5
Total Calorie Consumption	2826.6	100.0	2497.6	100.0

Source: Cornell Food and Nutrition Policy Project (CFNPP) Survey

With increasing land constraints, greater emphasis will be on increasing land and labour productivities and intensity of land use as well as changes in land use pattern. Changes in ANR output composition will be pursued through expanded development of high potential products such as vegetables, fruits, fish and livestock. The crop mix and other ANR production activities will optimize on available labour resources consistent with the need to maintain sustainability. The major sources of growth of output will be yield

and quality improvements. Overall, the main source of growth in the future will be productivity improvements.

1.7.2 Employment

New employment opportunities in the production of traditional food crops is limited as relatively little new land can be opened up for cultivation. The ability of the presently cultivated land area to sustain current employment levels will be reduced as appropriate mechanization in agricultural production and processing activities are further adopted. In crop production, land/man ratio will reduce while livestock rearing, fishing and horticulture will be increasingly capital intensive.

The pace of disengagement of labour from the land (factor substitution) will depend on the rate and form of technological development in production methods and processes, level of wages relative to other factors of production and product value in both crop production and agro-based industries. Rationalization of, and changes in the production processes in all sub-sectors in the face of increasing labour cost will change the factor proportions, with management and other human resource capabilities becoming more important. Higher labour productivity will be a consequence of the above transformation in consonance with the anticipated macro-sectoral framework.

1.7.3 Investment

Modernization, structural reorganization and rationalization of ANR production systems with a view to increasing productivity and, expanding and diversifying the productive base will require substantial expansion of capital expenditure in the sector. Since new land development will be limited, capital investment will focus on the expansion and creation of productive capacities in horticulture (olericulture, pomology and floriculture), livestock rearing, forestry and wildlife, fisheries, ground water resource exploitation and the integrated development of related agro-based industries.

There will be further expansion in processing, refining and crushing capacities especially for groundnut and sesame and further downstream and new product development. Projects that utilize new appropriate technologies, processes and reasonably mechanized will be also important in the gross capital formation. In addition to local capital, foreign investment will be promoted and encouraged to draw upon their international market connections, technologies, research and development and, management acumen. The proportion of capital spending in distributive activities related to agricultural products (storage, rural roads and transportation) will be of increasing importance. Further development of, and capital formation in the primary and agro-based capacities will stimulate related industries through their complementary and linkage effects. Non-state actors especially the private sector will dominate the anticipated investment spree while the public sector spending will focus on public goods type services and projects such as drainage and irrigation, R&D efforts and farm roads. Investment in the software type and other related human resource infrastructure such as training and extension will be given a substantial changed emphasis within the framework of the Local Government Reform and Decentralization process. Existing technological possibilities will be further expanded through concerted R&D efforts and technological adaptations. Fiscal incentives and other macro-economic policies will be further reviewed to be promotive of environment friendly investments in agriculture and agro-based processing/downstream activities vis-à-vis redistributive trade in particular.

2 KEY STRATEGIC ISSUES

As evident from the foregoing brief analyses of the performance of the stated government policy and its strategy measures over the last 20 years, the realization of 2017/2026 ANR policy objectives will continue to be constrained by myriad of constraints identified by the Review Meetings which are subsumed under three broad groups: overall sector constraints; sub-sectoral specific constraints; and, institutional support services and system-wide constraints, detailed out in section 1.7 above. The mitigation of these constraints will depend largely on the resolution of relatively few but key strategic policy issues. These are:

- a) access to production resources especially productivity improvement technologies to achieve the desired levels of production and productivity increases;
- b) developing input/output markets and marketing infrastructure appropriate to the needs of a widely dispersed small-scale resource-poor farmers;
- c) stimulating sustainable private sector investment in ANR to integrate the sector and manufacturing and tourism sectors;
- d) fostering a shared sense of responsibility for natural resources conservation; and,
- e) fostering a shared sense of understanding of the linkages among population growth, food supply and natural resource depletion and degradation.

Thus, the explicit 2017/2026 ANR policy objective of achieving food security and alleviating poverty consistent with maintaining the integrity of the environment will, to a large extent, depend on the resolution of these strategic issues. Therefore, the recognition of this fact provided the framework for the selection and design of the policy strategies for the decade to come.

2.1 Strategies

The realization of the underlying growth and developmental objectives of the over-arching objective of the ANR Policy (2017/2026), in particular, the implicit transformation of the sector orchestrated by the new Vision of the 2009/2015 policy, will be pursued through the following strategies:

- i. Optimizing Resource Use;
- ii. Accelerated Agro-based Industries;
- iii. Enhancement of R&D Effort and Technology Diffusion;
- iv. Greater Role of the Private Sector;
- v. Reformed Marketing Strategy, Expanded Food Production;
- vi. Human Resource Development; and,
- vii. Development of Viable and Self Reliant Farmer/Fishermen's Institutions.

2.1.1 Optimizing Resource Use

A key strategy to spur and sustain the potential growth momentum of the sector is to optimize the use of its resources of land, labour, capital and entrepreneurial/management. The focus of these efforts will be on:

- i. Effective and systematic utilization of abandoned low land fields;
- ii. Realization of productivity and other efficiency gains in both crop and shared resources sub-sectors;
- iii. Optimal use of land, water and other resources for new lowland development and rehabilitation/replacement investment;
- iv. Creation and optimal use of agricultural, and natural resource surpluses to support the rapid development of agro-based industries;
- v. Improvements in the working of the labour market;
- vi. Re-organization of farm production system and structures; and,
- vii. Sustainable development of water resources, especially ground water, through investment to explore the huge renewable energy potentials of the country and other engineering infrastructure for irrigation, drainage, and farm access.

The phenomenon of abandoned fields is a consequence of myriad of supply side and demand side problems including uneconomic farm size, labour shortages, irrigation and drainage limitations, aging farm population and inadequate incentive farm price policy. Under the 2017/2026 policy, the programme of rehabilitation and improved access initiated by on-going projects will be accelerated.

2.1.2 Accelerated Agro-based Industries

The main strategy to improve and sustain ANR growth will be through integration of the s¹⁴ector with manufacturing, thus providing an opportunity to broaden the industrial production base and maximizing the inter-sectoral growth and developmental stimulus arising from the linkages.

The potentials of integration include:

- i. Through a synergistic two way demand and supply flow between ANR and manufacturing sectors by way of raw material supply to the former and the demand for ANR inputs such as farm machinery spare parts and agricultural chemicals;
- ii. Further growth and expansion activities in manufacturing, utilizing either wholly indigenous or in combination with improved raw materials and other inputs producing higher value-added products; and,
- iii. Further downstream and higher value-added activities building upon local raw materials by making them increasingly available in the future.

The raw materials available for further integration include rice, coarse grains, fruits, vegetables and fish. The development of diversified and comprehensive high value-added agro-based industries including animal feed, food preparation eg coarse grain flour, canned fruits & juice, sea-foods to provide further stimulus to ANR output growth as well as to the growth of the manufacturing sector. Another strategy to improve the integration of ANR with manufacturing will be by drawing upon potentials in import-substitution and the growth of local demand and exports.

2.1.3 Enhancement of R&D Effort and Technology Diffusion

R&D technological advancement and technical changes are required to overcome the production process, labour and other factor constraints in ANR sector. R&D will form one of the thrusts in providing technological possibilities and growth opportunities to sustain and enhance ANR output as well as the contribution to and integration with the rest of the economy. Thus, the research system will be appropriate decentralized along agro-ecological zones in line with the Research Master Plan of 2013.

The need to improve productivity and efficiency in the production of food and other ANR products, the integration of ANR with manufacturing sector, the maintenance of competitiveness in the international market and maintaining sustainable growth will necessitate the realization of production processes and methods that are highly intensive in technology usage.

R&D will be based upon the following considerations:

- i. Investment in pro-poor, pro-environment programmes to mainstream poverty-environment into national, sectoral and sub-sectoral developments from policy making to budgeting, implementation and monitoring;
- ii. R&D activities will be restructured to be conducive to creativity and innovation;
- iii. R&D activities to be more focussed on areas that need immediate solutions and identified potential winners; and,
- iv. Development of high technology but low-input system such as integrated pest management (IPM) to handle ecological and other obscurants of sustainable development.

2.1.4 Greater Role of the Private Sector

The transformation of the ANR sector into a competitive and efficient sector will require substantial investments and technological resources from the private sector. New employment opportunities and output as well as new product development, market expansion and diversification, deepening of the production base as well as processing will be important areas of private sector involvement. Bearing in mind the slow and declining rate of growth of private sector capital formation in ANR in the last twenty years and increasing trend of outflow of resources from the sector, incentives and other promotional packages will be developed to attract and retain private sector resources.

The focus therefore, will be on the improvement and creation of an investment climate for both local and foreign investors through the following measures:

- i. Fiscal incentive system that promote mechanization and high technology investment in new products and processes including the development of new sources of growth, market expansion and diversification. The investment package will be structured to attract foreign investment and expertise in selected areas of ANR activities such as groundnut, horticulture and fisheries sub-sectors. The above will be supplemented with supportive regulatory measures and environment with regards to finance, labour and accessibility to land. The workings of the labour market will be carefully monitored to be supportive of private sector investments;
- ii. Expanded role of private sector expertise and capital in the uptake of projects for privatization including through joint-ventures with public enterprises;

- iii. Integration of corporate and modern private sector investment and activities with farmers and farmers' associations through contract farming, out-growers schemes and other arrangements that expand market outlet for small-scale producers especially women farmers; and,
- iv. Expansion of training opportunities to produce the required skills and trained manpower in various fields.

2.1.5 Reformed Marketing Strategy

Successful marketing of ANR products will be a necessary pre-condition for further growth in the export market which is becoming more competitive and sophisticated in an environment of uncertain multilateral trade framework. ANR and primary product marketing will be based on a proactive and industrial marketing strategy. The increase in the anticipated primary product exports including those arising from product differentiation and new product development and uses embodying higher value-added will need new market niches, further market penetration and establishment of new markets.

Marketing is more than selling. The further entry into international market will need an efficient marketer strategy rather than that of a commodity trader to minimize the disadvantages of a price taker. Marketing must respond not only to price signals but also be sensitive to changing consumer preferences. It also involves the creation of new demands and uses, product innovation and differentiation, market segregation and market niches. The ANR marketing strategy will exploit the potential of existing trading blocks and preferential trading arrangements.

Domestic marketing of ANR products will emphasize product competitiveness and user orientation in order to increase effective demand and reduce dependence on imported products. In the context of an open economy, domestic ANR products, both fresh and processed will have to compete on price, quality, brand names and other related services with imported products, particularly for food items. Domestic marketing activities must therefore seek to provide consumers with high quality, well-packaged, effectively promoted, competitively priced, varied and reliable product supply. The strategy will emphasize increased changing consumer preferences and expanding consumption of local products through consumer education and promotion, improved marketing infrastructure and facilities, enhanced quality packaging and price competitiveness.

2.1.6 Expanded Food Production

The Gambia is a net importer of rice, the country's staple food, and all other basic food needs including raw materials for agro-based industries. The self-sufficiency rate for its staple rice food is about 17%. Beside the concern for this dismally low self-sufficiency level of the staple food, there is also increasing consciousness with nutritional and quality aspects of food.

Expansion of food production for both import substitution, domestic demand and export market present opportunities for increasing output and income in the ANR sector. The thrust will be on:

- i. Implementation of a food policy emphasizing the expansion of domestic food production of more protein and high fibre food to increase consumption of higher protein-content food items and reduce starch and carbohydrates in both urban and rural households; and,

- ii. In view of the importance of rice, fish, meat, fruits and vegetables in household consumption, their ready and local availability, accessibility and utilization will be important from food security point of view. The country possesses comparative advantage in the production of these items. Therefore, the food and nutrition policy will aim at accelerated production of important food items.

The policy mix to support the foregoing efforts will include the following:

- i. Temporary use of import duties and other promotional incentives to build up local productive capacities and, over the medium- and long-term, the industry's comparative advantage. A package of R&D, extension and other services will complement such efforts. This will include irrigation and drainage investments to facilitate increase in yield, make possible use of other productivity augmenting inputs such as fertilizer and high yielding seed varieties and introduction of new farming technologies such as multiple-cropping for intensive land use. The expansion of double-cropping of irrigated rice and the provision of controlled drainage facilities for year-round production of short and long-term crops such as vegetables and fruits for both domestic food and export will call for further public and private investments. Private investment will be promoted for this purpose;
- ii. Liberal foreign investment policy, including security of investment, to draw upon technology, expertise, capital and other market linkages to accelerate growth and overcome technological and other supply side constraints in the development of the industry. This will in particular, involve fish and fish products and, fruits and vegetables;
- iii. Concerted and comprehensive long-term R&D agenda to identify and build-up indigenous technological possibilities for specified food items embodying local and foreign research capabilities; and,
- iv. Expansion of land area for vegetables and fruits production. The Government will promote the orderly and sustainable development of fruits and vegetable including floriculture through the creation of Horticultural Development Authority.

2.1.7 Human Resource Development

Human resource development will be one of the key strategies to achieve increased productivity and output of labour and land. The emerging scarcity of land will render human resource development more pertinent in the context of meeting the over-arching objective of increased ANR output and maximization of food and income securities. It will provide the essential complement to the important areas of R&D, extension and marketing.

New technological processes and methods, equipment and new demands consequent to the globalization of the economy and issues related to sustainable development in the wake of climate change and conservation of biodiversity will require improved and new knowledge. Thus, there is a need to have a critical mass of adequately trained skilled manpower in the ANR sector. Accordingly, human resource development, especially in the areas of other shared resources sub-sectors, will require the formulation of a comprehensive plan to include manpower and other training needs for efficient agribusiness and resource management in primary production as well as in agro-based processing. This plan will inter-alia, focus on the following:

- i. Defined targets which also identify the clientele for such development which will include the training needs for farmers, fisher folks, agro-based industries, entrepreneurs, marketers, researchers and extension officers. These targets will place special emphasis on the role of women in the above areas; and,
- ii. Training syllabi will include ANR management aspects (value chain) including packaging and marketing, product quality control, health and sanitary requirement. This training will also include the training of cadres in leadership, management and organizational skills which are essential ingredients for social and institutional development and growth of such institutions in the ANR sector. The plan will also include a programme for the development of specialist skills and knowledge and, management/entrepreneurial capacities.

To realize the objective of the training programmes, the existing curriculum of ANR training institutions will be reviewed, improved and updated, and the production of teachers and trainers increased, involving both public and private sector initiatives. This will require the rationalization and consolidation of existing agency training institutions to economize on teaching faculty resources and other overheads.

2.1.8 Development of Viable and Self-Reliant Farmers'/Fishermen's Institutions

Self-help, self-improvement and attitudinal change are at the core of the strength of commodity groups to spearhead innovations and active participation of farmers'/fishermen's associations and agro-based cooperatives in the modernization process of ANR development.

The 2017 – 2026 ANR policy will address their current constraints and propose an explicit programme for their long-term development. Despite their numerical strength under the Farmers' Platform, these organizations have a meagre capital base. This constraint together with the very limited managerial and technical capabilities severely limit their participation to only low risk-low return, small turnover and simple technology ventures such as supply of inputs and marketing of products and basically traditional agro-processing activities.

The ANR policy (2017 – 2026) will tackle the major constraints to the activities of farmers'/fishermen's institutions through mitigating the low capital base and lack of technical, managerial and expertise through the following measures:

- a) **Formation of a Financial Institution:** There are two possible financial institutional options – an Agricultural Development Bank or a National Farmers'/Fishermen's Savings and Credit Union to effectively meet current and prospective credit needs of their members. More importantly, it will facilitate their entry and participation in the mainstream of economic development and growth including, in particular, in the manufacturing and services sectors. The functions of the proposed institution include:
 - i. A source of credit and channel of savings for the members of the associations;
 - ii. Performing the functions of a domestic financial centre; and,
 - iii. Carrying out banking activities for local marketing and agro-based processing activities of its clients including inter-alia the issuance of banker's acceptance, guarantees and letter of credit.

- b) **Farmers’/Fishermen Institutions-Specific Human Resource Development Programme:** To meet the need of capable management and technical personnel to run the institutions on self-reliant and self-financing basis a short to medium-term specially tailored human resource development Programme will be needed. This programme will take cognisance of the need for attitudinal change, building up managerial and financial skills and knowledge for executives, staff and members in their relevant fields; and,
- c) **To Strengthen the Farmers’ Platform as a Federation of Commodity institutions:** Although existing commodity groups face some common problems, their amalgamation or consolidation into a single group is not what is being recommended here since they appear to be individually working fairly well. Instead strengthening the Farmers’ Platform is proposed to become a federation of all commodity organizations and associations with NACOFAG as its secretariat which will focus on the issues of:
- i. Coordinating the socio-economic activities of the national level institutions;
 - ii. Provide centralized national information linkages for all groups;
 - iii. Interest articulation and national level representation; and,
 - iv. Establishing regional and international infrastructural and economic linkages with other national institutions.

3 SUB SECTORAL/ENTERPRISE POLICIES

3.1 Food and Cash Crops Development

Introduction: Subsector Description

The crop sub-sector of the ANR sector is key in the drive towards food security, poverty alleviation and spurring economic growth through the development of value chains. However, the sub-sector is yet to significantly contribute to poverty reduction as alluded to in the NDP (2018-2021) which further iterates that 91% of the rural poor work as farmers. Over the years, low sub-sector performance compounded by the high population growth rate (3.1% according to (Population and Housing Census, 2013) resulted in the nation’s high dependence on import for about half its food requirement, particularly of rice, the main staple food of the country. Current annual rice imports exceed USD70 million, a huge drain on the Gambian economy and leads to acute food, nutrition and income insecurity particularly among the vulnerable groups (women and youth).

Policy Guidelines

The sector policy aims to increase production and productivity on a sustainable bases, improve food and income security, reduce poverty and subsequently promote upgrading and up-scaling value-addition. Thus, positively contribute to the realisation of the overarching ANR sector policy objective of ***the maximization of poverty reduction and enhancement of food, nutrition and income securities.***

Specific objectives for the crop sector of the ANR policy are:

- i) Increase production and productivity of food crops and vegetables through rehabilitation, intensification and expansion of cropping systems and processes;
- ii) To enhance higher level of expansion and development of the food industry sub-sector;

- iii) To achieve wider and more effective participation and representation of subsistence farmers/operators especially women and youths in modern and commercial production, agribusiness and trade.

Issues

The key issues hampering the development and productivity of the sub-sector are discerned below.

- (i) The erratic nature of the rainfall pattern;
- (ii) The inherent low fertility/productivity of the land compounded by rapid development of acid sulphate soils, bushfires and salt water intrusion in swamps;
- (iii) High pre- and post-harvest losses due to pest and diseases such as aflatoxin contamination;
- (iv) Limited access to improved inputs;
- (v) Declining farm labour supply;
- (vi) Institutional bottlenecks such as land tenure, marketing, research and extension;
- (vii) Poor rural infrastructure including irrigation and associated water control infrastructure;
- (viii) Lack of access to markets both local and international;
- (ix) The inadequacy of processing and marketing facilities; and,
- (x) Seasonality of production of due to poor production organization and land development

Strategies

The main strategy for improving crop productivity in the country will be directed on exploring the untapped potential of the sub-sector to promote sustainable production and productivity, inclusive growth and effective poverty reduction. Target intervention will focus on the development of crops with potential for import substitution and export markets, namely coarse grains and rice (upland and tidal), vegetables and fruits production. Value addition and marketing of produce will be promoted to explore the potential of increased consumption of locally produced coarse grain-based diets and use for animal feed. Furthermore, the following general strategies will be instituted to enhance the crop sector contribution to the realisation of the ANR policy objective:

- i) Promote fertility restoration measures to improve soil fertility and productivity;
- ii) Promote soil and water conservation techniques in both lowland and upland production ecologies;
- iii) Promote climate smart agriculture
- iv) *Support the development and dissemination of appropriate agricultural mechanisation technologies for the various operations along the value chain;*
- v) Support timely availability and access to appropriate production inputs (certified seeds, fertilisers and other agro-chemicals) and services including pest management services; and
- vi) Promote value-addition and marketing of product.
- vii) Strengthening governance capacity of existing farmer cooperatives and other farmer organizations; and
- viii) Promote private sector participation in input supply and distribution, production service provision, processing and marketing;

Complementing the above, specific crop strategies will be adopted to enhance the realisation of the policy objectives are discerned below:

Specific Strategies for Rice

- i) Support rehabilitation of dysfunctional irrigated areas and development of new irrigated schemes through land development and provision of appropriate facilities production intensification;
- ii) Construct tidal access within the riverine seasonally brackish/saline flood plains to open otherwise inaccessible areas to production;
- iii) Support establishment and rehabilitation of water retention structures within valleys to extend duration of crop-water contact period;
- iv) Promote selection and cultivation of appropriate varieties for the various ecological zones;
- v) Support small-scale farmers with appropriate post-harvest facilities to reduce losses and quality assurance; and
- vi) Promoting private sector participation in rice production, processing and marketing;

Specific Strategies for Coarse Grain

General: Promote value addition particularly processing into ready-to-use products and marketing of final product.

a) Millet

- i) Promote dry seeding prior to the onset of the rains;
- ii) Support research review on fertilizer use efficiency (rate and time of application) on yield of the recently introduced early millet cultivars;
- iii) Facilitate timely access to and application of recommended rates of fertilizers on late millet to increase yields.

b) Maize

- i) Consolidate screening of improved open pollinated high yielding early maturing varieties
- ii) introduce, develop and disseminate technologies for adoption of hybrid maize and/or genetically modified (GM) maize for various producer and use; and
- iii) promote local production for poultry feed and flour for baking and porridge.

c) Sorghum

- i) Support NARI to consolidate the ongoing innovative research approaches commenced within the Upper River Region (AEZ 3);
- ii) Introduce and promote cultivation of improved varieties in the low rainfall area of a total annual rainfall of about 600 mm.
- iii) Promote production of high yielding and good food quality dwarf cultivars that significantly impacted in the cropping systems of countries with similar agro-ecologies especially in areas where maize production is poor and risky.

Specific Strategies for Cowpea

- i) Support NARI to consolidate the ongoing adaptive research on improved varieties including 10 entries of cowpea extra-early maturing varieties; 20 entries of medium maturing varieties and 15 entries of dual-purpose (feed and food) varieties; and
- ii) Promote adoption and distribution of appropriate recommended varieties.

Specific Strategies for Soybean

- i) Support on-farm trial of the screened varieties within the various agro-ecological zones of the country; and
- ii) Promote re-introduction of the crop into the Gambian farming system with a view to improve nutritional security.

Specific Strategies for Cassava

- i) Support identification, selection and introduction of appropriate high yielding exotic varieties with high consumer taste preference into the farming system;
- ii) Support multiplication and distribution of disease free planting materials for the introduced cultivars;
- iii) Promote use of effective and simple machines and tool for various operations along the value chain;
- iv) Promote post-harvest processing, packaging and marketing of cassava cultivar;

Specific Strategies for Sweet potato

- i) Promote widespread adoption of improved high yielding (up to 20t/ha) cultivars; and
- ii) Promote production within single crop tidally irrigated area thereby create an income generating avenue for the those who cannot have a second rice crop.

Specific Strategies for Groundnuts

- i) Promote private sector participation in the production (including the provision of good quality seed of a suitable variety to replace the seed stock and variety) and marketing of produce;
- ii) Introduce, promote use of and disseminate aflasafe to control aflatoxin contamination;
- iii) support capacity development for key groundnut value chain actors particularly, input and service providers;

Specific Strategies for Cotton

- i) Promote private sector investment in revitalising the cotton industry including the rehabilitation and management of the ginnery and ginning process;
- ii) Support varietal selection and promote appropriate variety with high ginning rate, good fibre length and adaptable to the realities of climate change in the long-term;

Specific Strategies for Sesame

- i) continue to emphasize intensive screening and selection of sesame varieties of high yield potential to mitigate and improve farm yields;

- ii) support the efforts of NAWFA in extensive sesame out-reach programme on processing and value addition of the crop for increased rural household income.

Horticulture sub-sector

Policy statement: Development of the horticulture sub-sector is key in the government's agenda of employment creation, increased food security assurance, production and export diversification, poverty reduction and economic growth especially for the vulnerable group of society (women and youth). However, the sector is currently constrained at 4.2% of GDP despite its potential for export and the local market. Interventions within the sub-sector will focus on exploring the potential niche in vegetable production industry by upgrading and upscaling improved development activities geared toward an all-inclusiveness.

Policy Objectives: To exploit the potential niche and enhance the competitiveness of horticulture industry to effectively contribute towards the national ANR policy.

Issues

- i) Tenurial issues hindering access to land by women and youth;
- ii) Low production and productivity – limited adoption of improved cultural practices, inadequate and/or poor state of production infrastructure
- iii) High post-harvest losses – marketing constraints including inappropriate storage and transportation facilities, limited skills and knowledge in value addition;
- iv) Low level of private sector participation in the development of the value chain especially production financing and marketing;
- v) Limited access to financing for medium and small-scale farms and acquisition of production inputs; and
- vi) Low economy of scale in production and limited mechanization.

Strategies

- i) Facilitate secured access to land for horticulture development
- ii) Improve, consolidate and expand ongoing improved garden development programme for youth and women;
- iii) Support timely availability and access to production inputs and services and improved production technologies;
- iv) Build service providers' capacity in development, operation and maintenance of infrastructure, and on effective dissemination of improved production and post-harvest technology;
- v) Support capacity development value chain actors and service on improved crop husbandry including quality assurance skills, business skills, marketing and agro-processing;
- vi) Promote private sector participation in horticulture value chain development through crop financing, processing, packaging and marketing; and
- vii) Support research and development in high value exotic horticultural crop varieties to enhance sectoral production and productivity.

Seed policy

Guidelines: Development of a vibrant seed industry is key to sustainable crop production under this dynamic climate change environment. Against this backdrop, Government foresaw the need to develop a national seed programme geared towards addressing the emerging seed needs. The framework is envisaged to support the development of an effective and sustainable seed system that will positively contribute to a sustained increased food production, improvement in rural incomes, household food and nutrition security and an elevated standard of living of the rural population.

Policy objectives: To ensure adequate and timely availability of quality seed to farmers at reasonable prices and at appropriate locations on a sustainable basis.

Seed sector Strategies

- i) Strengthen the seed supply system by developing an efficient and sustainable seed system to meet the needs of the country's farmers and contribute to national and household food security by increasing crop production and by providing seeds in times of stress, such as drought.
- ii) Strengthen NSS capacity to organize and facilitate the production and marketing of seeds as well as to undertake quality assurance process required for achieving quality standards of seeds for national and the emerging ECOWAS seed market (regional market).
- iii) Promote and support development of pilot operations (with gender equity), maintenance of public-service infrastructure required for an efficient seed supply (distribution and marketing);
- iv) Promote the development of a financially and technologically self-sustaining private-sector seed operators including women producers of certified seed required by farmers.
- v) Support NSS and NARI to ensure the production of seeds for minor crops types required by farmers but not commercially attractive to the private sector and are therefore sidelined in seed supply.
- vi) Strengthen the human and capital capacity of NARI and relevant institutions in the preservation of indigenous germplasm at the required level of genetic purity.
- vii) Support the integration of gender lens into the seed sector development initiatives to address the gender dynamics in the seed systems.

3.2 Livestock Policy and Strategies

Livestock Development

The livestock sub-sector contributes about 5% of The Gambia's Gross Domestic Product (GDP) (GBOS, 2018) and 25 to 30% to the agricultural GDP. According to the National Livestock Census 2016, the livestock population in the country was 292,837 cattle, 172,662 sheep, 328,336 goats, 22,070 horses, 65,650 donkeys, 14,830 pigs, 886,780 local chickens, 51,171 exotic chickens, 43,726 ducks, and 17,151 guinea fowls. The main livestock production systems in The Gambia are: (i) the traditional mixed farming system based on large and small ruminants, and draught animals; the traditional poultry production systems; (ii) the semi-intensive commercial dairy and sheep production systems; and (iii) the commercial poultry production system. Demand and prices for livestock and livestock products show an increasing trend due to population growth, urbanization and increased income. However, productivity is low thus

the country relies on imports of live animals, processed chicken meat and eggs, and dairy products to meet the growing demand. The low productivity is due to a number of challenges; these challenges require putting in place appropriate policies and strategies to ensure growth of the sub-sector thereby contributing to enhancement of food and nutrition security, participation of the private sector, and creation of employment opportunities.

Policy guidelines:

Policy Statement 1: Transform the livestock sub-sector from predominantly traditional low-input low-output production systems to a competitive, commercial, value chain based and private sector led sub-sector. The production systems are still mainly the traditional type, with little use of improved management practices. Under these systems, productivity is low thus the reliance on imports to satisfy the increasing demand for livestock and livestock products. The N'Dama cattle, Djallonke sheep and West African dwarf goats form the bulk of the indigenous cattle and small ruminant populations in The Gambia and are well adapted and productive in tsetse infested areas, tolerant to heat and with some degree of resistance to helminthiasis and tick-borne diseases. Equally they also have ability to utilize poor quality feeds. Threats to these breeds include degradation and destruction of their natural habitat, as well as increased prevalence of zebu cattle and Sahelian genotypes of small ruminants. While acknowledging the important role played by the traditional sector, there is need to diversify the production base by supporting the sub-sector to move from subsistence to private sector led market-oriented methods of production. To be competitive, livestock producers must be linked to input and output markets, and have access to technologies and investment opportunities. The Government has been promoting small scale interventions to enhance livestock productivity, including genetic improvement, sustainable feeding practices through forage cultivation and crop residue conservation, disease control, provision of inputs, and development of processing and marketing outlets. The policy will be to up-scale these trends and encourage private sector involvement in all aspects of the livestock value chain.

a. Policy objectives:

- To transform the livestock sub-sector to enhance its contribution to the national economy.
- To increase, on a sustainable basis, production and productivity for enhanced food and nutrition security.
- To enhance private sector participation and investment in the livestock sub-sector.
- To contribute to employment generation and household income, particularly for youth and women.

b. Strategies for cattle:

Promote the sustainable use of N'Dama cattle and facilitate their conservation, breeding and multiplication through private and public/private partnerships.

- i. Map and develop potential cattle production zones with the appropriate infrastructure including grazing, watering, and marketing infrastructures to be protected by policies, legal and regulatory instruments.
- ii. Promote productivity enhancing technologies to enhance meat and milk production. The technologies aimed at increasing meat and milk output to be promoted will include sustainable feeding practices

through forage production, conservation and use of crop residues; disease control and the use of selected breeding bulls.

- iii. Promote sustainable intensification of cattle production for increased milk and meat production during the dry season and subsequently, income.
- iv. Establish a national dairy cattle breeding scheme (genetic upgrading through crossbreeding using artificial insemination (AI)) aimed at providing genetically superior crossbred cows; and develop public-private partnership arrangements and guidelines to support crossbreeding programme using AI.
- v. Continue to cautiously introduce exotic pure dairy breeds for increased milk supply.
- vi. Provide adequate and timely financial support, including credit, to bring about development of sustainable cattle production.

Strategies for small ruminants

- i. Promote the sustainable use of Djallonke and West African Dwarf Goats and facilitate their conservation, breeding and multiplication through private and public/private partnerships.
- ii. Strengthen the adoption of productivity enhancing technologies, including climate change adaptation measures, through the use of Agro Pastoral Farmer Field School approach.
- iii. Promote the establishment of exotic sheep and goat breeding farms.

Strategies for poultry production systems

- i. Support the traditional village poultry production systems through promotion of improved management practices (biosecurity measures, disease control, housing, supplementary feeding, etc.).
- ii. Develop input and output markets to increase the sale and consumption of poultry products, but also create employment for women and young people.
- iii. Provide technical training (housing, feeding, health, and general management) in order to enhance the capacity of the producers.
- iv. Promote contract farming and out grower schemes in broiler and layer production for rapid transformation of the poultry value chain, led by the private sector.
- v. Facilitate the engagement of the private sector along the entire poultry value chain, particularly in the hatchery industry, breeding, feed mills, cold storage, processing and product development.

Strategies for pigs

- i. Promote improved pig management practices (biosecurity measures, disease control, housing, supplementary feeding, etc.)
- ii. Provide technical training (housing, feeding, health, and general management) to enhance the capacity of the producers.
- iii. Raise awareness among farmers, other value chain actors and the general public, on biosecurity measures.

Strategies for apiculture

- i. Promote the use of suitable and standard/modern beekeeping materials.
- ii. Strengthen private sector investors through the promotion of market linkages and increasing access to finance and modern production and processing methods.

- iii. Enhance the support systems of the honey value chain actors.
- iv. Enhance the capacity of DLS and other service providers to provide adequate extension services and guidelines for beekeepers, processors and traders.

Strategies for other short cycle species

- i. Identify and disseminate appropriate and affordable technologies for increased production of ducks, turkeys, guinea fowls and rabbits.
- ii. Provide technical training (housing, feeding, health, and general management) for producers in order to increase production for income generation.

Policy Statement 2: Diversify the livestock feed base to enhance the availability and access to quality feeds. Nutrition of ruminant livestock in mixed farming systems is essentially based on the exploitation of naturally occurring herbaceous and ligneous plant species, and crop residues. Qualitative and quantitative forage shortage, particularly in the dry season, is the major constraint in these farming systems; the decreasing quality and quantity of forage affects livestock health significantly. The feed shortage is more acute in urban and peri-urban areas where grazing areas have declined significantly. Currently there are no lands reserved for grazing; reserved grazing areas can provide needed fodder when other sources of feed are limited towards the end of the dry season. To enhance livestock productivity and improve livelihood of farmers, an increase in the production and availability of high quality feeds and forages is crucial. The poultry industry suffers from the high cost of imported feeds and poor quality of locally manufactured feeds; facilities are however not available to analyze feed composition and quality. In addition, there is limited knowledge of feed ration formulations using local resources.

a. Policy objectives:

- To increase production and availability of high quality feeds and forages.
- To identify feed innovations, including forages, to enhance year-round access to quality feed.
- To increase, on a sustainable basis, livestock production and productivity for enhanced food and nutrition security

b. Strategies:

- i. Conduct an assessment of availability and use of livestock feed resources using the Feed Assessment Tool, techfit approach. The approach presents candidate feed technologies or interventions which have potential to mitigate feed constraints such as feed quality and quantity during the whole year.
- ii. Promote crop residue (including rice straw) conservation using existing and newly developed technologies to avoid wastage.
- iii. Demarcate and secure grazing areas, including stock routes.
- iv. Develop Local Conventions as a management tool for the management of range resources.
- v. Promote the production of climate-resilient forages (planting high productivity, drought tolerant and deeper rooted fodder grasses and/or legumes) to improve livestock productivity.
- vi. Conduct research to identify locally available feed resources for the formulation of least cost rations for enhanced livestock production and productivity.
- vii. Facilitate private sector investment in sustainable livestock feed production and distribution.
- viii. Develop standards and codes of practice for feeds, raw materials and feed ingredients, and promote their adoption and application by livestock producers.

- ix. Create public awareness on feeds and feed ingredient standards.
- x. Develop human capacity in animal nutrition, in the public and private sectors.

Policy statement 3: Improve animal health and reduce impact of animal diseases on livestock production, productivity, welfare and public health. The high prevalence of diseases in the country presents a big challenge to the livestock sub-sector. Animal diseases cause major economic losses through mortality and morbidity, reduced productivity, lower fertility, unsafe products and restricted access to potential markets. Diseases and disease-causing agents such as parasites also limit the animal's ability to express its genetic potential. One of the main challenges facing the control of animal diseases is the inadequate capacity for sustained disease surveillance, risk assessment and control programmes. There is a lot of cross-border movement of animals to traditional seasonal grazing grounds and for trade. Poor coordination and collaboration with neighbouring Senegal on disease control across the border make control of trans-boundary diseases (TADS) a major challenge. *With regards to public health, there is indiscriminate use of anti -microbials in livestock production posing a danger to antimicrobial resistance in the food chain. It is important that the government follow the OIE established guidelines for using antibiotics in food producing animals. To address this threat, an effective surveillance and monitoring system should be established by the regulatory body.* The Performance of Veterinary Services (OIE PVS) evaluation and Gap Analysis of The Gambian Veterinary Services conducted by world Organisation for Animal Health in 2009 and 2012, respectively identified the institutional, technical and other strategic issues affecting the delivery of veterinary services.

a. Policy objective(s):

- To develop a national framework for a sustainable animal health delivery system that meets global standards.
- To promote animal health by preventing/reducing the incidence of animal diseases, thus protect the livestock assets of the farming community and improve food security, public health and food safety.

b. Strategies:

- i. Support the strengthening and continuous review and updating of animal health and welfare legal and regulatory frameworks, including emerging animal health issues.
- ii. Support the development and strengthening of institutional structures (public, private) for animal health.
- iii. Develop human resources to fill the acute shortage of veterinarians and laboratory scientists and technicians.
- iv. Strengthen the epidemio-surveillance system and establish early warning system and emergency preparedness plan. Establish an effective surveillance and monitoring system for antimicrobial resistance and antimicrobial use in the country
- v. Build capacity of community based sanitary defence committees for greater efficiency and functionality.
- vi. Enhance capacities and programmes to prevent, detect and control zoonosis, emerging and re-emerging diseases.
- vii. Strengthen food safety control systems for foods of animal origin, and feeds.
- viii. Promote and implement the one health approach.

- ix. Develop modules to attract private sector involvement in animal health service delivery, including veterinary drugs distribution and other innovations. Government to adopt and ensure the implementation of the strategic frameworks developed by African Union Inter African Bureau for Animal Resources (AUIBAR) namely: Animal Health Strategy for Africa, re-profiling the veterinary profession (Day 1 competencies for veterinarians), training content for newly appointed Chief Veterinary Officers (CVOs) - Day 100 competencies for CVO
- x. Strengthen the capacity of veterinary laboratories to offer disease diagnostic services.
- xi. Promote/create awareness on animal welfare issues at every stage of value chain, including production, transportation, slaughter, care of draught animal and animal handling.

Policy statement 4: Improve value addition, marketing of livestock and livestock products

Livestock products are highly perishable; they thus require highly efficient marketing and processing along their entire value chains - from production to consumption - to realize their best value. Value addition in the livestock value chains is constrained by inadequate knowledge and skills, inadequate slaughtering and processing facilities, unaffordable/expensive packaging materials, and limited access to financial and business development services. The marketing of live animals remains largely traditional and marketing infrastructure are generally poor.

a. Policy objectives:

- To enhance value addition in order to increase competitiveness of livestock products.
- To create an environment to attract private sector investment.

b. Strategies:

- i. Promote the livestock sector value chain approach
- ii. Promote commercialisation through support for value addition
- iii. Promote livestock processing cottage industries in the rural areas
- iv. Promote contract farming and out grower schemes to facilitate market access
- v. Facilitate provision of livestock market information and support services
- vi. Promote private sector involvement in provision of livestock marketing service
- vii. Creating awareness on market opportunities and provide incentives for young entrepreneurs to engage in market oriented enterprises in order to enhance commercialization
- viii. Develop quality standards for livestock products and enforcing them through legislation
- ix. Investing in improved market infrastructure through public-private partnerships
- x. Support a feasibility study to build a pig abattoir to promote better waste management and improving public health
- xi. Creating awareness among meat and milk processors and retailers on the need for best practices in their operations; and
- xii. Build capacity in processing and value addition.

Policy statement 5: Strengthen livestock research and extension and access to credit and inputs

Livestock research, and provision of support services such as extension, credit, and production inputs other technologies are among the tools needed to transform the livestock sub-sector to attain food security and reduce poverty, through modernisation, intensification, diversification and commercialization. However, the current capacity of the National Agricultural Research Institute (NARI)

and West Africa Livestock Innovation Centre (WALIC), the principal centres that conduct livestock research in The Gambia, are inadequate to bring about the anticipated transformation of livestock sub-sector. Furthermore, the Department of Livestock Services (responsible for livestock extension) is constrained by inadequate qualified staff, insufficient funding, low motivation, and lack of guidelines for delivery of extension services.

a. Policy objective:

- To support livestock research and extension services to facilitate innovation and adoption of appropriate technologies;
- To build institutional capacity for effective delivery of livestock research and extension services
- To improve access to services, credit and inputs

b. Strategies:

- i. Strengthen the adoption of productivity enhancing technologies, including climate change adaptation measures, through the use of Agro Pastoral Farmer Field School approach
- ii. Build the capacity of extension staff on appropriate extension approaches and methods
- iii. Adopt a market oriented livestock extension services approach that promotes commercialization
- iv. Support research efforts in animal production, including breeding.
- v. Promote research, extension and farmer linkages and collaboration
- vi. Promote pluralism in livestock extension service delivery
- vii. Promote public private partnerships enabling private sector participation in the provision of inputs
- viii. Create enabling policy environment and incentives to reduce the cost of credit, inputs and services.

3.3 Fisheries

Sub-Sector Description

The Gambia is endowed particularly with one of the richest marine and riverine fish resources in terms of abundance and diversity (The Fisheries Sector in the Gambia, 2014 Report). It has a continental shelf area of about 4,000 km² and approximately 10,500 km² of Exclusive Economic Zone (EEZ) plus 500 marine fish species. Conducive to which is the freshwater flows of the River Gambia that supplement the marine fish resources with substantial nutrients that attract marine fish species for feeding and spawning purposes. The contribution of the fisheries sector towards the Gross Domestic Product (GDP) was approximately 6 percent in 2019.

The Maximum Sustainable Yield (MSY) of Gambian waters estimated at about 80,000 Mt for pelagic and demersal fish species, while the current exploitation rate is between 35,000 Mt and 40,000 Mt. An overall assessment of the fishery resources suggests that high value demersal species reached full exploitation, while the less valuable small pelagic stocks are under-exploited. At national level, the total fish production averaged 55,931.6 Mt between 2011 and 2017 with the lowest and highest productions of 39,822.0 Mt and 68,333.6 Mt registered in 2012 and 2017 respectively.

One of the principal findings of the 2004 study of fish resources in the River Gambia revealed the identification of about 70 fish species within the river system and several of them, especially those

belonging to *Carangidae*, *Drepaneidae*, *Clupidae*, *Haemulidae*, *Polynemidae*, *Cichlidae*, *Scianidae*, *Cynoglossidae*, etc, are of commercial significance (ANR Policy 2017-2026). The fish species are broadly categorized into demersals (bottom dwelling) and pelagics (surface dwelling). Recent Pelagic stock assessments¹⁵ have also confirmed availability of significant stocks in the Gambia's Atlantic coastline. The Gambian fish exports from 1997 to 2010 was about 3,563 metric tons (MT) in volume and GMD100, 041, 068 in value. Correspondingly, fish imports averaged 207 Mt in volume and GMD3,720,000 respectively. Comparatively, the trade balance computation roughly indicated GMD91,761,000 in value. This suggests that not only is the country having a comparative advantage in fish trade but it's also a lucrative business and foreign exchange earner for operators on condition that the numerous challenges encountered by the industry are ameliorated. In particular, the sector is the third largest food production sector, after agriculture and livestock; and plays a significant role from a nutritional standpoint, as fish is the main source of animal protein in the diets of most Gambians. The national per capita consumption of fish for the Gambia estimated at 25kg, one of the highest in West Africa in 2016 (The Point News Paper, Tuesday, May 23, 2017). This per capita consumption is 23.2 percent (20.3kg) and 180 percent (8.9kg) over the global and Sub-Saharan Africa's per capita consumption respectively. It has been estimated that the artisanal subsector provides direct and indirect employment to between 25,000 and 30,000 people; and about 2,000 people are presently employed in the industrial sub-sector. It plays an important role in ensuring food, nutrition and income security. A large population depends on fisheries both directly and indirectly for livelihood through fishing and linkages to fish processing and trade. The fisheries sector is identified as one with great potential for value addition and provision of rural incomes in the country.

The Gambia's fisheries resources and their ecosystems are/is deteriorating due to unsustainable fishing practices, Illegal, Unreported Unregulated Fisheries (IUUF), habitat destruction, pollution and weak management structures. This is coupled with uncoordinated development approaches, low investment and inadequate aquaculture development, weak linkages between research and management, non-“Gambianization” of the fishing industry. To reverse this trend and achieve sustainability of fisheries availability, careful stewardship is required to conserve and protect all aquatic habitats for present and future generations. In this regard, the following policy areas are crucial in the fisheries sub sector.

Policy Guidelines:

Policy Statement 1: Sustainable management and optimal utilization of fish and fishery resources will be pursued. The Government continues to give high priority to the development of the fisheries sector because it is not only a source of revenue and foreign exchange earnings for the country but also a receptacle of hope for increasing employment opportunities. The sector is also contributing in improving nutritional dietary in-take of the citizenry, especially in our quest to alleviate poverty and ensure adequate food security.

- a. **Objective:** This is to ensure the pivotal role of increasing fish availability all year round through capture and culture fisheries which can be used as a means of national economic growth, employment creation, foreign exchange earnings and food and income security in improving the nutritional standards of the population.

¹⁵ E. Zimmermann, I. Dias Bernades, A Hertzberg, M.bank, E.Donald, M.S.Jallow, and A. Sarre. 2019. Pelagis Stocks and ecosystems: Senegal- Morocco, 26 September-17 August 2019. NORAD-FAO Programme GCP/GLO/690/NOR CRUISE Reports.

b. Policy Strategy:

- i. Promote the development of the artisanal fisheries subsector through increased aquaculture production (commercial and small-scale, and oyster culture);
- ii. Provide an enabling environment for diversification of artisanal fisheries into the harvesting of unexploited and under exploited stocks;
- iii. Provide infrastructural facilities and promote sensitization campaigns to increase Gambian participation in marine artisanal fisheries and aquaculture development
- iv. Develop and implement participatory artisanal fisheries management systems and,
- v. Regulate bivalves harvesting in collaboration with relevant institutions and organizations;
- vi. Increase the territorial water policing and monitoring and enforcement capacity of the Department of Fisheries and key partners (Gambian Navy, NASCOM, GMA) by two folds.

Policy Statement 2: Monitoring, Control and Surveillance systems on fisheries resources shall be strengthened. The benefits from fisheries resources can only be guaranteed if an effective, comprehensive and integrated system of Monitoring Control and Surveillance – (MCS) - is put in place. The protection of fisheries resources from illegal, unreported and unregulated (IUU) fishing cannot be over-emphasized and conservation measures adopted in respect of regeneration, bio-diversity and protection of Marine Protected Areas (MPAs) should also be enforced through Monitoring Control and Surveillance operations.

a. Objectives

The main objectives for Monitoring, Control and Surveillance are:

- i. Protection, conservation of the resources and regulation of fishing operations; and,
- ii. Development of the capacity of relevant national institutions to undertake appropriate MCS of our fisheries waters.

b. Strategies

The strategies for an effective MCS system will be to:

- i. Promote participation of fisheries communities in MCS within the artisanal sub-sector;
- ii. Ensure adequate coverage/reporting and regulation of artisanal fish production and fishing effort;
- iii. Ensure monitoring of movements of all types of industrial fishing vessels,
- iv. Use modern technology (such as satellites, coastal radars, aerial surveillance, Vessel Monitoring System etc.) for fisheries protection and regulation;
- v. Impose strict penalties such as fines, withdrawal of licenses, etc. as a deterrence against harmful fishing practices and IUU fishing;
- vi. Provide appropriate and adequate support for MCS operations (i.e. suitable patrol boats, communication equipment etc.);
- vii. Improve monitoring, control and surveillance (MCS) at sub-regional level, through the Sub-Regional Fisheries Commission (SRFC); and,

- viii. Improve capacity building of MCS unit at the Fisheries Department and Gambia Navy and other relevant institutions.

Policy Statement 3: Marketing, Processing and Preservation of fish and fisheries products shall be improved. The Gambia Government is determined to ensure that all fish landing sites within the country are provided with the necessary infrastructure facilities, fishing and fish processing related equipment, machinery (ice plant etc.) and means for fish distribution and marketing throughout the country. There is a global recognition of the importance of food safety issues including fish products. Hence, fish quality and value addition means ensuring that fish and fish products are safe for human consumption.

a. Objective

The main objectives of policy in fish marketing and processing and preservation are:

- i. To increase the availability of fish and fishery products countrywide for local consumption;
- ii. Increase revenue and foreign exchange earnings into the sector; and,
- iii. Increase employment opportunities by way of creating adequate channels for marketing fish and fishery products locally and abroad.

b. Strategies

The strategies will be to:

- i. Facilitate the establishment of cold stores in inland, coastal fishing communities and the availability of refrigeration trucks for distribution and marketing of fish and fisheries products- Cold Chain;
- ii. Facilitate the establishment of improved processing facilities at landing sites where fish smoking takes place for employment creation for the women folk and also foreign exchange earnings through exports of the smoked fish to neighbouring countries and the African niche in the EU and USA Markets.
- iii. Develop and implement a comprehensive fish inspection and quality control system incorporating HACCP principles in collaboration with the Food Safety and Quality Authority and other relevant institutions;
- iv. Enforce regulations, pertaining to international and national quality standards in fish handling and processing, factory operations, transportation, fishery products and export;
- v. Sensitization on diversification of packaging methods and transportation of fish and fish products;
- vi. Promote the establishment of central fish market infrastructure and shore-based facilities for both artisanal and industrial fisheries (ice making plants, cold rooms etc) at selected sites;
- vii. Ensure Fish Processing Establishments adequately comply with international standards for continued exports to lucrative markets in EU countries, U.S.A. and Asia etc.;
- viii. Facilitate the creating of adequate and acceptable channels of marketing all types of fish and fishery products;
- ix. Create incentives for exporters of fish and fishery products in collaboration with relevant institutions;

- x. Collaborate with relevant institutions in establishing export and import tariffs for fishery products.

Policy Statement 4: Capacity building for Fisher folks shall be prioritised in the next five years. The institutional strengthening and capacity building of the Department of Fisheries and other stakeholders in the sector, in particular fishing communities, includes development of adequate human resources and skills and mobilization of appropriate and adequate physical facilities (e.g. various types of equipment) for delivery of various services to the fishing and fishing communities and other stakeholders.

a. Objectives:

- i. Improve capacity of artisanal operators to better manage their undertakings and participate effectively in co-management systems of Community Fisheries Centres and projects;
- ii. Improve capacity of fish farmers on best aquaculture practices for improved aquaculture production-
- iii. Improve the capacity of fisher folks to have an in-depth knowledge of the Fisheries Act and Regulations.

b. Policy Strategies:

- i. Need assessment for training at both the artisanal and industrial sector;
 - ii. Establishment of a Training Institute or development of fisheries development modules in existing institutions in country;
 - iii. Conduct a comprehensive review of the fisheries laws, regulations, and international conventions with a view to harmonizing, enforcing and improving their enhanced applicability;
 - iv. Training in fishing, processing, marketing, book keeping and other related training standards developed by the Fisheries Department;
 - v. Support and facilitate skills development and improved knowledge of women in the fisheries sector and other related sectors;
 - vi. Promote thematic training workshops and seminars on poverty reduction, fisheries planning, and management and appropriate technologies;
 - vii. Promote and support capacity building in the industrial fisheries sub-sector, particularly with regard to improving products quality hygiene and sanitation in fish processing establishments; and,
- c. Promote fisheries studies in the curricula of Lower Basic, Upper Basic, Secondary and Tertiary institutions; and promote mechanisms for the effective the enforcement of the Fisheries Regulations

3.4 Forestry

Sub-Sector Description

The Gambian vegetation was once described as forest savannah. In 1946, its total cover was 81.2% of the total land area of which 60.1% was closed forest. But, in 1968, The Gambia lost more than 80% of its closed forest and in 1998, the loss increased to 98% leaving thus small patches in few regions such as CRR and LRR. In 1998 the distributions were 41.5% of forest cover and 0.7% of closed forest. According to the National Forestry Assessment (NFA 2008-2010), The Gambia lost about 97,400 ha between 1997 to 2009. This is close to 8,000 ha of forest lost per year. Quality deterioration has also been significant with no closed forest, except for patches in protected areas and in inaccessible parts of the country. These statistics show the extent of the damage that the Gambian forest cover had under gone; subduing thus the country's natural resource in a dreary condition that recalls the need to tackle the plague.

The policy strand of forestry sub-sector for the period 2017/2026 will be improving and maintaining forest resources through greater involvement of the local communities and the private sector in the effective management of existing natural forest cover. The specific forest policy goal will continue to maintain 30% of the total land area into forest, of which 75% will be sustainably managed under community and private sector participation.

Policy Guidelines:

Policy Statement 1: Institutional Development aligned to the decentralization framework will be emphasised. There is urgent need for a functioning governance structures, legal and policy instruments as well as institutional capacity for judicious implementation and enforcement for effective forest management. The capacity of forestry institutions at the national and regional levels needs to be streamlined and strengthen so as to make them more effective and participatory.

Objective: To develop and pursue shared vision and practical steps for building the human resources, structures, procedures and finance which can improve forestry and livelihood.

a. Policy strategy:

- i. Lobby for Increase government subventions to the sub-sector
- ii. Promote public - private partnerships for investment in the sub-sector
- iii. Develop a comprehensive forest financing mechanism for Community forestry expansion;
- iv. iv. Promote learning opportunities at tertiary level education for example, up-grading Kafuta school to a UTG linked department;
- v. Install improved systems such as learning groups, exchange working visits for human resource development and will request feed-back on the conducted training and adult education processes;
- vi. Put in place mechanism to boost information management and communication systems;
- vii. Undertake staff capacity building and boost dedication through scheme promotion and risk allowances while ensuring effective deployment of staff at country- wide level.

Policy Statement 2: Sustainable Forest Management and Utilisation of Forest Resources shall be monitored to ensure that all harvests and transport of forest resources are lawful and based on a sustainable yield as established by regulations. The Gambia's forest resources are being subjected to overwhelming pressure from competing land uses like agriculture, industry, human settlement and development of infrastructure. In addition, extraction of forest products, illegal logging, cutting trees

for fuel wood and charcoal and grazing of livestock have also contributed to the degradation of forests. These competing land uses have adverse environmental effects on long term sustainability of forest ecosystems. Thus, maintaining forest biodiversity safeguards the economic potential of future opportunities for new non-timber forest products such as food and medicine as well as social sustainability by offering aesthetic, spiritual and recreational settings for people.

Objective: to respond to the opportunities of decentralization by supporting the development of effective institutions units at village and district level and gradually devolving control of forest resources to them.

a. Policy strategy:

- i. To develop management capability and responsibility within forestry staff and local communities for planning and forest management agreements;
- ii. To develop village and district level institution units for effective forests extension services and micro-enterprises;
- iii. To develop sensitization programs on Community and Private Forestry;
- iv. iv. To grant ownership, management rights and responsibilities to empower community users;
- v. To provide Technical advice and extension support in Community and Private Forestry;
- vi. To support conversion of potential forest parks to plantations with ecologically valuable and economically viable species and promote private natural/plantation forests in the regions and nationally;
- vii. To enhance capacity of communities involved in participatory forest management (PFM), in group management and strengthening topics as Forest Policy and Legislations and technical forestry skills;
- viii. To carry out vigorous campaign on the use of alternative energy sources such as gas, briquettes, improved stoves and solar energy;
- ix. To advocate for greater involvement in the control of bush fires through early control burning activities at community level and provide firefighting materials and equipment to the ANR sectors while establishing a vigorous restoration strategy whereby cost is attached to land damage;
- x. To campaign for intensified establishment of agro-forestry sites and wood lots and, carrying campaign for more awareness on consequences of illegal logging and the role of forests in climate change mitigation;
- xi. To facilitate Community Forest (CF) conflict resolution processes as they emerge;
- xii. To enhance patrol men capacity by providing tools, materials and incentives.
- xiii. To promote restoration of degraded mangrove sites through community participation; and,
- xiv. Develop and promote minimum tree cover policy Which sets thresholds on tree cutting and minimum number of trees for each specified area/environment.

Policy Statement 3: Marketing and Income Generation by granting local communities user and management rights, transfer to them control of forest use, and build their capacity for sustainable forest management. Trade is an important driver of economic growth. Forestry resources have great

potential to contribute to country's GDP through exportation of forest finished products, collection and processing of Non-Timber Forest Products (NTFP) and ecotourism for income generation and foreign exchange earnings.

Objective: Department of forestry will encourage sustainable and rational use of forest resources and the creation of employment through the exportation of forest finished products and Non-Timber Forest Products.

Policy strategy:

- i. To put in place sound cross border trade agreement in line with ECOWAS policy;
- ii. To demand direct payment of dues to forestry department where it exists;
- iii. To negotiate transfer of re- export licensing & permits to forestry department;
- iv. To lobby for regulatory framework to enhance sustainable cross-border trade through limitation of importation on processed and semi-processed logs;
- v. To Promote finished products for export thus giving more chance to transfer of technology and creation of employment;
- vi. To ensure creation of multiplier effects on forest resource management and the domestic economy in general through the reactivation of Gambia National Carpentry Association (GNCA) in order to promote Gambian made furniture and entrepreneurship;
- vii. To promote and support processing of non-timber forest products for improved socioeconomic;
- viii. Support forest based incubation processes e.g. linking forest based enterprises.

Policy Statement 4: Cross sectoral linkages, Research and Program Development shall be fully endorsed and executed by all core agencies. Many sectoral policies and laws are not harmonised. The sectoral rather than integrated approach to management of natural resources has proved inadequate in addressing the challenges. In addition, weak enforcement of laws and weak implementation of policies remain a major issue of concern in the ANR sector. Mainstreaming environmental considerations in all sub-sectoral policies, planning and development processes is critical if this Policy is to achieve its goal and objectives. This is attainable through research and program development.

Objective: Department of forestry will engage on integrated resource management programming and foster linkages with related Institutions nationally and internationally in order to tap relevant experiences that can help improve quality service delivery.

a. Policy strategy:

- i. To strengthening the institutional capacity of the Forestry Department and Non-State Actors involved in the management and implementation of natural resource programs;
- ii. To avail forestry decentralized structures of the opportunity to access technology transfer while promoting development of indigenous technology in forest resource management;
- iii. To promote inter-sectoral linkages for efficient and unified systems for forest resource management through usage of livelihood projects such as women horticultural gardens, bee keeping, ecotourism, mangrove re-plantation, ect.;

- iv. To strengthening sectoral collaboration to avoid virgin forest land grapping (for example, with the NERICA rice introduction.

3.5 Biodiversity/ Parks and Wild Life Management

Sub-Sector Description

Since independence, the Gambia has set number of laws governing the conservation, management, and sustainable use of the wildlife populations and habitat. The Banjul Declaration and Wildlife Conservation Act, 1977, the Biodiversity/Wildlife Act of 2003 are examples of legislations to regulate the subsector. Conservation measures in The Gambia among others included the establishment and management of protected areas (PAs). The Biodiversity/Wildlife Act, 2003 provides for the establishment of national parks and nature reserve and community wildlife protected areas. A total of twenty-two (22) protected areas have been established until now. A total land area of 92,549 hectares is under formal protection. Even if national parks and reserves can be well protected and managed, in-situ conservation outside national parks and reserves have less protection, staff and budget. Conservation areas represent only 9.25% of the nation's land surface. Where reserves become habitat islands and can lose some of their original species, many wetland areas of high conservation value sustain high human use and therefore, require conservation action other than protected area status.

The parks and wildlife sub-sector policy strand for the period 2017/2026 will be addressing the underlying causes of biodiversity loss through greater and systematic involvement of the population, in particular satellite local communities, in their effective management and the specific parks and wildlife policy goal will continue to be the expansion of protected areas coverage of 10% of total surface area.

Policy Guidelines:

Policy Statement 1: Government, through Parks and Wildlife shall conserve and sustainably manage Wildlife in accordance with Gambia's obligations under international conventions and agreements to which Gambia is a party, and consistent with internationally accepted principles of ecologically based Wildlife management. Wildlife resources contribute directly and indirectly to the local and national economy through employment, revenue generation and wealth creation. Thus, conservation such resources should be a national priority.

Objectives: The Objectives of this National Policy are:

- i. To conserve and sustainably manage wildlife resources, through protection, research, education, sustainable use and benefit sharing, for the benefit of present and future generation.
- ii. To ensure sustainable management and equitable sharing of benefits, arising from the direct and indirect use of wildlife resources and ecosystems.
- iii. To conserve and sustainably manage native and migratory species and their habitats, so as to maintain the overall species richness and ecological integrity of the country;
- iv. To encourage the development of biological repositories, for the purposes of conservation education and science;

- v. To encourage the private sector and communities to join as a full partners in all aspects of the wildlife-conservation process.
- vi. To mitigate human-wildlife conflict and enhance sustainable interface initiatives.

a. Policy Strategy:

- i. Raising awareness,
- ii. Exploration of conflict (human-wildlife and land related) resolution programs;
- iii. Propose alternative livelihood to agriculture (e.g ecotourism), manage hunting and relocation programs of vermin species;
- iv. Conduct periodic Wildlife inventory and strengthen the Research and Development Unit of the Department.

Policy Statement 2: Government, through Parks and Wildlife will ensure efficient management of Protected Areas in accordance with internationally accepted standards; and conserve, and by Regulation, control trade in Wildlife.

a. Objectives:

- i. To develop national strategies, plans and programmes for wildlife conservation, in line with appropriate national and international standards/Convention¹⁶.
- ii. To regulate the importation of alien organisms, including genetically-modified organisms.
- iii. Prepare and implement species recovery plan for all endangered species and related habitats.
- iv. To encourage and enable the sustainable development of communities living around protected areas and receive direct benefits from the management of protected areas.
- v. To facilitate eco-tourism in protected areas to provides benefits to local people.

Policy Strategy: ¹⁷

- i. Establishment of protected areas in all landscapes and seascapes involving communities and employing participatory approaches;
- ii. Prepare and implement species and protected area management plans including use of indigenous knowledge;
- iii. Strengthen Ecotourism Unit to galvanize revenue generation;
- iv. Provide management tools (guns, bicycles, motorbikes,) for park management;

¹⁶ Convention on Wetlands (RAMSAR), African -Eurasian Migratory Waterbird Agreement(AEWA), United Nations Convention on Biological Diversity(UNCBD), Kyoto Protocol and the United Nations Convention on Dessertification(UNCCD).

- v. Promote and consolidate trans-boundary resource management (forest & protected area management);
- vi. Conduct biodiversity impact assessment before any development in protected area; To ensure sustainable game hunting through designation of proper hunting zones .

Policy Statement 3: Solicit Institutional Support for Wildlife Conservation efforts by promoting awareness on the importance of Wildlife Protection in cooperation with other Government agencies and civil society. Institutional support in wildlife conservation is very crucial for judicious implementation and enforcement for effective parks and wildlife management. The capacity of DPWM institutions at the national and regional levels needs to be streamlined and strengthened so as to make them more effective and participatory.

Objectives: National policy in this area is:

- i. To provide adequate support to wildlife resource managers, and to establish regional offices for adequate nationwide representation
- ii. To strengthen the R & D unit and promote research and education as valuable contributors to the national effort on wildlife conservation.
- iii. To value the traditional knowledge on genetic resources and incorporate this as appropriate within wildlife-management systems.
- iv. To encourage ex-situ conservation measures, to contribute to wildlife conservation, environmental education and the scientific understanding of the use of biodiversity sustainably.
- v. To explore potential funding opportunities and improving revenue generation.

b. Policy Strategy:

- i. Tap international funding opportunities (GEF, GCF, MAVA);
- ii. Promote private sector involvement for re-introduction of lost species in PA's;
- iii. Encourage the establishment of private game sanctuaries;
- iv. Collect revenues and manage the Biodiversity Trust Fund (BTF);
- v. Prepare and implement local and overseas training plan;
- vi. Organized exchange visits; recruit graduates to fill positions;
- vii. Enactment of the biosafety regulation and bill
- viii. Encourage wildlife/game farming.

Policy Statement 4: Pursue Inter-sectoral linkages by collaborating with other core agencies in research, training and development providing an opportunity for sector learning and coordination of best practices to offer space for new initiatives and innovations; and scale up towards achieving a holistic approach to agriculture and natural resource management. An integrated approach to planning and sustainable management of Gambia's environment and natural resources is key in the ANR sector. This is attainable through proper inter- sectoral linkages for effective coordination and management of the environment and natural resources.

Objectives:

- i. To monitor and maintain consistency between the national wildlife policy and other sectoral and inter-sectoral policies.
- ii. To strengthen existing collaboration ventures through the ANRWG and other relevant national and multi-sectoral platforms;
- iii. To promote co-operation among stakeholders through participatory decision making at all levels.

Policy strategies: This can be achieved through the following interventions:

- i. Empowering the site Management Committees;
- ii. Awareness raising and sensitization using local administrators;
- iii. Community empowerment particularly for women and youth for livelihood (oyster culture, village banking, vegetable garden, beekeeping etc...),
- iv. Better coordination of the ANRWG and other similar platform;
- v. Encourage inter-sectoral collaboration on shared issues.

3.6 Water Resources and Climate Change

Sub-Sector Description

First and foremost, there exists no single, efficient and strong national authority with the clear mandate and powers to lead the regulation of the nation's water resources. The legacy of sectoral management characterised by little or no reform in the last thirty years can be seen. There are several overlaps of powers / authority / responsibility between various institutions in the management of water resources as well as omissions of relevant legislations. It is no exaggeration to state that the current legislation (National Water Resources Council Act), more than thirty years old is conspicuously out of touch with changing national and global circumstances. However, self-retirement and effective demise of cross sectoral bodies such as National Water Resources Council and Water Resources Committee leaves the Department of Water Resources as the de facto surviving institution established under the NWRC Act to manage the water resources yet without enough legal instruments. DWR only undertakes irregular measurements of few variables to give the status of water resources.

The challenges associated with the provision and management of basic water needs in The Gambia varies widely, particularly with respect to potable supplies, where the urban, peri-urban and rural sectors impose quite different and often incompatible demands. Water resources management has a major impact on sustainable management of the natural environment, which in The Gambia is highly dependent on The Gambia River. Future upstream initiatives and management of the catchment will have measurable impacts on the lower reaches of the river. Thus, availability of water resources and management instruments are crucial to the attainment of goals on poverty, hunger and environmental sustainability. This unquestionable significance of water resources is however hampered by several issues ranging from threat to its availability and quality to inadequate legal and institutional management framework. Yet climate change impacts have also arisen to add more stress.

To address these concerns and adjust to conflicting demands, this Policy has established a set of clear policy areas and objectives, institutional responsibilities, management rules and consultation

parameters with all relevant stakeholders for protection and sustainable utilization of our water resources.

Policy Guidelines:

Policy Statement 1: Legal and Institutional Framework Transformation shall be prioritised. The implications for setting up new institutions include some structural development and capacity building of required staff. There is a need for legal and institutional transformation to effectively handle all water and meteorological related issues in the country.

Objectives: To build a better legal and administrative structure that will regulate and manage the sustainable utilization of water resources and coordinate all related policies.

a. Policy Strategies: This can be achieved through the following interventions:

- i. Finalise the regulative framework so that the new legislations are fully operational. These include The Gambia Water Bill (2014), National Water Resources Management Authority Bill, Gambia Meteorological Authority Bill, Water Use Regulations Act, Drillers’s Licence and Borehole Construction Regulations, and to upgrade the Rural Water Supply Division into a fully-fledged Department;
- ii. Provide modalities for effective coordination in the water sector. These include working procedures between authorities and their respective boards and the establishment of collaborate technical committees across all sectors (NAWEC, NEA, PURA, LGAs, Ministries, etc);
- iii. Introduction of new management tools like water use (abstraction) permits, WASH policy in water supply; Ratify the policy directives supporting financial sustainability of the two Authorities by recommending Bills/enactments on financial responsibilities of Government and users

Policy Statement 2: Promote Water Resources Information and Knowledge Sharing among stakeholders and in public. Amidst rising water crisis characterised by fresh water stock depletion and insufficient supplies due to rising demands and climate change impacts, there is a need for proper and timely information sharing across stakeholders and public. A system should be designed to educate the public adequately. Besides, the public will need to be well informed about the developments intended in the policy for the management and development of the water sector.

Objectives: To have a well-founded knowledge about water resources, quantitatively and qualitatively, as well as transmit information to stakeholders and decision makers adequately.

Policy Strategies: The above objective can be achieved through:

- i. Expanding and improving the monitoring network systems;
- ii. Establishing research and public relations units that will conduct data processing and modelling tasks and inform public on trends;

- iii. Development of a web-based tool, use media outlets
- iv. Develop a repair and maintenance plan for infrastructure.

Policy Statement 3: Trans-boundary Water Sharing and Collaborative water resource management is a pre-requisite requirement in our regional cooperation. Most of the country's water resources are Trans-boundary. The River Gambia is shared by four countries. There already exists the River Gambia River Basin Management Organisation. However, the OMVG Convention has not been reviewed since 1978. This need reviewing to incorporate emerging issues like the Sambangalou dam project. The Deep Sandstone Aquifer, the Allahein River and all tributaries flowing into the country are also shared with Senegal. The Gambia is downstream country of the basins and sub-basins placing the country in an unfortunate position and prone to the effects of upstream uses of the water courses.

Objectives: To strengthen already existing OMVG and developing joint monitoring organisation to conduct joint monitoring of water courses and building tools that will maintain the integrity of water and uphold the interest of member states especially downstream Gambia.

a. **Policy Strategies:** This can be achieved by:

- i. Reviewing the OMVG Convention to incorporate emerging challenges.
- ii. Participate proactively in the OMVG business and activities to support the nation's regional and international interests concerning water resources.
- iii. Secure an acceptable solution on the guaranteed low-flow regime after commissioning of the Sambangalou Dam.
- iv. Establish year-to-year water budget agreement under the auspices of OMVG.
- v. Prepare state of The Gambia Water Reports before the dam is commissioned and thereafter to assess impacts of the dam on downstream Gambia.
- vi. Establish similar management organisations for Allehein River and other sub-basins
- vii. Ratify the UN 97 Convention.

Policy Statement 4: Promote Adaptation efforts and Resilience building and Ecosystem Management in Response to the Emerging Climate Change. Gambia is susceptible to climate related risks such as droughts/dry spells, sea level rise and floods which pose a serious threat to the socio-economic development of the country. The existing vulnerability to climate impacts results from a wide range of factors including livelihood dependency and limited adaptive capacity. Thus, building climate resilient communities and ecosystem will be crucial for the ANR sector.

Objectives: In order to achieve the goal and move towards the vision of this Policy, the following key policy objectives will be pursued:

- i. Advance the understanding, capacity and social empowerment of all Gambians so that they can adequately respond to climate change.
- ii. Ensure adequate climate change research for informed decision making, and promote timely access to climate information and early warning of climate risks.

- iii. Put in place sound and equitable adaptation and mitigation measures that promote effective management of ecosystems and biodiversity, reduce vulnerability to climate change impacts, and reduce greenhouse gas emissions, to achieve sustainable low-carbon socioeconomic development.
- iv. Effectively integrate climate change into all sectors and across all scales, through mainstreaming climate risks and opportunities into national and sectoral frameworks, and through effective policy coordination and implementation.
- v. Build the resilience of communities and ensure health and welfare through participatory, equitable and pro-poor approaches to climate change that emphasize the meaningful inclusion of women and vulnerable groups.
- vi. Integrate community-based adaptation with ecosystem-based approaches to strengthen people's adaptive capacities and develop more climate-resilient livelihoods, by investing in sustainable natural resource management initiatives.
- vii. Coordinate national and international financial resource mobilization to address climate change by mainstreaming climate finance readiness and identifying, developing and promoting innovative financing mechanisms.

Policy Strategies: Given the vision set out for a climate-resilient society in The Gambia, the Policy Objectives will be implemented through a strategic approach, implicit within the objectives, that is:

- i. Contextualized and decentralized: promoting appropriate responses and national capacity and ownership;
- ii. Sustained and systemic: promoting institutionalization and coherence of climate change responses;
- iii. Evidence-based and innovative: harnessing indigenous knowledge, science, research and technology for resilient and environmentally friendly solutions;
- iv. Opportunity-oriented: viewing climate change as not only a threat to humankind, but also as an opportunity for sustainable agriculture, climate investments and innovations, resilient human settlements and clean energy
- v. Developmental: prioritising responses that also have significant economic growth, job creation, public health, risk management and poverty alleviation benefits; and
- vi. Transformational: favouring climate resilience measures that promote the transition to a lower-carbon, efficient, job-creating, equitable and competitive economy.

3.7 Environmental Management

Sub-Sector Description

The unsustainable utilization of the country's natural resources became a major cause for concern in the 1970s and which also reflected a global trend. This triggered the global discussion on "sustainability" which was described as an economy in equilibrium with basic ecological support systems. In the Gambia, this concern was re-echoed in the "Banjul Declaration." The Banjul Declaration of 1977 was the first policy instrument to focus on the need for environmental conservation. It was

perceived that the long-term result of environmental degradation could imply catastrophic implications for human livelihood if the level of degradation went unchecked.

In cognizance of the level of environmental degradation, an Environment Unit was then established in 1982 to coordinate environmental matters and monitor the impact of various projects and to provide advice to government and non-governmental organizations. This is followed by the enactment of the National Environmental Management Act (NEMA) by government in 1987 and the establishment of the National Environmental Management Council (NEMC) to provide the legal framework for environmental planning, management and decision-making, thus culminating in the preparation of the GEAP I, that provided a national framework to address environmental and natural resource management concerns. In 1994, the government set up the National Environment Agency (NEA) to coordinate the implementation of the GEAP which was adopted in 1992.

In this regard, the environmental management policy will be based on sound partnership among the farming community, the private and public sectors in the integration of ANR policy and production systems and effective implementation of the Gambia Environmental Action Plan (GEAP).

Policy Guidelines:

Policy Statement 1: The agency will ensure efficient and effective waste and sewage management.

Unsanitary conditions and poor waste management in the GBA and other growth centres around the country side is becoming an alarming concern. Different types of waste pose different problems but in general, failure to manage waste properly exposes urban dwellers to increased risk of infectious diseases and other communicable diseases. Thus, adequate policies, strategies and enforcement of legislation on waste and sewage management in The Gambia should be in place.

- a. **Objective:** Minimize the effect of poor waste and sewage management on human health and environment.
- b. **Strategies**
 - i. Finalize the draft Waste Management Bill;
 - ii. Strengthen enforcement of the existing environmental regulations (Anti-littering regulation, ban on plastic bags order, discharge permits regulation etc.);
 - iii. Develop criteria and provide technical support for establishment of standard landfills and dumpsites for efficient waste disposal and management;
 - iv. Sensitize on waste management and existing regulations; and,
 - v. Develop strategies for effective agricultural waste management

Policy Statement 2: The agency shall assume efficient management and control of all hazardous chemicals and pesticides by implementing relevant international instruments through existing laws to minimize their effects on human health. Toxic and hazardous substances are widely used in the Gambia particularly in the agricultural and industrial sectors. Exposure to these substances is likely to produce chronic rather than acute effects. Like most countries in Africa, Gambia is vulnerable to illegal dumping of obsolete and toxic and hazardous substances. Thus, implementing various international chemicals instruments through existing laws and policies will help to minimize the use of these hazardous chemicals in the country.

Objective: Protect the environment and humans from hazardous chemicals and dangerous substances.

a. Strategies

- i. Monitor and control importation, sale, storage, use and disposal of chemicals/pesticides.
- ii. Conduct public awareness campaign on the dangers and safe use of chemicals and pesticide, and promote integrated pest management (IPM) methods among chemical and pesticide users.
- iii. Encourage the use of biological/botanical control measures of pests.
- iv. Ensure safe disposal of obsolete chemicals.
- v. Implementation of MEA such as the Stockholm, Basel, Rotterdam, Minamata and Bamako Conventions to deal with both national and trans-boundary movement, sales and use of banned chemicals and wastes.

Policy Statement 3: The agency shall regulate sand and gravel mining, and ensure efficient management of Coastal Zones. Gambia's potential of sand and coastal resources is yet to be fully exploited due to lack of adequate geological information on deposits occurrence. The potentials of these resources can be sustainably exploited through countrywide coverage of geological surveys and mineral exploration. However, the indiscriminate increase in mining activity, including quarrying and harvesting of sand, may result in environmental degradation unless measures are taken to guide and control operations in the mining sub-sector.

Objective

- i. Regulate & enforce the use of standard guidelines & safeguards for quarrying
- ii. Protect & conserve sensitive habitat & infrastructure along the coast zone through ICZM

b. Strategies

- i. Sensitization on guidelines and safeguards
- ii. Finalization of the ICZM sec
- iii. Assessment and identification of potential sand mining areas
- iv. Assessment and identification of potential inland sand mining areas to minimize impact on our sensitive coastal areas
- v. Enactment and operationalization of the Integrated coastal zone management & strategic plans
- vi. Capacity building for CME -WG
- vii. Promote the use of alternative building materials that requires less sand and gravel.

Policy Statement 4: The agency shall promote and scale up integrated approach to sector coordination and harmonization for sustainable natural resource utilization and management. There is an urgent need for an integrated approach to planning and sustainable management of Gambia's environment and natural resources. This will strengthen the legal and institutional framework for good governance, effective coordination and management of the environment and natural resources.

Objective

- i. Sustainable utilization of available resources
- ii. Identification of key natural resources within specific areas in all regions
- iii. Equitable distribution of the country's resources (human & material)
- iv. Greater engagement of civil society, youths and women in both consultation and implementation processes.

a. Strategies

- i. Coordinate a national inventory and valuation of all natural resources;
- ii. Integrated monitoring and evaluation of resource utilization;
- iii. Community resource mapping;
- iv. Promote the use of GIS, collect earth and Remote Sensing technologies in mapping natural resources and monitoring of environmental changes which include land use, land cover and other changes;
- v. Strengthening Human Resource capacity at all levels;
- vi. Capacity building initiatives for youths and women in natural resource management;
- vii. Development of a national programme on environment statistics
- viii. Policy statement 5: The agency shall ensure effective monitoring of major development projects of the sector.
- ix. Objective: to minimize or mitigate potential negative impacts of project activities on the environment, lives and livelihood

b. Strategies:

- i. Conduct EIA for all development projects of the sector
- ii. Enforcement of the EIA Regulation 2014, guidelines and procedures 1999
- iii. Ensure regular participatory monitoring of project intervention sites.

4 POLICIES FOR SERVICES DELIVERY

4.1 National Agricultural Extension Policy

Introduction

Extension services are crucial link between the researcher and farming clientele with regard to adoption of technologies and provision of feedback to enable R&D to address specific problems and issues. This will become increasingly important as new and improved technologies are generated which require to be disseminated regularly and be widely adopted. The effective delivery of extension services is marred by a number of constraints comprising the low extension worker to farmer ratio, the multiplicity of approaches by different projects, the limited resource endowment and paucity of professionally qualified experts.

The goal of the national Agricultural extension policy is to strengthen the agricultural extension system for effective service delivery leading to enhanced agricultural production and productivity, commercialization, food and nutrition security, and household income. The vision is a pluralistic, market oriented and demand driven agricultural extension system that empowers value chain actors to engage in an innovative and participatory learning to take informed decisions and actions to create wealth and improve their standards of living.

Objectives and Strategies

Objective 1: To Promote Sustainable Intensive Agricultural Production and Value Addition

Strategy 1.1: Creating awareness on sustainable agriculture intensification production and value addition

Strategy 1.2: Building capacity of small and large-scale producers for sustainable agricultural production and intensification.

Strategy 1.3: Capacity building on value addition.

Strategy 1.4: Strengthening, supporting and involving farmer cooperatives in extension services delivery.

Strategy 1.5: Improving the capacity of our clients to deal with environmental and livelihood issues.

Objective 2: To apply Value-Chain Development.

Strategy 2.1: Providing information and facilitating linkage between relevant actors along the agricultural value chain.

Strategy 2.2: Developing the Capacity for Agricultural Innovative Systems.

Objective 3: To develop and strengthen human and institutional capacity of extension service providers at all levels for improved extension service delivery

Strategy 3.1: Develop the human capacity of extension service providers

Strategy 3.2: Developing the institutional capacity of extension service provider

Strategy 3.3: Develop/Strengthening the M&E system for extension service delivery

Objective 4.0: To strengthen the governance of the agricultural extension system for effective and efficient service delivery

Strategy 4.1: Coordinating agricultural extension delivery

Strategy 4.2: Decentralization of extension service

Strategy 4.3: Enhancing communication

Strategy 4.4: Resource Mobilization

Objective 5: To establish and strengthen relevant partnerships for efficient and effective extension service delivery

Strategy 5.1: Promoting research, extension and farmer linkages and collaboration.

Strategy 5.2: Developing mechanism to facilitate private sector and NGOs partnership with the public sector in extension delivery.

Strategy 5.3: Developing and maintaining viable working relationships between training institutions and extension service providers.

Strategy 5.4: Promoting and Strengthening and forging partnership between local authorities and extension service providers.

4.2 Research and Development

Growth and development in ANR production and trade will require competitiveness, new production processes and methods, product development, new technological options and sustenance of comparative advantage and R&D will be a crucial instrument for these.

The R&D agenda will be determined by the choices in, and the composition of the ANR transformation programme. The R&D programme will be demand- and market-driven and environment friendly. The focus of R&D will therefore, be as follows:

a) Intensification of productivity and efficiency improvements to lower unit costs, reduce losses and increase net yield. The following research areas will be promoted and encouraged:

- i. The development of high yielding, high performance and superior quality crops/ livestock/ aquatic varieties and breeds;
- ii. Widening the possibilities for greater substitution of labour for capital through the development of mechanized and automated systems especially in labour intensive production operations including the development of new products and processes less intensive in use of labour; and,
- iii. Increasing efficiency and product recovery through reduction of post-harvest losses and waste.

b) The development of farms and methods of conservation measures to maintain and improve the integrity of the environment to sustain ANR development in the light of depleting resources will include:

- i. Increasing efficiency in the use of natural resources such as improvement in soil, water, and aquatic resource management technologies;
- ii. The development of an improved system and the stricter enforcement of regulations for the protection of water catchment areas;
- iii. Development of technologies for enhanced utilization of marginal soils such as acid sulphate soils to increase available land for cultivation and exploitation of natural and man-made water bodies for aquaculture;
- iv. The generation of environment friendly technologies for the conservation of natural resources, maintenance of ecological balance and environmental quality. These will include the generation of technologies for low input systems such as lesser chemical inputs, integration built-in pollution control, waste disposal mechanisms and appropriate capture technologies in fisheries; and,
- v. More efficient management and conservation of genetic resources.

d) Development of technologies for the production of high-value crops and value-added products for specialized market niches. Research areas of focus will include:

- i. R&D in high value crops such as selected fruits, vegetables, floricultural crops, etc and livestock and aquacultural species for diversification;
- ii. Production methods development to enhance downstream activities in both food and non-food products; and,
- iii. R&D for the utilization of ANR by-products and wastes for food and other economic use.

e) Development of convenience nutritious and health foods which will increase in demand and therefore, require high technology production levels using modern food processing technologies. R&D efforts in these areas will include:

- i. Diversification of food products and the development of convenient foods;
- ii. Up-grading of nutritive value of processed food products and food safety; and,
- iii. Development of special foods for health needs.

f) Applied socio-economic research which will cover:

- i. Marketing which includes studies in changing trends, preference patterns and habits of food consumption;
- ii. Policy issues and implications in relation to ANR development and technological changes; and,
- iii. The optimization of resource use in the ANR sector.

Adequate resources and planning policy will be given to R&D work including incentives and other programmes to encourage private sector, local and foreign, activity in this domain and in the promotion of joint public-private efforts including sub-contract of R&D work to NARI, ITC and the University of The Gambia (UTG). Legal framework for property rights, process, products and methods will be strengthened.

4.3 Cooperative Development Policy

While a lot of potentials and opportunities exists in agriculture, this has not been sufficiently tapped as most producer organizations are loosely organized and lack apex structures to coordinate their activities. Furthermore, they are poorly organized with most of the executives endowed with limited managerial skills. Effective transformation of agriculture requires the effective participation of farmers and their organizations. Organizing farmers into cooperatives enables them to pool resources, buy inputs in bulk and benefit from premium prices. These cooperatives however need to be organized, strong and vibrant. **Issues:** Most producer organizations are loosely organized, poorly governed and characterized by low/inadequate management skills; Weak regulatory framework; Asymmetry of information/decision-making to the membership; Inadequate service delivery to the organizations.

Policy objective: Efficient and effective farmers organizations transformed into strong, viable and vibrant cooperatives

Strategies

- i. Policy review and development including improving the regulatory environment for cooperatives;
- ii. Reorganize and restructure the existing farmer organizations into genuine autonomous cooperatives and regroup into secondary apex body;
- iii. Improve the capacity of cooperative societies in the areas of governance, member training and provided with basic infrastructure

4.4 Irrigation

Policy Guidelines: The Gambia is experiencing a decrease in the degree of food production and productivity as a result of a decrease and variability of rainfall, the main source of water for crop

production, amongst others. To negate the impact of this change climatic phenomenon of agricultural crop production Government ventured into development programmes geared towards an effective management of the scarce water resources, thereby improving agricultural production and productivity. Infrastructural development focused mainly on the provision of irrigation and related structures and facilities with a view to optimise soil moisture conditions for plant growth. Consolidation of these irrigation related innovative approaches becomes essential in the drive towards food self-sufficiency/security.

Irrigation strategies

- i) Identify and demarcate potential areas for the various irrigation technologies and promote adoption;
- ii) Develop local capacity (service providers and farmer) on the appropriate irrigation development (planning, design, construction and maintenance of infrastructure/facilities, water management) activities;
- iii) Promote adoption and use of appropriate advanced and simple irrigation technologies to enhance efficient utilisation of water;
- iv) Support expansion and appropriate exploitation of the groundwater resource for year-round crop production particularly in the horticultural industry;
- v) Support and consolidate the lowland irrigation related development activities for rice production;
- vi) Strengthen the extension service delivery on irrigation and irrigation related activities – techniques, water use efficiency, irrigation management, scheme operation and maintenance;
- vii) Promote private sector involvement in irrigation development through the creation of conducive environment for the supply of equipment and spare parts, and access to repair and maintenance services.

4.5 Agriculture Credit/Finance Policy

Adequate credit to finance capital investment and operating expenses is essential for expanding the productive base, introduction of innovation and adoption of new technologies including mechanization. Both commercial banks and developmental credit institutions are important sources for such funds to augment self-generated investible resources.

The establishment of an Agricultural Development Bank (ADB) will make credit available to meet the various requirements in the ANR sector covering crops and projects of strategic importance, loans of different level of risks, financing of innovations, the adoption of new technologies including mechanization and financing imports and exports.

Financing of the further commercialization of ANR activities and transformation of its production structures to be climate resilient will be further emphasized in the overall credit and interest rate policy of ADB so as to sustain the momentum of change to its ultimate desired level. However, access to credit in the long-term will be strictly on commercial basis. The operation of the credit system will be augmented by an Agricultural Insurance Scheme (AIS) so as to minimize repayment risk in the event of production failures while providing for assurances for the bank of loan recovery.

4.6 Microfinance Policy (2013-2017)

Introduction

Microfinance offers poor people who are economically active, access to basic financial services such as loans, savings, money transfer services, insurance as well as non-financial services. MFIs operating in The Gambia comprise formal MFIs, NBFIs, Savings and Credit Associations (SACAs), the Credit Unions (CUs), the Village Savings and Credit Associations (VISACAs), financial NGOs and at the lower level Micro-savings and Credit Associations (MISAVCAs) and the Social Development Fund (SDF). Issues: Capacity constraints in terms of staffing, equipment and infrastructure; Undiversified services and products; Weak governance and high operational costs; Guided by the microfinance policy (2013-2017) which is elapsed in time.

Policy Objective: Promote the growth of a sustainable and inclusive financial sector, through the efficient provision of a broad variety of microfinance services to the economically active poor and to urban and rural micro enterprises in a dynamic and efficient microfinance market.

Strategies

- i. Improving the policy, legal and regulatory framework;
- ii. Strengthening the microfinance support structures;
- iii. Capacity building and governance for MFIs access to funding for MFIs for improved outreach;
- iv. Responsible finance and consumer protection;
- v. Monitoring and Evaluating the impact of microfinance

4.7 Gambia Entrepreneurship Policy

Introduction

Gambians are increasingly turning to Micro, Small and Medium Enterprises (MSMEs) for employment and livelihood. Its contribution to GDP and employment are both increasing with significant potential for economic growth, diversification and transformation of the economy. Most entrepreneurs have however hardly benefitted from formal business training and encounter constraints related to access to capital and market opportunities. The National Entrepreneurship Policy (2016) provides guidelines to improve the promotion of entrepreneurship.

Objective: Develop and implement entrepreneurship policy taking into account the social and environmental challenges in The Gambia that address the legal, social and regulatory barriers to equal and effective economic participation.

Specific Objectives/strategies

1. Optimizing the regulatory framework

- i. Harmonize the regulatory framework;
- ii. Enhance entrepreneurship education;
- iii. Facilitate technology exchange and innovation;
- iv. Improve access to finance;
- v. Promote awareness and networking;

- vi. Integrate entrepreneurship competencies and skills into informal and formal education;
- vii. Develop effective entrepreneurship curricular;
- viii. Train teachers to teach entrepreneurship at all education levels;
- ix. Strengthen inter-linkages between private sector and the Gambian educational system

4.8 Agricultural Mechanisation Policy

Policy Guideline: Agricultural Mechanisation has been recognised by Government as key in the drive to promote expansion and intensification required to transform agricultural sector to propel the nation's economic growth. Consequently, government has since in sixties embarked on promoting the adoption of appropriate mechanisation strategies to uplift to production and productivity along the value chain whilst being mindful of the potential environmental degradation. With the increased population, aging agricultural workforce and climate variability, appropriate technological innovations geared towards sustainable production intensification and associated improvement of post-harvest processes will be the focus of the mechanisation agenda.

Policy Objective: To promote the use/employment of machine power to compliment and/or replace human labour along the crop value chain.

Issues

- i) Ageing agricultural workforce;
- ii) Reduced window available for farm operation as a result of climate change;
- iii) Drudgery along the value chain;
- iv) Difficult working environment especially on the heavy clayey lowland soils;
- v) Fragile upland soils;
- vi) High production losses during harvest and post-harvest periods; and
- vii) Increased population and subsequent increased food requirement.

Strategies

- i) Support research to map and recommend appropriate machinery and equipment suitable for the various agro-ecological zones and different soil typologies;
- ii) Promote and consolidate the adoption of minimum tillage in the uplands – animal traction to be complemented by light tractors suitable for shallow cultivation;
- iii) Strengthen the AEU to effectively conduct research and development activities to identify and recommend appropriate machinery for the various functions along the value chain;
- iv) Promote the standardisation of agricultural equipment and machinery including irrigation pumping machines (solar and diesel/petrol operated);
- v) Promote local manufacturing of equipment through private sector joint-venture approach (Gambian/foreign) to such enterprises;
- vi) Develop and implement appropriate complementarities policies such as land tenure system, provision of credit facilities, design of donor funded projects and standardization of mechanical equipment.

The agricultural mechanization policy will be animal traction as the most appropriate immediate advance from hand tools followed by 2-Wheeled tractors and limited and selective application of 4-Wheel tractors. This mechanization policy strand will be implemented through the following policy elements:

- i. Re-structuring the Department of Agricultural Engineering Services (DAES) and leaving it under NARI. Effective conduct of the Services' R&D activities in this option requires a re-definition of the Unit's functions and recognition (by the NARI administration) of the fact that the Services' main function of R&D in agricultural mechanization is high priority area that deserves equal attention as the other research programmes and not a supportive activity. The administration must be quite decisive about this function and ensure that they provide the Services with the necessary support to implement its mandate effectively;
- ii. Actively seek local donor and non-governmental organizations and other countries, including Senegal, for collaboration issue including technology testing and adaption at the level of national research and extension programmes, private business, development organizations and individual farmers;
- iii. Use of draught-power on research stations for field operations, primary crop processing, transportation, water lifting and irrigation to demonstrate national commitment to the effective use of the technologies as the prime national mechanization policy choice;
- iv. Promote local manufacturing of equipment through private sector joint-venture approach (Gambian/foreign) to such enterprises; and,
- v. Develop and implement appropriate complementary policies such as land tenure system, provision of credit facilities, design of donor funded projects and standardization of mechanical equipment.

4.9 Marketing Policy

The Gambia is a member in many sub-regional, regional and global trade agreements such as ECOWAS, the Cotonou Agreement of Africa Pacific and Caribbean (APC) countries, the African Growth Opportunities Act (AGOA) of the United States and the United Nations' International General Agreement on Tariff and Trade/World Trade Organization (IGATT/WTO) agreements. These memberships confer the country with enormous opportunities to adopt a new marketing culture to undertake marketing of ANR products based on a long-term survival instinct and needs of a corporate entity that recognize Vision 2020: The Gambia incorporated. However, this increasing globalization of the economy, relative perpetuation of protectionism, emergence of aggressive competitors and increasing trends towards the foregoing of wider preferential agreements create new challenges. Thus, the new marketing culture will emphasize the following:

- i. Enhancement and improvement of market research and market analysis in both existing and potential markets with particular focus on market requirements of both price and non-price aspects;
- ii. An upgraded market intelligence network to provide timely and accurate data on market requirements including consumer preference, price and pricing methodology, existing regulations and planned ones with regards to customs and border requirements, tariff and non-tariff barriers and sanitary and phytosanitary measures. Such market information will also include market shares, existing and would-be competitors and new product development. This will be supported with establishment of an efficient Market Information Dissemination System which serves producers, entrepreneurs and marketers.
- iii. Continued participation of Government in multilateral trade negotiations and other trade fora to protect and seek greater market access through reduction of tariff and non-tariff barriers especially

the use of sanitary and phytosanitary as non-tariff measures and easing of commodity flows between countries.

- iv. To seek the extension of existing Commodity Agreements and Producer Price Stabilization Schemes with the European Union in other niche market countries for other selected ANR commodities where feasible;
- v. Negotiation of bilateral arrangements with selected purchasing new countries to facilitate payments for ANR exports; and,
- vi. Step-up trade and promotional effort through overseas exhibitions and trade fairs to be undertaken jointly with the private sector.

With regards to domestic marketing of ANR products efforts will be aimed at increasing demand for domestic products by ensuring continuous high quality supplies for the market and improving the marketing system in terms of facilities and practices at village/town and lumpo markets. Research to identify market requirements and potential to monitor supplies and possible sources and to evaluate system facilities and requirements will form the basis for marketing development. Consumer education as advocated by the National Nutrition Policy (2018 –2025) and related promotional efforts to increase the demand for highly nutritive food commodities will be undertaken with the end consumer and the processing industry in mind. Producers, processors and market intermediaries will be encouraged to place high quality, attractive, competitively priced products on the market through grading schemes, designed extension programmes and provision of advisory services. The government will assist in the development of commercial and market-led distribution networks and participate only where necessary. Proper market practices related to health and sanitary requirements, packaging and handling will be further emphasized and enforced.

5 CROSS-CUTTING POLICIES

5.1 Macro-Economic Policy

ANR sector is inevitably affected by macro-economic stabilization reform policy measures. There are four main macroeconomic policy instruments through which government will exert significant influence on the agricultural production environment. These are:

- a) Price Support;
- b) Marketing;
- c) Input Supply; and,
- d) Credit.

The ANR macro-economic related policy with respect to the four main policy instruments will be re-examined and re-directed to facilitate improved growth performance of the ANR sector through:

- i. Exchange rate adjustment – will impose substantial movement towards a realistic exchange rate to reduce disincentives to export production.
- ii. Producer prices – will remove illogicalities (especially bias against exports), and create a mechanism that will eliminate exploitation of producers and ensure that they receive fair prices for commodities.
- iii. Input supply – will ensure that farmers have access to inputs such as fertilizers, seeds, pesticides etc, at affordable prices.

- iv. Credit – will ensure adequate allocations to medium-scale farmers/operators, especially for procurement, marketing and processing.
- v. Agricultural budgets – will increase budgetary allocations (capital and recurrent) to meet the needs of the sector in accordance with the Maputo Declaration (2002) of 10% of Government budgetary allocations.
- vi. Basic rural services – will improve and expand coverage of health, education (including adult functional literacy), water and sanitation and rural infrastructure including electricity supply throughout the country.
- vii. Research – will adopt the proposed Medium-Term Plan for the National Agricultural Research Systems (NARS) of The Gambia and appropriately restructure existing institutions along the decentralized policy and establish technology, R&D facilities and effective linkage with extension workers and farmers.

5.2 National Nutrition Policy (2018-2025)

Malnutrition is a major public health problem in The Gambia especially for women and children. It is characterized by the triple burden of under nutrition, micronutrient deficiency and over nutrition. Recent data (MIC 2018) show that both stunting and Global Acute Malnutrition (GAM) have declined for the under-five. The goal of National Nutrition Policy (2018-2025) is to significantly improve the nutritional status of The Gambian population's nutritional status, and contribute to the country's realization of the united nation's Sustainable Development Goals and the National Development Plan. The National Nutrition Policy focuses on twelve priority areas accompanied by strategies.

The priority areas are as follows:

1. Improving maternal nutrition: the objectives are to reduce the prevalence of malnutrition and micronutrient malnutrition among women of child bearing ages.
1. Promoting optimal infant and young child feeding: the objectives are to promote optimal infant and young child feeding practices; to create an enabling environment for mothers and care givers to make and implement informed feeding choices; to raise public awareness on the main problems affecting infant and young child feeding; and to treat and control acute malnutrition in under five children.
2. Food and nutrition security at national, community and household levels: the objectives are to promote the utilization of diverse and safe foods of high nutritional value; and to advocate for the adoption of agricultural value chain development approach.
3. Preventing micronutrient deficiencies: the objectives are to increase awareness on micronutrient deficiencies in the general population; to increase household consumption of iodized salt; and to reduce the prevalence of diseases related to micronutrient deficiencies among the general population especially women and children.
4. Improving food standards, quality and safety: the objectives are to contribute towards ensuring that food produced and/or consumed by The Gambian population is of high nutritional value and safe; and to raise public awareness on the importance of quality and safe food to nutrition.

5. Nutrition and infectious diseases: The objectives are to improve the nutritional status of the people, particularly children under five; pregnant and lactating women; and to ensure that stakeholders appreciate the importance of a good nutritional status in both the management and prevention of infectious diseases.
6. Preventing and managing diet -related non-communicable diseases: The objectives are to increase awareness on the risk factors and major determinants of diet-related Non-Communicable Diseases; and to reduce the mortality associated with obesity and diet-related Non-Communicable Diseases.
7. Caring for the socio-economically deprived and nutritionally vulnerable: the objective is to establish an effective nutritional care and support system for the socio-economically deprived and nutritionally vulnerable groups.
8. Nutrition and HIV/AIDS: the objectives are to increase awareness on the relationship between nutrition and HIV/AIDS; and to provide nutritional information, comprehensive care and support to people infected and affected by HIV/AIDS.
9. Nutrition in emergencies: the objective is effectively and timely provision of food and nutrition response to affected populations in emergencies.
10. Nutrition surveillance: the objective is to make nutrition information available to all stakeholders for appropriate planning, policy development, programming and decision making.
11. Nutrition research: the objective is to create an enabling environment for human nutrition research.

5.3 National Youth Policy (2019-2028)

Youths (13-30 years) constitute 37.2% of the population (2013 Population and Housing Census) and thus provide a means of capitalizing on the demographic dividend for development. The National Youth Policy (2018-2028) is hinged on this with its effective realization marred by lack of pre-requisite skills and educational levels. Other related constraints include low employment, difficult transition from school to work, illegal migration and substance abuse.

The National Youth Policy is the fourth ten- year policy that has been formulated for the Youth of the Gambia. The ultimate goal of the policy was to function as a guide for the Ministry for youth and sports and its partners to ensure that investment in youth takes place across sectors and in all national policies and programs. The Youth policy has the following objectives: To invest in youths for national development; To create employment for out of school youth; To enable the youth in the country operate within a wide variety of cultures as such a culturally sensitive approach with regard to mainstreaming the perspectives of youth in all national and local interventions; To ensure that the youth policy reflect the full participation of both male and female in national development-- not only to ensure youth participation, but to also increase the efficiency and effectiveness of the Youth Council; To enable the National Youth Council to coordinate the implementation of youth projects and programmes based on a sound youth dimension with a view to investing in the future of Gambian Youth; To put in place institutional procedures based on policy guidelines which ensure that the needs of boys, girls, men and women are all met equitably in the national youth policy; To formulate a framework that measures and

ensures that youth-specific issues are systematically identified and addressed; To ensure that data on beneficiaries is disaggregated by sex for needs assessment and programme planning and youth analysis is integrated into programme design, delivery, monitoring and evaluation; To design strategies for capacity building in youth and investment mainstreaming as part of Institutional development programmes with special attention to staff training on youth mainstreaming and youth analysis; and To ensure that reporting and accountability mechanisms for activities and results in youth and investment are put in place.

5.4 The Gambia Trade Policy (2018-2022)

The aim of the National Trade Policy (2018-2022) is to establish and maintain a competitive and liberal trading environment that is supportive to private sector development for export-led growth. The specific objectives are: (1) To stimulate the public and private sectors to invest and develop competitive and sustainable supply and productive capacities including technology upgrading, agro-processing, efficient manufacturing and skills development with particular attention to women and youth, to accelerate exports and economic development; (2) To facilitate the fuller participation of exporters, especially Medium to Small-scale Micro-Enterprises (MSMEs) in regional and international trade in order to take advantage of trade opportunities as means to reduce poverty and improve economic growth well-being; (3) To create an enabling environment for investment, including foreign direct investment, in order to produce increasingly competitive goods and services for domestic and exports markets, including value addition and diversification as well as product quality development to meet international standards; and (4) To facilitate and stimulate the establishment of coherent and well-coordinated trade and trade related capacity building, including human resources development and addressing industry specific supply side constraints and export promotion activities. With the signing of the Africa Free Trade Agreement, concrete measures should be made to ensure synergy with the commercialization of agriculture to enhance trade.

5.5 The Gambia National Transport Policy (2018-2027)

Transport plays a very important role in the socioeconomic development through enhanced access to economic opportunities and social services. In the specific case of agriculture and natural resources, transport provides vital links between areas of production and markets. Key challenges to effective and efficient transportation include the rapid rate of urbanization, conflicting institutional responsibilities for road management/regulation, poor road network with many roads in bad state of repairs. This has culminated in poor connectivity, high vehicle operating cost, long travel time and poor road safety. River transport which used to be the main means of evacuation of produce including groundnuts has significantly declined.

The Gambia National Transport Policy (2018-2027) provides the road map for the management and maintenance of the national transport infrastructure. It has the following as its mission:

“The transport sector will support the short-term, medium term and long-term expansion of the productive capacity of the economy and provide an enabling environment for the development and maintenance of Gambia’s transportation system through effective policy formulation, market regulation, asset management and service provision and will contribute significantly in the improvement of the living standards of the Gambian population.”

The following constitute the Sector-wide Policy Objectives/strategies: Government institutions will be reformed in order to support the implementation of this National Transport Policy and the National Transport Plan, and to enhance coordination and cooperation between the various institutions dealing with transport issues; The construction of new transport infrastructure and facilities will be based on aforementioned principles, land use planning, and sound technical, socioeconomic, environmental, financial and economic appraisal/criteria; The operating efficiency and the life of the transportation system, infrastructure and facilities will be enhanced by comprehensive, programmatic routine and periodic maintenance; Development of economically viable modes of transport will be supported and integration between various modes of transport stimulated in order to minimize duplication and waste.

Support the development of Banjul International Airport as an air transport hub to the West-African sub region in the medium term and as a major gateway of the region in the long term; The port of Banjul will be developed as a main gateway to the region and as a port for the trans-shipment of goods by providing and expanding port infrastructure, facilities, equipment and buildings, and by upgrading services as required to meet the increase in water transport demand; Support the development of inland river transport and facilities including river ports; Development of a national freight transport industry within the overall framework of the free market policy will be supported to ensure a cost and time effective road transportation of the country's internal and external trade that is equally environmentally friendly; Support the setting up and enforcing adequate safety standards to ensure that the transport system will not inflict excessive damage to the individual person, nor to the Gambian society as a whole; Options for privatization and greater private sector involvement in the field of transport in general will be encouraged and evaluated; Promote local level employment generation; Promote the adoption of energy efficient transportation and climate resilient infrastructure.

5.6 National Policy for Decentralization and Local Development (2015-2024)

Introduction

While both the Act and structures of decentralization have been in existence, its effective operationalization has been inhibited by a number of constraints including: lack of capacity at central and local government levels; incoherencies and contradictions in sectoral approaches; lack of comprehension and engagement of the general public; reluctance of central government in transferring required functions, competences and finances to local levels; weak capacity for planning and development at local levels and weaknesses of local government administration.

Objectives

The National Policy for Decentralization and Local Development Policy (2015-2024) is aimed at creating the enabling environment for promoting democratic governance that is participatory. It is oriented towards decentralization by devolution.

Strategies

It is guided by the following strategies:

1. Political Decentralization with defined roles and relationships amongst different stakeholders in local governance

Issues

- Inadequate capacity and autonomy of space of local councils to ensure efficient devolution;
- Low participation of civil society and the private sector; and,
- Lack of public enthusiasm for local government.

2. Administrative Decentralization with enhanced institutional capacity/absorptive capacity

Issues

- Positions either not filled or filled by unqualified personnel;
- Inadequate human resources;
- Absence/inadequate absorptive capacity for devolution of responsibility; and,
- Inadequate sensitization.

3. Fiscal Decentralization to enhance the financial resource base of Councils for service delivery

Issues

- Limited commitment by government;
- Lack of consistency with revenue collection mandate changing often to newly created agencies;
- Poor resource endowment/weak economic base of Councils; and,
- Absence of well-established systems, guidelines and mechanisms.

4. Decentralized development planning with strengthened capacity for development planning and budgeting at all levels.

Issues

- Bottom up approach
- Limited capacity to develop plans through the appropriate processes-identifying needs, developing plans, coordinating, implementation problems and mobilizing local financial resources; and,
- High attrition of MDFTs.

5. Local Economic Development (LED) to enhance economic growth, employment creation and income generation.

Issues

- Inadequate devolution to local authorities with some agencies carrying out roles to Council;
- Inadequate capacity to promote economic development at local level; and,
- Limited capacity of Councils to carry out operations in promoting local economic development.

6. Popular Participation and Accountability to strengthen local governance, democracy and accountability with stakeholder involvement.

Issues

- Inadequate mass participation and weak accountability mechanisms to the population.

7. Promoting the right-based orientation to development ensuring equitable access to services, resources and participation in decision-making processes.

Issues

- Some basic social issues/human rights not adequately addressed e.g women's rights and gender issues; young people and children's rights; people living with HIV/AIDS;
- Inadequate and unsystematic efforts e.g at gender mainstreaming; and,
- Basic needs and infrastructural development.

8. Involvement of the private sector and non-state actors with defined clear roles and responsibilities in local governance.

Issues

- Limited space/involvement of the private sector in local development; and,
- Lack of harmonization and integration of activities of non-state actors.

5.7 Gender Empowerment and Mainstreaming Policy

The problems faced by women and youths in agricultural production are immense, and include: unequitable and limited access to and control over land, credit, knowledge and information, appropriate technologies, training and marketing. In the light of these constraints and consistent with the national commitments under the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), the gender mainstreaming policy strand will emphasize the following policy threads:

a) Land Tenure

- i. There would be a thorough review of the land tenure system in The Gambia taking into consideration all the past studies on the tenure system.
- ii. Legislation would be enforced to avail women of full ownership of land, particularly land for development purposes. This will also enable them to use such land as collateral to secure loans from banks.
- iii. The need to synchronize the various land tenure systems to address development needs regardless of gender is paramount to the economic use of resources and does not conflict with social justice.

b) Access to Credit

- i. Organize female farmers into group savings and credit societies in order for them to save on a periodic basis, and establish their own revolving fund. Establish a rural credit fund for agriculture targeting women and youth small farmers.

- ii. NGOs would be encouraged to assist female farmers with revolving loans to enable them purchase farm inputs (fertilizers, seeds, and farm implements). Repayment could be done after harvest. Government would consider support and granting subventions to GWFA and WISDOM (being exclusively women NGOs) for this purpose.
- iii. Revisit the interest rate on the commercial bank loans and set up a minimum interest rate for the poorest farmers particularly the women and youth. This scheme would address the following areas: Increase women's (and youth) financial strength to purchase more animals with feed, vaccines etc, for a more viable livestock project.
- iv. Financially empower women to purchase seeds and farm implements for both food and cash crop production.
- v. Support women in the fishing industry to bargain and purchase adequate fish for both smoking and drying with their own capital. This will require establishment and strengthening of female fish-mongers groups/co-operatives for sustainability.

c) Appropriate Technologies for Female and Youth Farmers

Research and development programmes on appropriate farm technologies for women would be supported for all the different crops grown.

- i. Provide women and youths with credit to purchase implements to increase hectarage thus increase production.
- ii. Train women and youths on the use of the tested and recommended technologies by the agricultural extension system.
- iii. Embark on the IEC programmes that change the attitudes of female farmers on those beliefs that state that women should not own and keep assets.
- iv. NGOs in the agriculture and government extension services would harmonize their efforts and intensify the provision of more appropriate technologies such as dehulling, processing equipment for grains to alleviate the arduous workload of women.

d) Reliable Sources of Water

Develop a policy accompanied by an action plan to provide reliable sources of water for agricultural projects through the exploitation of the deep sandstone aquifer water resources using appropriate renewable energy technologies.

- i. NGOs active in the area of agriculture, especially horticulture would be encouraged to embark on more water projects not only for consumption but also for agricultural purposes.
- ii. Schemes such as the then irrigated water systems in the Western Division namely in Banjulinding, Sukuta and Kafuta would be reintroduced for organized women's groups.

e) Training

- i. Involve more women and youths in the annual Agricultural Farmer Training conducted at the mixed farming centres and other relevant places.
- ii. Organize and train women to form self-managed (kafo) groups to take up the negotiations of their own market prices in the areas of horticulture, fisheries, food and crop production. This will build

more confidence in women and ensure sustainability. The sociological and managerial aspects of kafos are important here and will be a focus based on carefully selected strategies.

- iii. The provision of appropriate techniques should go along with a training package for use by women so that the equipment will not end in the hands of their male partners.
- iv. To ensure the availability of food for all year round, especially vegetables and fruits, food preservation and processing are very necessary. This is an area where women are lagging behind and would be given urgent attention to attain self-sufficiency. The Department of Food Technology Services (DFTS) of DOA has done several pilot studies/programmes in this area, which would be expanded and intensified.
- v. Organize and train female farmers to produce quality food and also to prepare and consume the required foods for a nutritional purpose and balance diet. An action plan which eloquently ties local production to home consumption demands/trend would be elaborated for all the sub-sectors.

f) Marketing

- i. Private sector involvement in marketing of agricultural produce will be further encouraged. Government concessions and well-thought-out marketing incentive packages will be provided for the private sector to help in this regard.
- ii. Women will be encouraged to form marketing groups to bargain for their price. The co-operatives and agricultural extension systems will be instrumental in this regard. Although the concerned extensionists will have to be given gender sensitivity orientation sessions.
- iii. Women will be linked to potential buyers through an out-growers' scheme with commercial producers. This would involve the playing of pro-active roles by the individual extensionists in complying with the production and marketing plans of the commercial producers.
- iv. Market information and pricing indicators will be provided to women in the best and appropriate languages they could understand at all time. This should be a joint effort between the government and NGOs. The DPS will be strengthened with a view to having a unit specializing in the timely provision of such market information (appropriately desegregated by gender) for horticulture and allied sectors.

5.8 Land and Water Use Policy

Given the primacy of water to life on earth and its nurture and sustenance, the common core public policy for the two sub-sectors will be an integrated water resource management (IWRM) approach which falls within the first key strategy of the 2017/2026 ANR policy - optimizing resource use. In anticipation of the need for an effective instrument for the implementation of an all-embracing water policy, the Ministry of Environment, Climate Change, Water Resource and Parks & Wildlife (MECCWRPW) conducted a national water resources assessment and management strategy with a view to formulate a strategic plan for the purpose. Accordingly, this strategic plan defined seven strategic areas: legal and institutional transformation; water information and knowledge; water resource development and monitoring; climate change implication and monitoring; trans-boundary water sharing and collaboration; stakeholder awareness and participation; and, human resource development, as the framework for water resources development and management.

The strategic plan further elaborated the following water demand management and supply efficiency activities which will constitute the elements of our common core policy of land and water use in the next decade:

- i. Supply- and demand-side water resource management which will focus on developing new supplies and infrastructure to meet perceived water needs. Given the 'water demand gap' between the projected water demand over the next two and half decades and present water supply infrastructure, this gap will be met not only from the construction of new sources of supply, but also through implementation of a targeted program aimed at introducing a range of *water* conservation and water demand management measures to reduce the perceived water requirements.
- ii. Introduction of a water demand management (WDM) programme which will aim at the involvement of all water users in water conservation by sensitizing the population on the importance of conserving water through public education and awareness raising campaign. Such a campaign will deploy the use of NGOs, schools and colleges of education as well as the media (newspapers, radio and television) as its key communication channels to enlist public support for the cause. Successfully applied technologies, educational and public awareness measures as well as other instruments of economic and regulative nature of such a holistic water conservation and demand management programme are already in use in different settings in many parts of the world.
- iii. Water demand management measures will include various methodologies of managing water demands which are grouped in terms of the intervention being sought into technical measures; public awareness education; and water pricing and regulative measures.

The technical measures – these will include:

- use of water efficient devices in buildings which will necessitate a review of the Building code and regulations to include such a provision for all new buildings and retro-fitting of fixtures in all existing buildings ;
- Promotion of use of water-wise gardening and landscaping practices and encouragement of architects, planners and land scapers to create more efficient designs;
- Rainwater harvesting for households and institutions will entail installation of roof attachment systems as back-up and supplementary supply for public buildings which will also be considered for inclusion in a revised Building code and regulation for all new buildings;
- Adoption of re-use of 'grey' water and recycling of wastewater through reclaiming the water by restoring it to its original quality and using the treated wastewater for purposes which do not necessarily require quality standard of potable water. A caveat here is the possibility of attitudinal obscurity among consumers towards wastewater effluents. This will require intensive public educational efforts to convince individual households and the general public of the advantages of adopting a lifestyle of re-using their 'grey' kitchen water and other rinsing water for purposes of watering plants and vegetable gardens. There is a number of relatively inexpensive commercially available technical gadgets to intercept and direct the 'grey' water flow. In the case of larger institutions, like hotels and lodges, not attached to water-borne sewerage systems, a revised Building Code will provide for the introduction of reed-bed/pond ('constructed wetland') purification structures to facilitate safe use of wastewater especially for external use of watering gardens and grass fields (golf courses) which are currently in use in some large tourist lodges and resort areas.

Public awareness raising and education – these will entail:

- The creation of awareness among water users, administrators and politicians for the need to conserve water in a more prudent manner;
- Incorporation of water conservation issues in educational material and in curricula;
- The production of appropriate learning materials for formal and non-formal education;
- The development of school/learner activities, e.g. demonstration projects, school competitions, award programmes and drama venues;
- The production of brochures, leaflets and posters to advocate the use of water efficient devices and water conservation practices in general;
- Calculated promotional efforts to sensitize the public through the media, i.e. newspapers, radio and television;
- The commemoration of special events like the World Water Day affords a powerful platform to spread messages;
- Institution of customer advisory services on the efficient use of water at household level, in gardens etc.;
- Backing-up publications and discussions with demonstration projects; and,
- Conduct of water audits and provision of technical information on water saving methods industries by specialist staff from DWR, NAWEC or elsewhere on gratis.

Water pricing and regulatory measures – these will involve:

- Adoption of an appropriate pricing policy which recognizes the role of water charges and subsidies as instruments in promoting a sustainable water supply. A prudent policy in this regard will be total costs recovery to make the water services financially self-sustaining and independent of public subsidies. It will also serve as a demand management measure to influence the quantities of water resources supplied and used; and,
- Introduction of an abstraction permit system to provide a long-term water demand management measure which also will be a subject in the proposed new water legislation.
 - i. Efficiency and productivity improvements will include efforts to reduce ‘unaccounted-for water’ (UfW) resulting from old and expanded piped water supply systems as well as measures to lower the utility’s ‘own’ water consumption. These activities will be supported with proper information dissemination to the customers such as industrial/commercial and irrigated agriculture sectors, and the public at large on water conservation issues and their importance on the agenda of the utility. Since all potable water and much of the horticultural irrigation requirements are met from groundwater abstractions, the design of boreholes will be important consideration in improving optimal water productivity. Thus, boreholes and groundwater abstraction systems will be based on state-of-the-art hydrogeological assessment methods, efficient borehole sitting techniques as well as proper design, construction and development of the boreholes. The drilling depth will be sufficient to penetrate the water yielding zones and to accommodate the seasonal fluctuation of the water level even in very dry years, including the drawdown caused by the pump. Decision about the use of a new borehole for production and the operational yield will be based on proper pumping tests as well as the long- and short-term hydraulic behaviour of the aquifer and the borehole to avoid future over-pumping with resulting clogging of borehole screens and subsequent increased draw-downs. In this regard future

groundwater abstractions will rely on larger diameter boreholes to obtain the required amount of water and also longer pumping mains to bring the groundwater from the well-fields to the point of utilization. New boreholes will not be sunk below 2 km from the coastline and in the vicinity of flood plains of the Gambia River and its tributary network, where salt- and brackish water persists.

- ii. Physical measures towards water reduction will, inter-alia, entail documentation of water conservation targeted on an individual basis, and applicable to The Gambia since in many instances, the shortage of water experienced at destination is not as much due to actual supply shortage as it is due to inefficient individual plumbing systems, corroded pipes and fittings and numerous bends in the plumbing system.
- iii. Non-conventional water sources desalination and artificial recharge of groundwater aquifers. The former, desalination for portable water is, despite advances in membrane technology, still expensive and impractical on a large scale. The latter is an ideal and advanced solution to practice conjunctive use of surface water and groundwater and an opportunity to enhance the efficiency in the utilization of existing supply sources. Thus, R & D efforts will investigate actual storage capacity available within the aquifers, location of suited artificial recharge sites and recovery rates to be expected on retrieval to establish the feasibility and viability of this option in The Gambia. Rainwater harnessing for agricultural use is one of the priority areas for investment in the GNAIP referred to as 'water for productive use'. Since the technique is currently in use, it will be expanded for increased food security, increased farm income and expanded livestock rearing considerations in tandem with the following policy elements:

- In the medium-term limiting surface water irrigation to the development of tidal irrigation facilities;
- Exploitation of deep sand stone aquifer water resources and management of rain and soil resources through watershed management and rain water harvesting techniques; and,
- Promoting wider adoption of conservation farming techniques.

6 POLICY IMPLEMENTATION

6.1 Coordination-Role of Stakeholders

The Policy creates the enabling environment and provides direction for enhanced coordination and partnership among the ANR subsector stakeholders:

Public Sector: The responsibility of regulation, legislation and policy decision-making will be vested in the key ministries of MECCNAR, MOA and MOFWR. This will be effected through an Inter-Ministerial Council with a rotating chairperson among the Three ministries. Technical support will be provided through the ANR Working Group (ANRWG) which is the technical working group for enhanced coordination of interventions in the ANR and the Gambia Environment Action Plan (GEAP) and the National Climate Change Committee (NCC) charged with decisions and policy making regarding climate change.

NGOs and Civil Society: Key NGOs and civil society organizations intervening in the ANR sector will be integral to the implementation of the Policy and will be part of the ANR Working Group and other decision-making structures.

The Private Sector: The private sector through their associations such as the Gambia Chamber of Commerce and Industry (GCCCI), Commercial Farmers Agri-business Network (CFAN) and others will be integral to policy implementation and decision-making processes.

United Nation Agencies with the relevant mandates and Traditional donors -multilateral and bilateral partners in the ANR sector will be actively engaged during the implementation of the policy.

In view of the need for effective and efficient implementation of the policy, a communication strategy will be prepared to ensure harmony, synergy and clarity given the multitude of stakeholders.

6.2 Resource Mobilization

The GoTG through the MECCNAR, MoA and MoFWR shall take the lead and ownership in mobilizing funding and ensuring the availability of resources for the effective implementation of this policy. Specifically, the following actions shall be taken:

- i. Government shall increase the subsector financing to constitute a target of 10-15% of the national budget, with a specific commitment to supporting the implementation of the policy;
- ii. Attention will be paid to increasing the effective absorption of funds allocated to the core agencies.
- iii. Mechanisms devoted to ensuring long-term funding and elimination of funding gaps will be introduced;
- iv. Public and private natural resource programs that directly support the achievement of the objectives of the Policy and Plans of core agencies will be prioritized.
- v. Core agencies will be encouraged to establish Resource Management Trust Fund (similar to Forestry Trust Fund) purposely to support policy implementation and review mechanisms.

6.3 Monitoring and Evaluation (M&E)

In collaboration with the Ministerial Council comprising of the Ministry of Agriculture (MOA), Ministry of Fisheries and Water Resources (MOFWR), the Ministry of Environment, Climate Change and Natural Resources (MECCNAR), the Central Project Coordination Unit (CPCU)/Project Support Unit-shall be responsible for coordinating the M&E of the ANRP.

The principal objectives of the M&E framework should comprise:

- i. Ensuring compliance with the guidelines, principles and objectives outlined in the ANRP.
- ii. Assess the extent of the achievement of the vision, objectives and strategies with a view to ensuring successful implementation of the policy.
- iii. Assist stakeholders to operationalize the policy as it relates to their specific subsectors and generate SMART indicators for assessing performance and progress towards policy goals.
- iv. Conduct periodic joint M&E reviews with stakeholders and parties
- v. Support and strengthen M&E on the ANR in the different sectors and regions.

The ANRP in the M&E processes shall prioritize programme learning and development. In this regard M&E system will aim to improve the capacity of M&E unit to develop an effective programme learning system by:

- i. establishing an appraisal and strategic planning system;
- ii. developing an effective reporting system to share and spread information on good lessons and practices;
- iii. documenting and learning from best practices; while sharing experiences internally and externally.
- iv. update natural resource inventory and assess the country's sites of high ecological and aesthetic values (fauna and flora) annually.

7 ASSUMPTIONS AND RISKS

Assumptions

This supplementary ANR policy is based on the following assumptions:

- i. Economic stability, and continuity of government commitment are ensured.
- ii. High ethical standards of governance and professional conduct are national priority.
- iii. Sector reform efforts will continue, coupled with the expansion of state revenues.
- iv. Resources will be allocated for implementation of the policy.
- v. Progressive improvement of the national infrastructure, and community participation is ensured.

Risks

Among the many risks to be taken into account while implementing and enforcing the policy are:

- i. Gambia reverts to another cycle of bad governance;
- ii. Fragmentation and inefficiency prevail;
- iii. External assistance is inadequate to ensure sector performance.
- iv. Powerful internal and external players continue to act in isolation, jeopardizing the application and implementation of this supplementary policy.
- v. Inadequate monitoring and follow-up resulting in non-adherence to policy provisions, or underutilization of both financial and human resources.
- vi. Proliferating priorities and political pressures compromise the implementation and enforcement of the policy.
- vii. Inadequate implementing capacity slows down operations despite political commitment, support of development partners and availability of resources,
- viii. Inconsistent subsector leadership and decision-making reduces the credibility of the policy.