



MASTER PLAN FOR THE INTEGRATED DEVELOPMENT OF THE GAMBIA, KAYANGA-GEBA AND KOLIBA-CORUBAL RIVER BASINS

Phase 2 - Sectoral Plans - 1/6

Agriculture - Livestock - Forestry - Fisheries

Final version - April 2022



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Phase 2 - Sectoral Plan - Agriculture - Livestock - Forestry - Fisheries

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ABBREVIATIONS

Acronym	Meaning
AAAC	Competent Environmental Assessment Authority of Guinea Bissau
AAC	Adaptation to climate change
AEP	Drinking water supply
AFD	French Development Agency
AIBD	Blaise Diagne International Airport
AIG	Africa Internet Group
ANADS	National Survey Data Archive of Senegal
ANAG	National Aquaculture Agency Guinea
ANASA	National Agency for Agricultural and Food Statistics of Guinea
ANCF	National Railway Agency
ANSO	National Agency for Statistics and Demography
APD	Official Development Assistance
APIP	Private Investment Promotion Agency
APS	preliminary design
ANSO	National Agency for Statistics and Demography
AfDB	African Development Bank
EIB	European Investment Bank
BGGA	Guinean Bureau of Applied Geology
BID	Islamic Development Bank
BV	Basin / catchment area
CAD	Development Assistance Committee
CBG	Compagnie des Bauxites de Guinée
UNFCCC	United Nations Framework Convention on Climate Change
ECOWAS	Economic Community of West African States
CFPT	Vocational and Technical Training Centre
CFS	Chemins de fer du Sénégal
CIMA	Inter-ministerial Water Council (Guinea Bissau)
CIPA	Centre de Investigação Pesqueira Aplicada of Guinea Bissau
NAC	National Water Council (Guinea Bissau)
COS	Strategic Policy Framework
CPE	Standing Committee on Water
CSLP	Poverty Reduction Strategy Paper
CTA	Water Technical Committee
DBF	Dakar Bamako railway
DGERP	Directorate for Water Resources Management and Protection
HRB	Directorate General of Water Resources (Guinea Bissau)
DGPS	Directorate General of Public Health (Guinea Bissau)

Acronym	Meaning
DH	Directorate of Hydraulics (Senegal)
DHAS	Directorate of Agricultural Hydraulics and Soils (Guinea Bissau)
DNA	National Directorate of Agriculture of Guinea
DNGR	National Directorate of Rural Engineering of Guinea
DOOR	Gambia Water Resources Department
EAGB	Public Water and Electricity Company of Guinea Bissau
EDC	Early Childhood Development, Gambia
WAPP	West African Power Pooling System
ENO	Open digital space
ESTIC	Exports of ICT services
ISP	Internet Service Provider
FAO	Food and Agriculture Organisation
EDF	European Development Fund
FENU	United Nations Capital Development Fund (UNCDF)
FER	Road Maintenance Fund
FERA	Autonomous Road Maintenance Fund
GBoS	The Gambia Bureau of Statistics
GIE	economic interest groups
IWRM	integrated water resources management
LPG	Liquefied Petroleum Gas
GUIF	Guinea Investment Forum
HIMO	labour-intensive
IBAP	Institute of Biodiversity and Protected Areas of Guinea Bissau
HDI	Human Development Index
IDI	ICT Development Index
INAS	National Water and Sanitation Agency of Guinea Bissau
INED	Intended Nationally Determined Contribution
INE	National Institute of Statistics of Guinea Bissau
INS	National Institute of Statistics of Guinea
I-PIB	Internet - Gross Domestic Product
LBE	Lower Basic Education, Gambia
LGA	Local Government Area (LGA)
MDRA	Ministry of Rural Development and Agriculture
MEDD	Ministry of the Environment and Sustainable Development
MENA	Ministry of National Education and Literacy of Guinea
MNR&E	Ministry of Natural Resources and Environment of The Gambia
MoBSE	Ministry of Basic and Secondary Education of The Gambia
MoHERST	Ministry of Higher Education, Research, Science and Technology of The Gambia
MOOC	Massive open online course
MTPCU	Ministry of Public Works, Construction and Urbanism (Guinea Bissau)
NAWEC	Gambia National Water & Electric Company
NRI	Network Readiness Index
OECD	Organisation for Economic Co-operation and Development

Acronym	Meaning
OFOR	Office des Forages Ruraux du Sénégal
OLAC	Office des Lacs et des Cours d'eau du Sénégal
MDG	Millennium Development Goals
WHO	World Health Organization
OMVG	Organisation for the Development of the Gambia River
ONAS	Office National de l'Assainissement du Sénégal
NGO	Non-Governmental Organisation
OPTIC	Organisation of ICT Professionals
PAGIRE	Action Plan for Integrated Water Resources Management
PAP	Priority Action Plan (Senegal)
PATMUR	Urban Transport and Mobility Support Project
PDDI	Integrated Development Master Plan
PGIRE	Integrated Water Resources Management and Multipurpose Use Development Programme in the Senegal River Basin
GDP	Gross Domestic Product
SME	Small and medium-sized enterprises
PMI	Small and Medium Industry
NAP	Senegal's National Adaptation Plan
PNDES	National Economic and Social Development Plan
UNDP	United Nations Development Programme
PPP	Public-Private Partnership
PRES	Economic and Social Resilience Programme (Senegal)
PSE	Emerging Senegal Plan
PTB	Light Urban Train
PTE	Guinea Bissau Education Transition Plan
PURA	Public Service Regulatory Authority of The Gambia
R&D	Research & Development
RGPHAE	General Census of Population and Housing, Agriculture and Livestock (Senegal)
RTLBS	Real Time Location Based System
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goals
SMB	Boké Mining Company
SNAPE	Water point development service (Guinea)
SNCS	Société nationale des chemins de fer du Sénégal
NSSD	Senegal's National Strategy for Sustainable Development
SONATEL	National Telecommunications Company
SONES	Société Nationale des Eaux du Sénégal
SSE	Senior Secondary Education
STP	Public Transport Company
ToR	Terms of reference
TER	Regional express train
ICT	Information and Communication Technology

Acronym	Meaning
TRIE	Inter-State Road Transit
UBE	Upper Basic Education
UCAD	Cheikh Anta Diop University of Dakar
EU	European Union
UEMOA	West African Economic and Monetary Union
PMU	Management and Planning Units
ITU	International Telecommunication Union
UNCDF	United Nations Capital Development Fund (UNCDF)
UVS	Virtual University of Senegal
VET	Vocational Education and Training
VMA	Vessel Management System
VOD	Video on demand
WMS	Warehouse Management System

1 INTRODUCTION

1.1 BACKGROUND AND OBJECTIVE OF THE STUDY

The *Organisation pour la Mise en Valeur du fleuve Gambie* (OMVG) was created in 1978, and its member states are The Gambia, Guinea, Guinea-Bissau and Senegal. Its main mission is **the rational and harmonious exploitation of the common resources of the Gambia, Kayanga-Geba and Koliba-Corubal river basins**. To this end, the OMVG aims to achieve energy and food self-sufficiency, promote transport channels, reduce the vulnerability of the economies of member states to climate risks and preserve the balance of ecosystems in the sub-region, particularly in the basins of the three rivers.

BRL Ingénierie, in association with COBA and IDEV, has been selected to carry out the Integrated Development Master Plan (PDDI) for the Gambia, Kayanga-Geba and Koliba-Corubal rivers. This project is financed by the United Nations Capital Development Fund (UNCDF) and is part of the Blue Peace initiative, which aims to promote peaceful cooperation in the sharing of water resources.

UNCDF is an agency that puts public and private finance at the service of the poor. It does this by offering innovative financing models that unlock public and private resources - particularly at the national level - with the central goal of reducing poverty and supporting local economic development.

UNCDF has partnered with the Swiss Agency for Development and Cooperation (SDC) to launch the Blue Peace Financing programme (also called Blue Peace). The programme aims to foster peaceful cooperation in the sharing of transboundary water resources. To this end, Blue Peace encourages "the development of common institutional and legal frameworks that bring countries together in their commitment to peacefully resolve disputes over water resources and to use their water as a basis for broader economic and diplomatic collaboration". (FENU, 2020). The aim is thus to transform competition over limited freshwater resources into transboundary cooperation.

The OMVG covers an area in which member states share common objectives and interests in water resources management. The **objectives of the OMVG** are:

- The **creation of economic development opportunities** that enable people to achieve viable and sustainable livelihoods in their communities;
- The **construction of infrastructure that promotes development** and is aligned with the infrastructure projects identified by ECOWAS and the African Union;
- **Integrated resource and ecosystem management** based on a sustainable development approach;
- The **promotion of large-scale agricultural and rural development programmes** to significantly improve the income and food security of the population.

Currently, OMVG draws its financial resources for its projects mainly from the individual contributions of its four member states. Indeed, there is no financial instrument capable of channelling funding directly to the supranational entity that is OMVG. This funding mechanism is slow and gives rise to a complex web of contracts and conditionalities that make it inefficient. The **Blue Peace** funding mechanism **therefore seeks to innovate and create an enabling framework for funding and technical assistance** to promote transboundary water cooperation. This includes the **development of joint cross-border and multi-sectoral investment plans** that promote cross-border water cooperation.

To implement such joint investment plans, it is first necessary to develop and rely on a basin-wide Integrated Development Master Plan (PDDI) approved by the member countries. This PDDI should enable the OMVG to achieve the objectives listed above. It is in this context that UNCDF is supporting the development of the OMVG basins PDDI. The PDDI will produce an investment plan composed of fundable projects.

The PDDI preparation mission is led by the BRLi-COBA-IDEV Group, from May 2021 to August 2022.

The study is divided into three phases:

- **Phase 1: Diagnostic study**, to assess the baseline situation in the three OMVG basins and pre-identify the issues, threats and opportunities that will be used to develop the sector plans.
- **Phase 2: Development of sector plans**. Six sector plans will be developed:
 - Agro-sylvo-pastoral and fisheries development plan;
 - Energy, industry and mining development plan;
 - Transport and communication development plan;
 - Environmental and ecosystem protection and management plan;
 - Drinking water supply, sanitation, health and education development plan;
 - Institutional development plan.
- **Phase 3: Preparation of the OMVG basins Integrated Development Master Plan**

An inception report for the study was validated on 15 September 2021 at the Regional Validation Workshop held remotely and a final version of the inception report, incorporating the workshop recommendations, was submitted to OMVG and UNCDF on 30 September 2021.

A diagnostic report (Phase 1) was validated on 20 November 2021 at the Regional Validation Workshop held in Dakar and a final version of this deliverable, incorporating the workshop recommendations, was submitted to OMVG and UNCDF on 15 December 2021. This report was the subject of a broad consultation process. It was fed by the work carried out in national workshops in each of the four States from 26 to 29 October 2021, as well as by the contributions of stakeholders from the three basins. In addition to the diagnostic analysis, this report includes an atlas of maps on all the themes covered in the diagnostic study.

A report containing six sectoral plans (Phase 2) was submitted to the OMVG on 9 February 2022, in a draft version. This version of the report was the basis for consolidation work carried out in National Workshops and then in a Regional Validation Workshop, respectively in February and March 2022 (see next section).

Phase 2 of the study is now complete.

Figure 1-1 Timeline for Phase 2

Overall schedule for the elaboration of the Masterplan		Nov-21				Dec-21				Jan-22				Feb-22				Mar-22			
		W25	W26	W27	W28	W29	W30	W31	W32	W33	W34	W35	W36	W37	W38	W39	W40	W41	W42	W43	W44
Phase 2 - Development of sectoral plans																					
Activities	2.1 Additional data collection and consultation of stakeholders																				
	2.2 Agro-sylvo-pastoral and fisheries development plan																				
	2.3 Energy, industrial and mining development plan																				
	2.4 Transport and communication plan																				
	2.5 Plan for the management and protection of the environment and ecosystems																				
	2.6 Drinking water supply, sanitation, health and education master plan																				
	2.7 Compilation of reports and workshops																				
Provisional reports of Phase 2																					
4 national workshops																					
Regional workshop																					
Meeting of the Steering Committee																					
Integration of comments from the Client																					
Final reports of Phase 2																					

1.2 THE PHASE 2 REPORT - PURPOSE AND CONTENT OF THE SECTOR PLANS

The sector plans are the main deliverable of Phase 2 of the study. They aim to summarise the major problems and issues identified in Phase 1, define the vision of the sector in 2040, structure the intervention strategy, define the necessary measures and develop the tools for implementing the action plans (timetable, budget, monitoring and evaluation, risks, social and environmental impacts).

The Phase 2 report thus consists of six volumes, structuring the intervention at the level of the three OMVG basins around the main groups of measures:

- Cross-sectoral measures to **improve water resources management**:
 - Plan for the development of knowledge, management and governance of water resources ¹;
 - Environmental and ecosystem protection and management plan;
- Measures to **strengthen basic services**:
 - Transport and communication development plan;
 - Water, sanitation, health and education development plan;
- **Sectoral socio-economic development** measures:
 - Agro-sylvo-pastoral and fisheries development plan;
 - Energy, industry and mining development plan.

Each of the six plans is structured in a similar way; around the elements required by the Terms of Reference:

- **Chapters 1 and 2** are introductory chapters that present the context for the drafting of the PDDI and of the sector in the OMVG area, and **summarize the diagnosis and assess the evolution of the sector**, including the estimated needs of the sector in 2040;
- **Chapters 3 and 4** are the **core of the intervention strategy** for each sector. These chapters cover elaboration of the vision of the sector for 2040, which is then broken down into strategic axes (Chapter 3). They also include a proposal of an intervention strategy with expected results and detailed measures to be undertaken following a logical framework (Chapter 4);
- **Chapter 5** prepares the implementation of **the sector plan**. An action plan proposes a programme of measures up to 2040, an analysis of the assumptions, risks and conditions necessary for the implementation of the action plan, and the definition of monitoring indicators;
- **Chapter 6** is dedicated to an **assessment of social and environmental impacts** and proposals for compensation, mitigation or avoidance measures;
- **Chapter 7** proposes a projection towards the preparation of the PDDI, identifying synergies between sectors and potential impacts that the PDDI will need to address.

This deliverable has been produced in 2 versions:

- **A provisional version**, a working document dated 9 February 2022, supporting the consolidation work carried out in the National Workshops held in February 2022, then at the Regional Validation Workshop held in Dakar on 16 and 17 March 2022, sanctioning the end of Phase 2 of the study;
- **A final version**, integrating the elements produced during the National Workshops and the recommendations of the Regional Workshop.

This report is the **final version** of the **agriculture, livestock, forestry and fisheries development plan**.

¹ The title of this plan, initially dedicated solely to institutional development, has been expanded to include the knowledge, management and development of water resources in the basins.

1.3 DEVELOPMENT METHODOLOGY

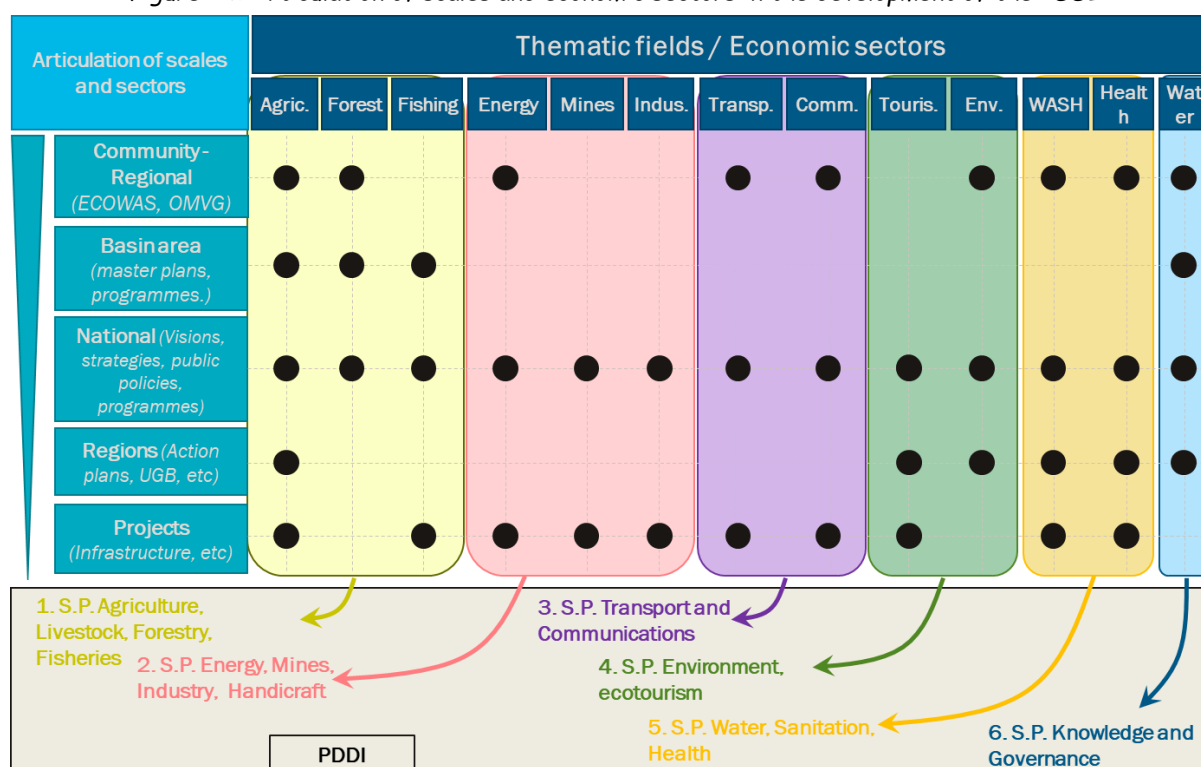
Each of the six sector plans presents the proposed intervention strategy for each sector, as well as the associated implementation tools. These strategies are an **aggregation of national and regional visions, policies and programmes, as well as the recommendations of the consortium.**

The elaboration of the agriculture, livestock, forestry and fisheries development plan is based in particular on the following actions:

- Taking into account the conclusions and recommendations of the Phase 1 diagnostic report in terms of strengthening legal, regulatory and institutional frameworks, improving water resources monitoring, development and management of basins and watersheds, and strengthening the capacities of stakeholders in the OMVG area on a transboundary scale;
- Collection and analysis of national sectoral policy and planning documents, as well as regional programming documents;
- Compilation and analysis of existing projects in the three river basins;
- Analysis of existing master plans for the Kayanga-Geba and Gambia rivers (in particular unimplemented actions).

On this basis, the identified actions have been selected and consolidated around priority objectives, in order to form a coherent programming of actions at the scale of the OMVG area. The proposed actions are located (including by country and by sub-basin) and presented/mapped according to a common format harmonised between the different sectors.

Figure 1-2 Articulation of scales and economic sectors in the development of the PDDI



Nota bene: The development of a Master Plan such as the PDDI aims at proposing **integrated and transversal solutions** to the technical, legal and institutional issues and challenges related to IWRM at the **basin level**. The level of analysis and planning is therefore the transboundary basins of the OMVG area. This is why the sector plans have been drafted on a regional scale.

The necessary technical, legal and institutional interventions at national level were identified and analysed through the intervention of national experts in each of the 4 countries. The sector plans integrate these elements.

LIST OF NATIONAL DOCUMENTS USED (PROJECTS / NATIONAL POLICIES / PROGRAMMES)

Table 1-1 Projects identified for the agriculture sector

Country	Programmes and projects
The Gambia	Rice Value Chain Transformation Programme (RVCP)
	Gambia Commercial Agricultural Value Chain Management Project (GCAV, P125024)
	Small Ruminant Production Enhancement
	Resilience of Organizations for Transformative Smallholder Agriculture (ROOTS)
	Food and Agriculture Sector Development Project (FASDEP)
	The Gambia Inclusive and Resilient Agricultural Value Chain Development Project (GIRAV)
	The Gambia Agriculture and Food Security Project (under preparation)
Guinea	National Agricultural Development Policy (NADP) 2018-2025
	National Strategy for Rice Development in Guinea (SNDR, 2019)
	Master Plan for Irrigation Development
	National Economic and Social Development Plan (PNDES) 2016-2020
	Integrated Development Project for Gaoual, Koundara and Mali (PDRI GKM, IDB funding)
	Family Farming Support Programme (AGRIFAM, IFAD funding)
	National Plan for Agricultural Investment and Food and Nutritional Security (PNIASAN) 2018 - 2025
	Project to Support the Economic Development of the Southern Regions (PADES) 2015-2021
	Project for the Development of the Vegetable Sector in Lower and Upper Guinea (DEFMA)
Guinea Bissau	Carta de Política de Desenvolvimento Agrário (2002)
	Guiné-Bissau 2025 - Plano Estratégico e Operacional 2015-2020 "Terra Ranka". Documento II: Relatório Final
	Programa do Governo para o Sector da Agricultura e Desenvolvimento Rural (2020)
	National Agricultural Investment Plan (2nd generation) (NAIP, 2017)
	Potencialidade das Terras (2010-2026)
	Agricultural potential of Guinea Bissau (2011)
	National Food Security Programme (PNSA, 2008 - 2013)
	Guinea-Bissau Livestock Development Policy Letter
	Auto-suficiência alimentar - Promoção dos sectores de produção vegetal (para a gestão nas planícies pluviais e mangues para a produção de arroz)
	Apoio à produção, à certificação e ao abastecimento de sementes e cereais
	Implementação do Plano Caju
	Apoio institucional e coordenação sectorial para a agricultura e agro-indústria
	Agricultural statistics

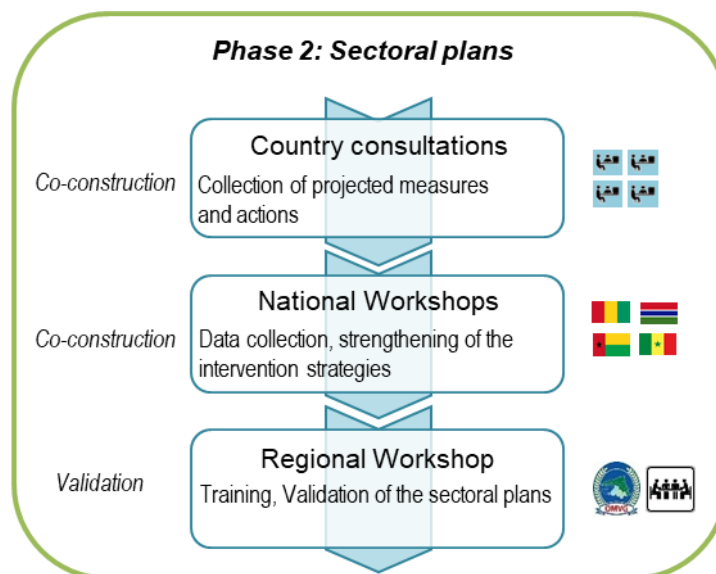
Country	Programmes and projects
	Pesquisas e aconselhamento agrícola
	Laboratório de referência em agro-indústria
Senegal	Strategic Plan for the Development of Agricultural and Rural Statistics (PSSAR)
	Programme d'Accélération de la Cadence de l'Agriculture Sénégalaise (PRACAS)
	National Agricultural Investment Programme for Food Security and Nutrition (2018-2022)
	Departmental Development Plan (DDP) of the regions
	Regional Integrated Development Plan (PRDI)
	Competitiveness of Agriculture and Livestock Programme (P164967),
	Regional irrigation programme in the Sahel
	Rehabilitation of Podor's irrigated areas
	SODAGRI Strategic Development Plan (SDP)
	Developing Agriculture and Improving Food Security in Third World Territories
	Food Security Support Project in the regions of Louga, Matam and Kaffrine (PASA/Lou-Ma-Kaf)
	Rice Value Chain Development Project (PDCVR)
	Project for the large-scale dissemination in Senegal of technological innovations for the processing of artisanal groundnut oil
	Profiles -Promotion of local organisations and value chains in Senegal
	Prolait - Project to support the processing and valorisation of local milk in Senegal
	Dairy sector development project in the Kolda region
	Strengthening Rural Women's Livelihood for a Sustainable Economic Development in the Eastern Region of Senegal
	FEDIAAC Project - Women Committed to the Inclusive Development and Food Autonomy of their Communities
	Helping Senegalese farmers gain much needed access to formalized financing Global Warehouse Finance Program

STAKEHOLDER CONSULTATION

The elaboration of the sector plans is largely based on the very broad data collection process carried out by the National Consultants mobilised by UNCDF and OMVG, then during the consultation missions, the national workshops and the regional workshop of Phase 1. In particular, the regional workshop was an opportunity to carry out group work aimed at formulating the need and actions to be planned within the framework of each of the six sector plans. The stakeholders of the river basins proposed a series of actions, listed in the Annex.

The development of the plans was also informed by the consultation stages planned in Phase 2 (see Figure 1-3). In addition to the national consultations in the four member states, field investigations and consultations were conducted in the rural areas of the national portions of the three catchments. These took place in November 2021 for The Gambia and in February-March 2022 for Guinea, Guinea-Bissau and Senegal. National Workshops were organised remotely in February 2022 for each of the four member states, to finalise the collection of envisaged actions and to collect suggestions from stakeholders at national level. The process ended with a Regional Workshop, organised face-to-face, to harmonise the sectoral plans, validate their content and prepare the preparation of the Integrated Development Master Plan.

Figure 1-3 Stakeholder consultation steps in Phase 2



2 Agriculture, livestock, forestry and fisheries in the OMVG area

2.1 CURRENT STATE OF THE SECTOR

2.1.1 Agriculture, a dominant activity in the 3 basins

Agriculture is the dominant activity in the four regions studied; it contributes a significant share of GDP. The economy of the four OMVG countries is highly dependent on the agricultural sector, which is the main income-generating activity for the inhabitants.

In general, the agricultural potential of the OMVG countries is high, due to the rainfall and the diversity of the land, which allows for several crops. Almost all cultivated areas are rainfed crops, which are highly dependent on the rainfall cycle. Thus, in all countries, the cultivated area shows significant variations from one year to the next.

In the OMVG zone, the four most representative food crops are: rice, millet, maize and cassava. Fonio is also important in Guinea. The most important cash crops are groundnuts and cashew nuts in Guinea-Bissau.

Groundnuts are the main cash crop in the study area (i.e. for the four countries studied). Groundnut cultivation provides up to 60% of the income of agricultural producers.

Despite the potential and diversity of crops, the sector suffers from technical and structural shortcomings that hamper the development of these assets: inadequate incentive policies in rural areas in 3 of the 4 countries – Guinea Bissau, Guinea and The Gambia – leads to a lack of infrastructure and poverty in rural areas. This is an obstacle to increasing production and productivity in the primary sector in these countries.

THE GAMBIA

The country has more than 450,000 ha of good arable land available for cultivation. Currently, only **about 222,000 ha, or 49% of the arable land, is under cultivation**. Of this, only **2,000 ha, or about 1%, are irrigated**. The rest depends on rainfall, making agriculture a seasonal activity.

The expected **accelerated economic development**, combined with **rapid population growth**, has created increasing pressure on the use of surface water resources. **In this context, it is expected that some rain-fed agricultural land will be converted to irrigation, which implies greater use of the freshwater resources of the Gambia River upstream of Kuntaur.**

Since late 2016/early 2017, the country's democratic shift has resulted in a new national agricultural development programme (CAAP) for the period 2017-2026, but the country has only meagre financial resources to implement it (Jean Gecit, 12 February 2021).

GUINEA

The country has an estimated arable land potential of 6.2 million hectares. According to data from the Direction Nationale du Génie Rural (DNGR), Guinea's **irrigable land potential** is estimated at 750,000 ha, of which **34,493 ha are in the area of the three OMVG basins** (which represents 5% of the total hydro-agricultural irrigation potential); **in the dry season, the irrigable potential of the three OMVG basins amounts to 11,331 ha**, representing 10% of the country's irrigable potential in the dry season.

With a rice cultivated area of 214,259 ha in 2019, the three basins zone has a production of 269,766 tonnes of paddy rice.

Upland rice cultivation is the most important with 91% of the cultivated area. It is practised according to the slash-and-burn system, which consists of "systematically cutting down the plant cover and burning it, exploiting the sown areas for 2 to 3 seasons, followed by a fallow period of 7 to 12 years. With the population increase, fallowing is reduced to a period of 3 to 5 years, which is insufficient for the regeneration of fertility.

Since 2007, the government has adopted a National Agricultural Development Policy (NADP). The implementation of the NADP is ensured through the National Agricultural Investment Plan for Food and Nutritional Security. The general objective of the strategies to be implemented between now and 2025 is to increase the contribution of the agricultural sector to food security, nutrition and poverty reduction for the Guinean population. This general objective will be achieved through the strategic objective of increasing agricultural growth and trade, based on the achievement of three intermediate objectives: i) increasing productivity, ii) improving access to markets and iii) improving governance of the agricultural sector.

GUINEA-BISSAU

In terms of development, agriculture today is essentially occupied by two predominant crops: cashew and rice. Rice is at the top of the Government's medium and long-term priorities, due to its role in the food supply and the economy of Guinea-Bissau. **Commercial agriculture is dominated by cashew nuts, which account for 20% of GDP and over 80% of export earnings.**

Food and nutrition security remains a structural challenge in the country. In 2017, 20% of rural households were food insecure during the lean season.

The National Agricultural Investment Programme, initiated in April 2009, has now evolved into a second generation National Agricultural Investment Plan. The plan is expected to generate agricultural growth of at least 6% per year, reduce poverty by half and consolidate food security.

SENEGAL

Agriculture is considered the engine of the economy in the Emerging Senegal Plan (PSE), which serves as a reference framework for public policies for the period 2014-2035. The Programme for Accelerated Agriculture in Senegal (PRACAS) operationalises the agricultural component of the PSE.

The country's more realistic **irrigation potential, taking into account** socio-economic and environmental constraints, **would be about 400,000 ha, of which 15,500 ha are in the upper Gambia basin, including 4,100 ha of alluvial plains and 5,000 ha of lowlands in the Kédougou area.**

2.1.2 Livestock farming, an essential economic activity, sometimes a source of conflict

The pastoral potential of the OMVG countries is not negligible, with diversified and relatively large animal resources, abundant water resources (surface and groundwater) and large grazing areas.

In all four countries, poultry is numerically predominant, accounting for up to 81.5% of the total. Excluding poultry, livestock numbers are dominated by sheep and goats with 38.2% and 33.6% respectively, followed by cattle (19.9%). Cattle are predominant in Guinea and The Gambia, where they account for 54.9% and 48.9% of the livestock population respectively. Guinea Bissau stands out for the importance of pig farming, which accounts for 16% of livestock numbers.

In all countries, livestock production systems are dominated by extensive farming, characterised by the common use of natural vegetation in situ on natural rangelands and post-cultivation harvest residues. Fodder crops are rarely grown.

Water resources that can be used for livestock watering include surface and groundwater. The availability and accessibility of surface water is often problematic at certain times of the year due to the cessation of rainfall, obstruction of livestock tracks by crops, etc.

The main food animal products estimated are meat, milk and eggs.

In all countries, extensive systems contribute most, if not almost exclusively, to national production. In Senegal, intensive and semi-intensive systems are making an increasingly important contribution thanks to imports of foreign genes (breeding of pure foreign breeds or crossbreeds resulting from their crossing with local breeds).

Livestock can be either sedentary or transhumant, with more or less long journeys, motivated by the search for water and/or pasture. The search for water and pasture is not always due to the exhaustion of these resources, but in many cases to their inaccessibility due to the obstruction of access routes or the difficulty of cohabiting with crops.

In spite of the numerous potentialities (existence of grazing land, rainfall favourable to the development of abundant and luxuriant vegetation in the rainy season, diversified and relatively abundant livestock, etc.), livestock farming encounters numerous problems in the OMVG river basins. These include:

- Deadly diseases (peste des petits ruminants, anthrax, symptomatic anthrax, bovine and ovine pasteurellosis, etc.) which decimate livestock;
- Water shortage during certain periods of the year or difficulties in accessing it due to the obstruction of passageways;
- The depletion of fodder resources and the decline in their quality during the dry season, but also the difficulties of access to rangelands;
- The absence of, or failure to respect, rules for the management of agro-sylvo-pastoral space and resources, including in the context of cross-border transhumance;
- The absence of infrastructure to facilitate animal movements (cattle tracks, passage corridors, transhumance corridors, etc.), access to water and pasture;
- The lack of monitoring of projects and programmes, inadequate integrated development policies for agriculture in the broad sense.

2.1.3 Forests and their environment as sources of essential services

The exploitation of non-timber forest products (NTFPs) and timber forest products (TFPs) shows the close links that can exist between people and 'riparian' woodlands. Forests help to improve the living conditions and incomes of local people. For rural populations, it is both a complementary resource (food and financial) and a vital resource when it allows them to ensure the survival of their families. These natural forests thus constitute a veritable green bank for the local populations, through the periodic collection of forest products and their sale at the weekly rural markets. Traditional hunting is also an opportunity for rural people to add animal protein to their daily meals.

Forest production (TFP and NTFP) also contributes to the country's economic dynamics, through exports but also through the potential supply of jobs and income.

The use of the forest resource and probably the pressure on the woodland seems to be closely conditioned by the dominant economic vocation. The tourism vocation of Kédougou shows less pressure on the forest than a territory with a more rural vocation focused on agriculture and livestock. The different sources of income induced by the development of tourism make it possible to envisage a different use of and pressure on woodlands compared with rural populations who exploit the most easily accessible and least expensive resource on a daily basis. However, the option chosen by certain states for the development of mining operations (Guinea and Senegal) puts pressure on forest areas, threatening forest resources and the conservation of the area's biodiversity.

2.1.4 Fisheries and aquaculture, essential pillars of food security

The Gambia River is among the aquatic ecosystems in West Africa least affected by climate change and human activities. Unlike the neighbouring Casamance and Sine Saloum estuaries, the Gambia estuary is free of major climatic disturbances and remains a 'normal' estuary, with a freshwater salinity range rarely exceeding 39 per thousand.

The main fishing area on the Gambia River extends from the mouth of the river to 60 miles (about 100 km) upstream of Banjul. The main landing points for the fishery along this river are Mandinari (5 miles upstream from Banjul), Dog's Island (6.5 miles upstream from Banjul), Tubakolon (9.5 miles upstream from Banjul), Pirang (12 miles upstream from Banjul), Albreda (14 miles upstream from Banjul) and Bintang (30 miles upstream from Banjul).

Shrimp and fish, and to a lesser extent marine molluscs including mangrove oysters, are the main resources exploited on the River Gambia in Gambian territory. In this area, the most important fishing effort is concentrated mainly on shrimp exploitation.

The main concerns regarding cockle and oyster harvesting are poor harvesting practices with the cutting of the stilt roots of mangroves on which oysters are naturally attached and the silting of mudflats for cockles. The adoption of best practices, the raising of awareness and sensitisation of harvesters, the introduction of aquaculture, the transfer of cockles from high density areas to low density areas and the establishment of alternative livelihoods during the closed season are recommended to promote the regeneration of the resource. On the Senegalese side, in the Kédougou region, the exploitation of fisheries resources along the Gambia River and the ponds it feeds, is confronted with the absence of infrastructure and equipment for the development of activities that will need to be financed. Apart from that, it will be necessary to consider how to better fight against the degradation of the quality of the water due to the mining that has developed a lot in recent years in the region. Another important point that needs to be addressed to ensure sustainable management of fisheries resources in the Kédougou region is the regulatory and legal framework. The texts governing these two aspects are not appropriate and must be revised to take into account the current realities on the ground.

In the extension of the Geba basin in Senegal, at the level of the Anambé, the ichthyofauna is not very diversified and the fishing potential is not known. However, the catches made by fishermen on the water body seem to attest to the existence of a significant potential that could be exploited by the development of fishing. As the indigenous populations of this area are not very attracted to fishing, they will have to be trained in fishing. In addition to training, it will be necessary to create infrastructures to access the landing sites for fishery products, for the conservation and processing of fish and equipment for fishing (pirogues, nets, etc.). Fish farming could be envisaged in this area alongside fishing in view of the significant potential for fresh water in the area. As with fishing, significant support for its development should be envisaged by developing accompanying research programmes, the creation of infrastructures and equipment, not forgetting the training of actors. The national aquaculture agency in collaboration with research and teaching institutions and NGOs can provide technical support.

In the Corubal and Geba basins in Guinea Bissau, the fisheries resources in Guinea Bissau are more diversified and the fishing potential greater than those in Guinea and Senegal, but their exploitation would benefit foreign fishermen more than the indigenous ones. Actions towards local communities must be considered to correct this situation. These include the development of fishing and fish farming in these two basins in Guinea Bissau.

At the level of the three basins, there are practically no systems for monitoring the exploitation and commercial values of fisheries resources. The creation of systems for monitoring and analysing fisheries data specific to the basins should be undertaken.

2.1.5 SWOT matrix

The following table highlights the results of the analysis of the strengths, weaknesses, opportunities and threats (SWOT) of the agro-sylvo-pastoral and fisheries sector.

Table 2-1 Strengths, Weaknesses, Opportunities and Threats (SWOT) of the agro-sylvo-pastoral and fisheries sector

Dimensions	Internal variables	
	Strengths	Weaknesses
Natural and technological resources	Favourable climate with good rainfall and high temperatures	Climate variability and change with significant negative effects including reduced and disrupted rainfall
	High availability of arable land with a high potential for irrigable land	More than 90% of agriculture is dominated by "shifting cultivation" and less than 5% is irrigated.
	A relatively large and varied livestock population with hardy breeds	Very fragile soil fertility
	Significant grazing areas	Breeds with low productivity in meat, milk and eggs (low genetic potential of local breeds)
	Existence of large areas of forest rich in biodiversity with a large supply of various products (TFP & NTFP)	Low area and yield due to low level of equipment and input use
	Presence of ecological niches in some natural vegetation facies	Forest areas are often subject to multiple anthropogenic aggressions (bush fires, agricultural or mining clearings, illicit felling, etc.).
	Large areas of water covered by the 3 basins	Decline in forest areas due to human pressure on them
	Under-exploited fisheries potential, even if not known	Insufficient and poor management of water resources
	Fish resources are the most accessible and least expensive animal protein for people	Mostly extensive livestock systems dependent on natural pastures, which are themselves dependent on climatic conditions (especially rainfall)
		Qualitative and quantitative variations in food resources (depletion in the dry season)
		Insufficient water points
		Scientific knowledge on fishing opportunities is lacking
		Lack of infrastructure and facilities for fishing
Socio-economic and structural factors	Production systems integrated with the overall management of the local community	Difficult access to equipment, agricultural inputs and finance due to rural poverty
	Availability of labour	Weak structuring of farmers: inter-professions
	Potential market for cash crops	Weak service provision
	Farm diversity = resilience	Weak contractualisation between actors

Dimensions	Internal variables	
	Strengths	Weaknesses
	Diversity of roles assigned to livestock (inalienable heritage)	Weakness of the agro-industrial sector (storage and processing units)
		Enclavement of production areas
		Breeding sometimes less oriented towards production.
		Weak structuring of professional and inter-professional organizations
		Insufficient service provision: collection, storage and processing structures for animal products
		Influx of gold miners from the sub-region into the mining areas of Guinea and Senegal, resulting in forest degradation, particularly of wildlife habitats, and pollution of river water
		Low level of training of actors and lack of qualified personnel for project management
		Lack of training adapted to the needs of inland fisheries development in some countries
		Weak technical support
		Low involvement of local populations in the exploitation of fisheries resources
Environmental factors	Rapid regeneration of some major environmental components including forests, springs and biodiversity	Widely established monoculture regime
	The forest areas of the three basins contribute to the protection of the soil against water erosion during the winter months	Clearing for agriculture (slash and burn) threatens these forest areas
		Need to preserve biodiversity
Political factors	Political will expressed through agricultural development strategies and plans	Inadequacy of certain texts, particularly with regard to the Land Code
		Difficult and/or insufficient application of the texts due to poor governance and low financial resources allocated to the sector
		Absence or non-application of texts governing the delimitation and use of rangelands and water points
		Lack of funding

Dimensions	External variables	
	Opportunities	Threats
Natural and technological resources	Large areas of expansion are available in the OMVG countries, already provided for in the sector plans of each country	Climate change
	Strong potential for development of the non-agricultural economy in the OMVG region	Existence of a rogue industry with the fraudulent exploitation of rosewood (<i>Pteocarpus erinaceus</i>) from The Gambia
	Sustainable forest resource management programme in selected countries (Senegal & Guinea)	Proximity to mineral deposits
	Trend towards the establishment of community protected areas or national parks	
Socio-economic and structural factors	The presence of foreign migrant fishermen from Senegal and Mali has led to the introduction of new fishing techniques in Guinea Bissau and the Anambé basin in Senegal	High risks: price volatility
	UEMOA's interventions in the fields of fisheries and aquaculture to support its development	Lack of funding
	Fisheries agreements with the European Union, funding from the World Bank and development partners, and the actions of international development NGOs	Energy constraints
	The development of the 3 basins in the framework of the PDDI	Lack of restoration of mined sites
Environmental factors	Parks and reserves can be an important attraction for tourism (particularly domestic tourism), where the road network allows. These attractions would have the potential to stimulate the local economy and could have spillover effects on the agricultural sector	The proximity of productive/agricultural areas to nature parks and reserves may require preventive measures of an environmental nature
		Climate change can have an impact on production systems, by altering the behaviour of major rivers and their tributaries, as well as other climatic conditions
		Irregular loggers of forest resources
Political factors	Willingness displayed by the public authorities and materialised by programmes and projects	Political instability (armed conflicts; poor governance of natural resources)

The main obstacles to agro-sylvo-pastoral, fisheries and aquaculture development in the OMVG region and their respective mitigation measures are listed below.

Table 2-2 Threats and mitigation measures

Dimensions	Threats	Mitigation measures
Natural and technological resources	Population growth Mining, oil and gas, climate change	Implementation of sustainable development projects on natural resources. Development and implementation of programmes and projects on adaptation and resilience. Implementation of technical cooperation between states for sustainable management of natural resources. The WAEMU already has such a structure. The countries of the Gambia River Basin have practically all joined this organisation, so it could be envisaged to use it.
	Insufficient scientific knowledge of the resources	Implementation of research and development projects on sustainable natural resource management
	The uncontrolled development of agroforestry	Review of the regulatory and legislative framework for the conservation and exploitation of inland fisheries resources in the 3 basins of the PDDI
	Passages of virulent bushfires	Forest protection through preventive control (information and awareness-raising of local populations and early fire setting)
	Degradation of forest cover due to the activities of gold miners who use timber for open tunnels	Surveillance of forest areas with the involvement of village vigilance committees
Socio-economic and structural factors	Extreme poverty and underemployment in rural areas leading to rural exodus within and outside the country	The development of cooperation between states
	Existence of rogue channels for the illegal exploitation of forest resources	Coordination of the actions of the forestry services of the four countries to better control the cross-border circulation of products
Environmental factors	Erosion, loss of fertility and salinization of soils.	Recovery of degraded soils. Scientific knowledge in this area exists and could be used in the implementation of this activity
	Drought cycle	
Political factors	Political conflicts. Conflicts related to the use of cross-border natural resources.	Develop frank and fair cooperation between states. Inclusive approach to resource management. Organisation of internal and external transhumance by defining concerted rules for the management of space and its resources (delimitation of transhumance corridors, etc.). Sub-regional structures for technical cooperation such as OMVG, ECOWAS could be useful in resolving or avoiding conflicts between states.

2.2 PROJECTION OF NEEDS AND POTENTIAL TO 2040

The analysis presented here is the result of the current state of the sector in the OMVG area and the objectives defined in the regional policies. **There are several commonalities in the policies of each country, including food security, poverty alleviation and natural resource conservation.**

2.2.1 Agricultural production

In terms of agricultural production, **the four countries aim to be self-sufficient in rice in the short term.** Meeting their rice needs will require a significant increase in production through an increase in cultivated areas and yields. In the perspective of sustainable agriculture, efforts should focus on increasing yields.

This increase in crop yields is one of the main challenges for food self-sufficiency, in addition to the preservation of natural resources.

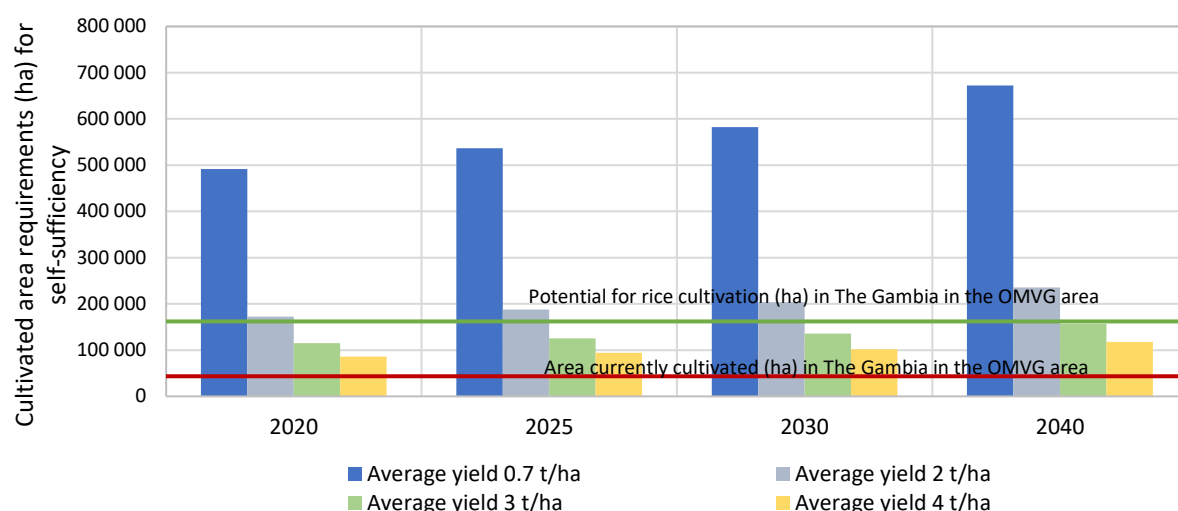
In order to meet the rice requirement, the area that should be cultivated was determined for different crop yield scenarios. The tables and figures below show the results obtained

THE GAMBIA

Table 2-3 Projections of cultivated area (ha) in The Gambia in the OMVG area for self-sufficiency

Horizon	Total population of the country in 2020 (inhab.)	Population of The Gambia in the OMVG area (inhab.)	Rice requirements (t)	Cultivated area requirements (ha) for self-sufficiency			
				Average yield 0.7 t/ha	Average yield 2 t/ha	Average yield 3 t/ha	Average yield 4 t/ha
	2 416 664		458 100	654 500	229 100	152 700	114 600
2020		745 090	344 300	491 900	172 200	114 800	86 100
2025		813 233	375 800	536 900	187 900	125 300	94 000
2030		882 229	407 700	582 500	203 900	135 900	102 000
2040		1 018 561	470 700	672 500	235 400	156 900	117 700
Area currently cultivated (ha) in The Gambia:							57 370
Area currently cultivated (ha) in The Gambia in the OMVG area:							43 527
Potential for rice cultivation in The Gambia (ha):							216 121
Potential for rice cultivation in The Gambia in the OMVG area (ha):							162 100

Source: Compilation based on: population data - Gambia Census 2013 - Population and Housing Census and data from the World Bank link: <https://databank.worldbank.org/source/population-estimates-and-projections>; data from the 2020 National Agricultural Sample Survey (NASS), Ministry of Agriculture, The Gambia; and taking into account a rice consumption of about 100 kg/capita/year and a conversion efficiency from paddy to white rice of about 67%.

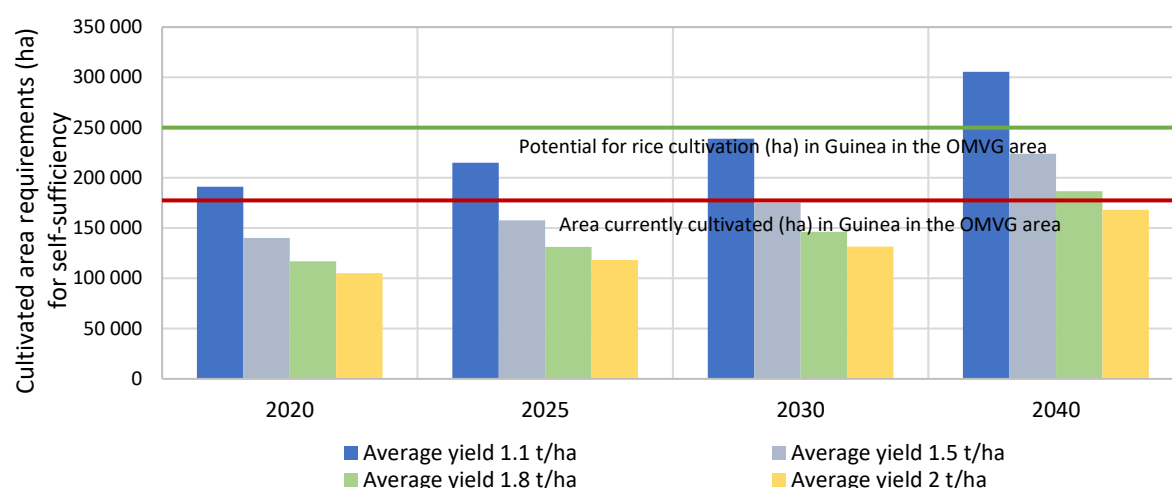


GUINEA

Table 2-4 Projections of cultivated area (ha) in Guinea in the OMVG area for self-sufficiency

Horizon	Total population 2020 (inhab.)	Population of Guinea in the OMVG area (inhab.)	Rice requirements rice (t)	Cultivated area requirements (ha) for self-sufficiency			
				Average yield 1.1 t/ha	Average yield 1.5 t/ha	Average yield 1.8 t/ha	Average yield 2 t/ha
	13 132 792		2 548 200	2 316 600	1 698 800	1 415 700	1 274 100
2020		1 084 366	210 400	191 300	140 300	116 900	105 200
2025		1 218 530	236 500	215 000	157 700	131 400	118 300
2030		1 355 320	263 000	239 100	175 400	146 200	131 500
2040		1 619 977	336 100	305 600	224 100	186 800	168 100
Area currently cultivated (ha) in Guinea:							1 663 774
Cultivated area (ha) in 2017 in Guinea in the OMVG area:							177 566
Potential for rice cultivation in Guinea (ha):							2 000 000
Potential for rice cultivation in Guinea (ha) in the OMVG area:							250 000

Source: Compilation based on: demographic data - RGPH-2014/ Demographic Prospects 2017/ INS/Ministry of Planning and Economic Development MPDE and data from the World Bank link: [//databank.worldbank.org/source/population-estimates-and-projections](https://databank.worldbank.org/source/population-estimates-and-projections); data from the Agricultural Survey: 2014/2015 and 2019/2020 - ANASA, Guinea and taking into account a rice consumption of about 100 kg/inhab/ha and a conversion yield of paddy rice into white rice of about 67%.

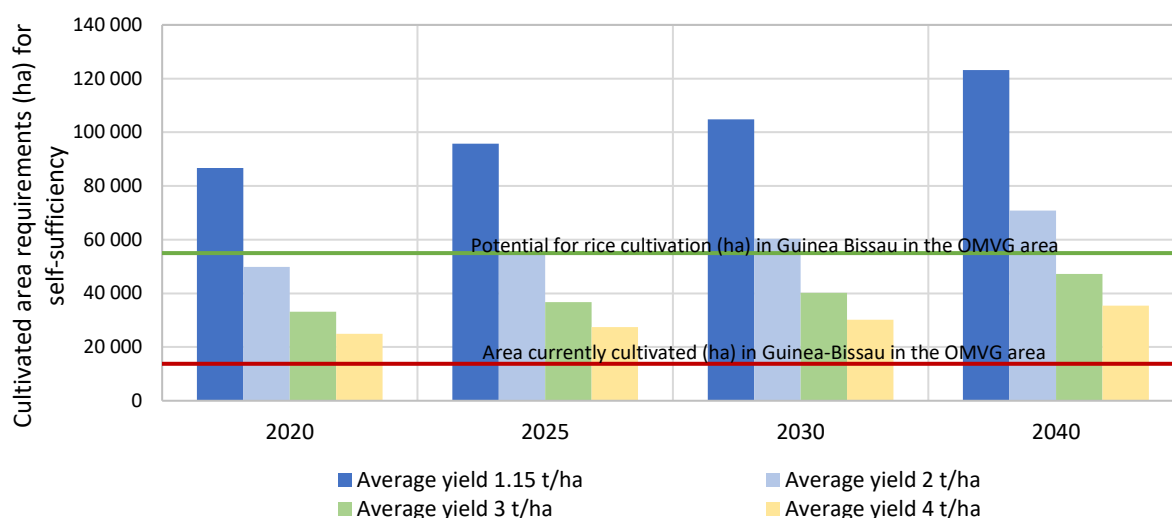


GUINEA BISSAU

Table 2-5 Projections of cultivated area (ha) in Guinea Bissau in the OMVG area for self-sufficiency

Horizon	Total population 2020 (inhab.)	Population of Guinea Bissau in the OMVG area (inhab.)	Rice requirements rice (t)	Cultivated area requirements (ha) for self-sufficiency			
				Average yield 1.15 t/ha	Average yield 2 t/ha	Average yield 3 t/ha	Average yield 4 t/ha
	1 967 998		373 100	324 500	186 600	124 400	93 300
2020		525 108	99 600	86 700	49 800	33 200	24 900
2025		579 995	110 000	95 700	55 000	36 700	27 500
2030		635 415	120 500	104 800	60 300	40 200	30 200
2040		747 007	141 600	123 200	70 800	47 200	35 400
Area (ha) currently cultivated in Guinea-Bissau:				62 000			
Area currently cultivated (ha) in Guinea-Bissau in the OMVG area:				13 776			
Potential for rice cultivation in Guinea Bissau (ha):				256 000			
Potential for rice cultivation in Guinea Bissau (ha) in the OMVG area:				55 000			

Source: Compilation based on: population data - National Institute for the Population Census, INEC, 2009 and data from the World Bank link: <https://databank.worldbank.org/source/population-estimates-and-projections> FOOD/2007/136902. Analysis of data from the 2008/2009 agricultural survey. PART 2 and taking into account a rice consumption of about 100 kg/capita/na and a conversion efficiency of paddy rice into white rice of about 67%.

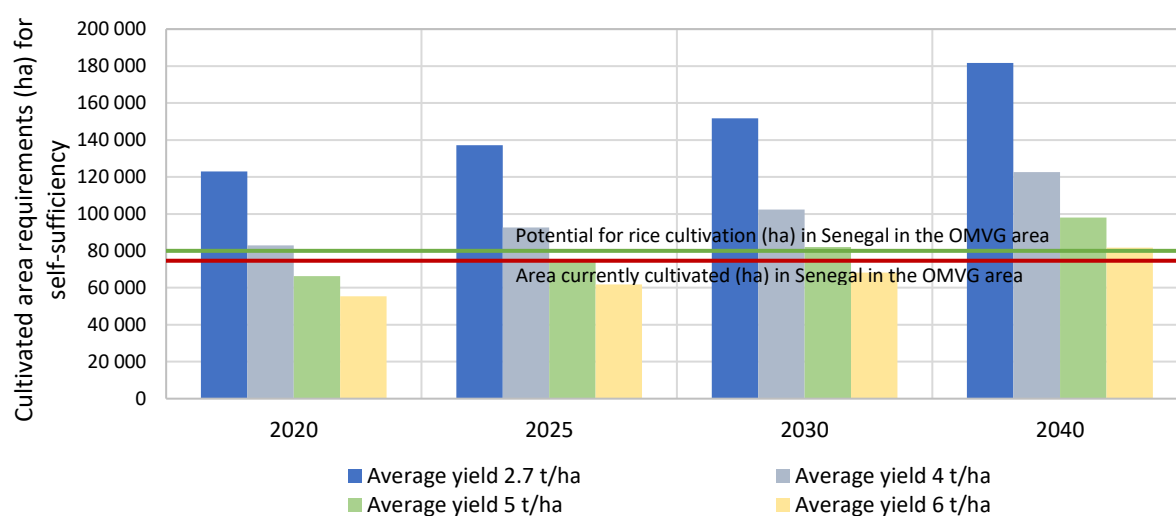


SENEGAL

Table 2-6 Projections of cultivated area (ha) in Senegal in the OMVG area for self-sufficiency

Horizon	Total population 2020 (inhab.)	Population of Senegal in the OMVG area (inhab.)	Rice requirements (t)	Cultivated area requirements (ha) for self-sufficiency			
				Average yield 2.7 t/ha	Average yield 4 t/ha	Average yield 5 t/ha	Average yield 6 t/ha
	16 743 930		3 173 900	1 175 600	793 500	634 800	529 000
2020		1 750 937	331 900	123 000	83 000	66 400	55 400
2025		1 953 645	370 400	137 200	92 600	74 100	61 800
2030		2 160 521	409 600	151 800	102 400	82 000	68 300
2040		2 586 275	490 300	181 600	122 600	98 100	81 800
Area currently cultivated (ha) in Senegal:				335 700			
Area currently cultivated (ha) in Senegal in the OMVG area:				74 650			
Potential for rice cultivation in Senegal (ha):				474 000			
Potential for rice cultivation in Senegal in the OMVG area (ha):				80 000			

Source: Compilation based on: demographic data - ANSD. Rapports recensements et projections démographiques & Situation Economique et Sociale du Sénégal Ed. 2017/2018 and data from the World Bank at: [//databank.worldbank.org/source/population-estimates-and-projections](https://databank.worldbank.org/source/population-estimates-and-projections); data from the final results of the 2017/2018 and 2019/2020 agricultural seasons - DAPSA/MAER, Senegal and taking into account a rice consumption of about 100 kg/inhab/ha and a conversion yield of paddy rice into white rice of about 67%.



Water requirements

The predominantly rain-fed agriculture makes agricultural production in the four states vulnerable to irregular rainfall in the basins and severely limits the possibility of increasing yields. In addition, the slash-and-burn system practiced on the hillsides is not sustainable. The development of irrigated agriculture can help overcome this barrier and contribute to improved food security.

The development of irrigated agriculture should be the main lever to overcome these barriers and to contribute to the improvement/achievement of food security.

The table below presents a projection of the actual irrigated area based on the irrigation potential, defined by FAO as the areas that can be irrigated according to the physical resources "soil" and "water" combined with the irrigation water requirements determined by the cropping patterns and climate. Environmental constraints, socio-economic conditions and the investment needed for the rehabilitation of abandoned areas and the expansion of equipped areas must also be taken into account.

Table 2-7 Preliminary projections of the actual irrigated area

Country	Basin	Area (ha) of existing irrigation zones	Preliminary projection of the area (ha) actually irrigated			
			2020	2025	2030	2040
The Gambia		4 998	1 300	4 000	12 500	24 000
	Gambia	4 998	1 300	4 000	12 500	24 000
Guinea		1 755	600	1 500	4 900	10 500
	Koliba-Corubal	1 271	400	1000	3500	8000
	Gambia	484	200	500	1400	2500
Guinea-Bissau		3 410	900	4 000	10 000	19 500
	Koliba-Corubal	674	200	1 000	2 500	4500
	Kayanga-Geba	2 736	700	3 000	7 500	15000
Senegal		8 249	2 100	6 200	11 000	17 000
	Gambia	1 594	400	1 200	3 500	5 000
	Kayanga-Geba	6 656	1 700	5 000	7 500	12 000
OMVG		18 413	4 900	15 700	37 900	67 500

Sources: Irrigation Development Master Plan. Final version. Republic of Guinea. Programme d'Appui au Secteur Agricole en Guinée; National Water Sector Reform Project, The Gambia: Water Resources Assessment and Management Strategy. 2015; Resilience of Organizations for Transformative Smallholder Agriculture Project (ROOTS); PNIA 2nd Generation - Republic of Guinea-Bissau. Ministry of Agriculture and Livestock; Master Plan for the Agriculture and Forestry Sector in the Gambia River Basin (2022, draft); FAO

Irrigation water requirements for rice, dry cereals (maize) and vegetable crops were calculated for the period 1981 - 2018 based on rainfall data from CHIRPS (*Rainfall Estimates from Rain Gauge and Satellite Observations*) and evapotranspiration data from CRU (*Climatic Reserach Unit*). The IRRICEP model² was used for the rice crop and the ISAREG model³ for the other crops. The average monthly and annual requirements for the period 1981 - 2018 are presented in Annex 1.

A first projection of the total amount of water withdrawn for irrigation has been made, presented in the table below, taking into account the projected irrigation area, the main crops irrigated, their average water requirements in the dry and wet seasons and the irrigation efficiencies.

The increase in irrigated area will mean an increase in irrigation needs, which must be accompanied by increasingly efficient use of water, thus projecting an improvement in the efficiency of systems.

Table 2-8: Preliminary projections of water requirements for irrigation

Country	Basin	Season	Water withdrawal for irrigation (hm ³ /year)			
			2020	2025	2030	2040
The Gambia			41	152	327	490
	Gambia	Rainy	33	68	145	218
		Dry	8	85	182	272
Guinea			28	47	192	220
	Koliba-Corubal	Rainy	3	5	12	21
		Dry	16	27	67	115
	Gambia	Rainy	1	2	17	13
		Dry	8	13	96	72
Guinea-Bissau			41	123	219	280
	Koliba-Corubal	Rainy	2	7	13	19

² Teixeira JL, Pereira LS, 1995. Simulation of irrigation demand hydrographs at sector level with models ISAREG and IRRICEP. In: Pereira LS, Lamaddalena N (eds.) Modelling Approaches for Irrigation Systems Management. Special issue of Bonifica, Bastogi Ed, Foggia: 23-38

³ Teixeira, J.L., Pereira, L.S. (1992) ISAREG, an irrigation scheduling model. ICID Bulletin, 41(2): 29-48

Country	Basin	Season	Water withdrawal for irrigation (hm ³ /year)			
			2020	2025	2030	2040
		Dry	7	24	42	63
	Kayanga-Geba	Rainy	8	21	38	46
		Dry	25	71	126	151
Senegal			101	199	287	276
	Gambia	Rainy	6	13	38	34
		Dry	13	26	77	70
	Kayanga-Geba	Rainy	27	53	56	56
		Dry	55	108	116	116
OMVG			213	522	1,025	1,266

Sources: Irrigation Development Master Plan. Final version. Republic of Guinea. Guinea Agricultural Sector Support Programme; National Water Sector Reform Project, The Gambia - Water Resources Assessment and Management Strategy, 2015; FAO

Table 2-9 Projections of irrigation efficiencies

	2020	2025	2030	2040
Water supply and distribution efficiency	50%*	60%	70%	80%
Efficiency of the application	40%	50%	60%	70%
Total efficiency	30%	30%	42%	56%

* The canals of the irrigation systems are most often earthen. Cases of silting and weeding of earthen canals are frequently observed.

Source: Own formulation

2.2.2 Animal production

Guinea's livestock numbers will increase dramatically due to their high annual growth rate. Cattle, sheep and goats will more than quadruple by 2030 and will increase tenfold by 2030 in the absence of shocks/disasters that could reverse these trends.

Table 2-10 Estimation of animal population in the basins in the medium and long term

Country	Horizon (year)	Cattle	Sheep	Goats	Pigs	Horses	Donkeys
The Gambia	2020	257,486	1,556,358	258,356	3,037	62,163	21,901
	2030	333,885	1,960,943	281,803	16,910	150,673	34,704
	2040	365,181	2,123,588	290,372	30,569	204,466	40,674
Guinea	2020	2,527,656	770,568	1,232,903			
	2030	11,940,959	5,053,348	8,307,979			
	2040	20,396,883	9,665,480	16,040,131			
Guinea Bissau	2020	989,195	247,746	358,862	42,096	29,929	3,362
	2030	1,320,085	1,048,299	755,442	56,177	29,929	3,362
	2040	1,458,195	1,723,901	976,505	62,054	29,929	3,362
Senegal	2020	1,899,923	3,500,546	3,053,868	192,027	191,266	210,165
	2030	2,925,844	7,797,153	7,613,098	492,349	391,408	264,799
	2040	3,395,561	10,277,020	10,431,779	681,202	501,036	286,762

Forage area requirement

An estimate of the forage area (dry matter) required to feed the livestock is made based on the following assumptions:

- the daily requirements of a TLU equivalent to 6.25 kg of dry matter (DM) per day;
- Average rangeland production estimated at 5,000 kg DM/year, of which only one third is consumable by livestock;
- crop residues are not included in the feed intake.

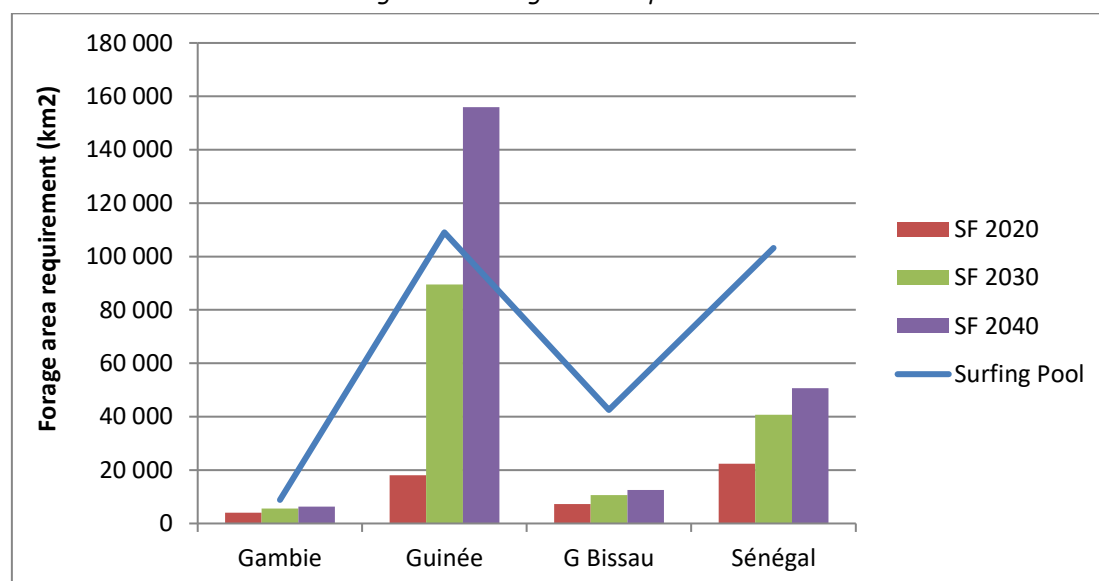
Based on these assumptions, the forage requirements to cover the stocking needs of the livestock are shown in the following table, as well as the natural forage areas to feed the livestock.

Table 2-11 Estimated livestock population (in livestock units) in the basins and forage area requirements (km²) per year

Horizon (year)	Livestock population (TLU), annual feed requirements (t/year) and forage area (km ²)	The Gambia	Guinea	Guinea Bissau	Senegal
2020	Animal population (TLU)	480 944	2 143 864	856 541	2 648 289
	Total annual forage requirement (t/year)	811 593	3 617 771	1 445 413	4 468 988
	Forage area requirements (km ²)	4 058	18 089	7 227	22 345
2030	Animal population (TLU)	657 648	10 609 612	1 263 410	4 828 262
	Total annual forage requirement (t/year)	1 109 781	17 903 720	2 132 004	8 147 692
	Forage area requirements (km ²)	5 549	59 679	5 330	16 295
2040	Animal population (TLU)	742 989	18 478 991	1 484 287	6 012 378
	Total annual forage requirement (t/year)	1 253 794	31 183 297	2 504 734	10 145 888
	Forage area requirements (km ²)	6 269	155 916	12 524	50 729

Figure 2-1 compares the forage area requirements with the total basin area for each country, in the absence of data on actual rangeland areas.

Figure 2-1 Forage area requirements



Basin Area = Total forage area of the OMVG basins; FA 2020 = Estimated forage area requirement in 2020; FA 2030 = Estimated forage area requirement in 2030; FA 2040 = Estimated forage area requirement in 2040.

The need for forage areas will grow very rapidly, especially in Guinea, where it will be multiplied by more than 7. This growth is related to the estimated growth rate of the livestock population (5%/year), which is much higher than in other countries (2%).

Guinea and to a lesser extent The Gambia will need to intensify their livestock systems and/or increase their livestock removal rates by 2030 to avoid overgrazing or increased mobility of their livestock within and outside their respective geographical boundaries.

Water requirements

The water requirements of livestock depend, among other things, on the animal species, the quality of the forage consumed and the climate. The specific consumptions generally used are variable but the differences are not very significant. The following figures are used: cattle: 40 L/d/head; sheep: 5 L/d/head; goats: 5 L/d/head; donkeys: 25 L/d/head; horses: 30 L/d/head.

For greater efficiency, specific consumption is expressed per Tropical Livestock Unit (TLU) and the average value of 35 L/d/TLU is used. The estimation of water requirements for livestock is based on the number of TLUs and this specific consumption.

We finally considered a year-round water supply, not just in the dry season.

The current and projected future livestock watering requirements for the basins are presented in the following table:

Table 2-12 Livestock population (in TLU) of basins and water requirements (in m³) per year

Horizon	Livestock (LU) and Water Requirements (m³)	The Gambia	Guinea	Guinea Bissau	Senegal	Totals
2020	TLU	480 944	2143 864	856 541	2648 289	3985 774
	Needs	6144 063	27387 862	10942 312	33831 889	78306 126
2030	TLU	657 648	10609 612	1263 410	4828 262	17358 932
	Needs	8401 449	135537 796	16140 067	61681 042	221760 354
2040	TLU	742 989	18478 991	1484 287	6012 378	26718 645

Horizon	Livestock (LU) and Water Requirements (m ³)	The Gambia	Guinea	Guinea Bissau	Senegal	Totals
	Needs	9491 679	236069 106	18961 772	76808 123	341330 680

Water needs will almost triple by 2030 and more than quadruple by 2040.

Perspectives in animal protein production / milk production

Using projected population figures and current levels of meat and milk consumption, future needs for the years 2030 and 2040 have been estimated in the ONMVG basins. These data are presented in the following tables and figures.

Table 2-13 Evolution of the population and meat needs (kg) in the OMVG basins by year

Country	Annual meat consumption kg per capita	Population of Basins			Total Meat Requirement of Basins		
		2020	2030	2040	2020	2030	2040
The Gambia	14	745 090	882 229	1 018 561	10 431 260	12 351 206	14 259 854
Guinea	10.1	1 084 366	1 355 320	1 619 977	10 952 097	13 688 732	16 361 768
Guinea Bissau	10.1	575 108	635 415	747 007	5 808 591	6 417 692	7 544 771
Senegal	17.5	1 750 937	2 160 521	2 586 275	30 641 398	37 809 118	45 259 813

Figure 2-2 Evolution of meat requirements (kg) in the OMVG basins by year

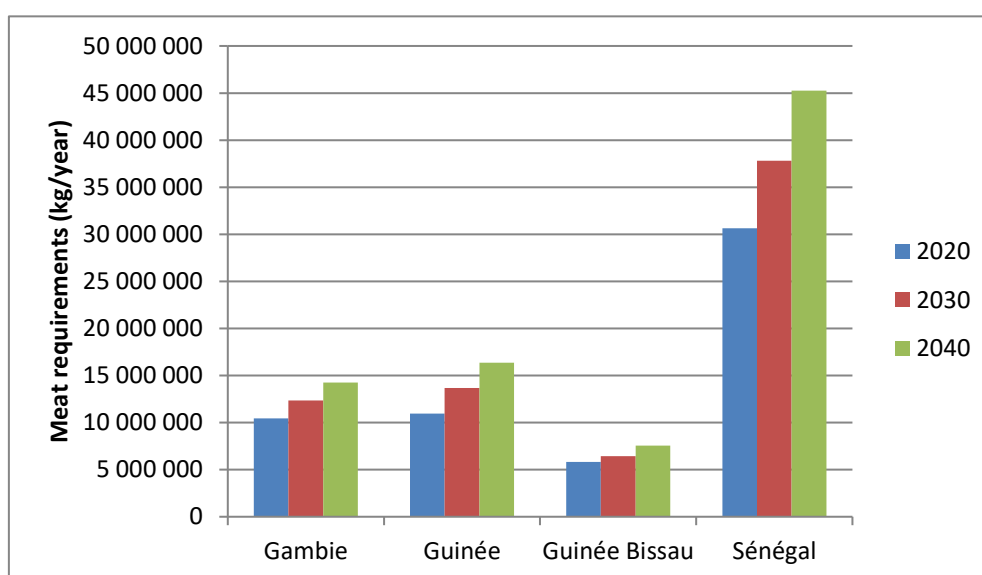
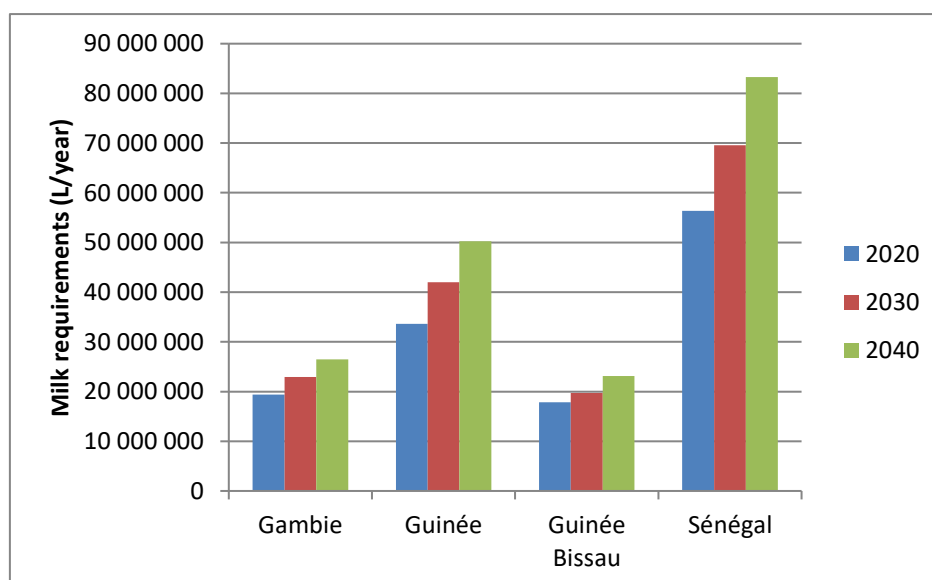


Table 2-14 Evolution of the population and milk needs (litres) in the OMVG basins by year

Country	Per capita consumption of milk L/capita/year	Total population of Basins			Total Milk Requirement of Basins		
		2020	2030	2040	2020	2030	2040
The Gambia	26	745 090	882 229	1 018 561	19 372 340	22 937 954	26 482 586
Guinea	31	1 084 366	1 355 320	1 619 977	33 615 346	42 014 920	50 219 287
Guinea Bissau	31	575 108	635 415	747 007	17 828 348	19 697 865	23 157 217
Senegal	32.2	1 750 937	2 160 521	2 586 275	56 380 171	69 568 776	83 278 055

Figure 2-3 Evolution of milk requirements (litres) in the OMVG basins by year



2.2.3 Fishing

The diagnostic study of fishing in the three basins of the River Gambia revealed a significant fishing potential despite limited scientific knowledge of fisheries resources and the impacts of exploitation methods on the sustainability of the activity, on the one hand, and the inadequacy of legislation and regulations, under-equipment and lack of infrastructure for fishing and the exploitation of products, on the other.

With regard to the gaps in knowledge of species and their habitats, the achievements of the WAEMU project on inland fisheries in the sub-region can be used to set up a scientific monitoring system for the exploitation, biology, development and economic value of the species fished in the three basins. This programme should be supported by training projects, capacity building of stakeholders, provision or facilitation of the acquisition of fishing equipment such as canoes, fishing gear, drying keys for fishery products, financing of infrastructure such as roads for access to landing sites, cold rooms for the conservation of products.

Aquatic animal protein requirements

Estimating the aquatic animal protein requirements around the three basins of the PDDI is not easy because there are few scientific studies on indicators that could have allowed this to be done, such as per capita and annual fish consumption, the share of fish outside the three basins in consumption, and the dietary habits of the populations.

It is therefore impossible to provide projections of consumption needs for fishery products over the periods 2020, 2030 and 2040.

2.2.4 Forests

According to data from the FRA 2020 report published by the FAO, the forest areas in the four OMVG countries are as follows

Table 2-15 Forest cover by country and regression rate

	SENEGAL	GUINEA	GUINEA-BISSAU	THE GAMBIA
Area of forest cover in 2020 (ha)	8 068 160	6 189 000	1 980 010	242 670
Regression rate (ha/year)	40 000	40 000	8 440	5 730
Area of forest cover in 2025 (ha)	7 868 160	5 989 000	1 971 570	214 020
Area of forest cover in 2030 (ha)	7 668 160	5 789 000	1 895 610	185 370
Area of forest cover in 2040 (ha)	7 268 160	5 389 000	1 811 210	128 070

Forest Resources Assessment 2020, FAO

The estimated forest areas for 2040 are limits that should not be exceeded. The authorities must develop a strategy now to reverse the current downward trend. The key points of this strategy should be

- The sustainable and participatory management of forest resources, which should make the managed forests real green banks for the populations of the bordering villages,
- The adoption of a participatory programme to combat bushfires and other attacks on the forests, including both a preventive component (information and awareness-raising for the population and application of early fires) and an active component to suppress late fires,
- Stabilization of agricultural areas through intensification with organic methods using agroforestry techniques and organic fertilizers,
- The gradual abandonment of unsustainable pastoral practices (excessive pruning, topping, etc.),

- The adoption of positive interrelationships between the main production systems (agriculture-livestock-forestry).

The right combination of these actions should greatly reduce the anthropogenic pressures on the forests of the four OMVG countries.

3 VISION AND STRATEGIC DIRECTIONS

3.1 VISION TO 2040

The agro-sylvo-pastoral and fisheries sector master plan for the year 2040 must set medium and long-term objectives (2025 - 2030 - 2040) for the three basins in terms of food security, poverty reduction, climate resilience and resource conservation.

"A competitive, sustainable, climate change resilient and inclusive agro-sylvo-pastoral and fisheries sector ensuring food security, improving quality of life and securing the environment."

This vision for 2040 is in line with the various sectoral policies and national agro-sylvo-pastoral and fisheries plans of the four member states.

VISIONS OF THE FOUR MEMBER STATES IN THE AGRO-SYLVO-PASTORAL AND FISHERIES SECTOR

The OMVG's 2040 vision is based on the vision of each member state and their national plans for the agro-sylvo-pastoral and fisheries sector and adapts its vision for its basins accordingly.

The Gambia: The Gambia National Agricultural Investment Plan II (GNAIP II, 2017-2026) is the main investment framework for agriculture and natural resources. The articulated vision for agriculture under the medium-term national development plan is *"a modern, sustainable and market-oriented agriculture and livestock sector for increased food and nutrition security, income and employment generation, poverty reduction and economic transformation"*.

Guinea: The vision for Guinea's agricultural development (PNDA, 2017) is: *"Guinea as an emerging agricultural power in 2025, with an economically and socially viable mode of production"*.

Guinea Bissau: The NAIP defines the objectives to be achieved in all agricultural sectors and identifies the investments and financing required. It advocates diversity of production, rational agro-sylvo-pastoral management and food security. It recommends, among other things, the development of food production, the valorisation of agricultural products, the renovation of rural infrastructures, the improvement of market access and the diversification of exports, as well as the organisation and professionalisation of producers, the strengthening of agricultural credit institutions and access to agricultural services. The plan also foresees the development of the livestock sector to cover urban demand for meat and dairy products, which are currently largely imported.

Senegal: Food and nutritional security is a pressing challenge facing Senegal. With this in mind, Senegal has developed the Programme d'Accélération de la Cadence de l'Agriculture Sénégalaise (PRACAS), the agricultural component of the Emerging Senegal Plan (PSE). The PRACAS aims to achieve food and nutritional security and the development of agricultural exports within a very short timeframe, while building a competitive, diversified and sustainable agriculture. The PRACAS aims to make agriculture play a decisive role in the growth of the economy and the reduction of poverty, by increasing the income of rural populations, particularly vulnerable ones. To make agricultural and food systems more inclusive and efficient, the PRACAS will develop agricultural and rural research, training and advice; the financing of agricultural services; the conservation, development, processing and marketing of agricultural products; and the promotion of agricultural product quality.

The vision of PRACAS is: *"Building a competitive, diversified and sustainable agriculture"* (PRACAS, 2014).

Concerning Fisheries and Aquaculture: The 2016 - 2023 Fisheries and Aquaculture Development Sector Policy Letter (LPSPDA) is part of the implementation of the Emerging Senegal Plan (PSE) and as such translates the Fisheries and Aquaculture sectoral vision as follows: *"A sector that is a sustainable driver of growth and social inclusion while ensuring the feeding of the population in 2023"*.

3.2 STRATEGIC AXES

Based on the OMVG's vision for 2040, and in line with the National Development Plans for agriculture, livestock, forestry and fisheries of the four Member States, the agro-sylvo-pastoral and fisheries master plan has the following **development objectives**.

"To contribute to the improvement of food security and nutritional quality as well as the income of communities through the development of sustainable and climate change resilient agricultural, pastoral, forestry and fisheries activities."

This objective will be achieved through **five strategic axes of** intervention:

- 1. Ensure food self-sufficiency through more sustainable agricultural and livestock production.**
- 2. Improving people's income and reducing poverty.**
- 3. Protection and enhancement of the environment and contribution to climate change mitigation and adaptation.**
- 4. Strengthening the legal and legislative framework.**
- 5. Research, acquisition, collection and processing of data and dissemination of knowledge.**

4 INTERVENTION STRATEGY - EXPECTED RESULTS AND ACTIONS TO BE UNDERTAKEN

4.1 LOGICAL FRAMEWORK FOR INTERVENTION

Objective: To contribute to the improvement of food security and nutritional quality as well as the income of communities through the development of sustainable agricultural, pastoral, forestry and fishing activities that are resilient to climate change.

To achieve the objective, it will be implemented through five main components (see table below). More detailed descriptions of each component and its associated outcomes, outputs and activities are available below.

Strategic focus	Provisions	Measures
1. Ensure food self-sufficiency through more sustainable agricultural and livestock production	1.1 Increased and sustainable agricultural production and productivity	1.1.1 Building a productive and resilient agri-food system
		1.1.2 Develop mangrove agriculture (PRO-GB)
		1.1.3 Project to support the improvement of resilience in mangrove rice production in The Gambia
		1.1.4 Improving agricultural production and productivity
		1.1.5 Rice cultivation development
	1.2 Increase in irrigated land / increase in irrigated crops	1.2.1 Infrastructure development and management (Roots)
		1.2.2. Realisation/rehabilitation of facilities and infrastructure management (SODAGRI)
		1.2.3 Realisation/rehabilitation of hydro-agricultural schemes in Guinea Bissau in the OMVG area (16,100 ha)
		1.2.4 Construction of the Camposa hydro-agricultural scheme (2000 ha), in Guinea-Bissau, on the Géba River.
		1.2.5 Development and expansion of hydro-agricultural schemes in Guinea in the OMVG area
		1.2.6 Expansion of irrigated agriculture in The Gambia and Senegal in the OMVG area
	1.3 Increased production and diversification of livestock	1.3.1 Health protection of livestock in the OMVG area
		1.3.2 Regional research programme on genetic improvement is developed and implemented in the OMVG area
		1.3.3 Special artificial insemination programme to improve national milk production
		1.3.4 Programme for the development of pastoral hydraulic infrastructure and management of agro-sylvo-pastoral spaces and resources and improvement of cross-border transhumance.
		1.3.5 Diversification of livestock forms through the promotion of poultry farming, small ruminant farming, beekeeping, etc.
		1.3.6 Intensified livestock systems (improved management through intensification in peri-urban areas.
	1.4 Development of agro-forestry food products	1.4.1 Programme to improve techniques for collecting and valorising non-timber forest products (NTFPs).

Strategic focus	Provisions	Measures
		1.4.2 Technical, managerial and organisational capacity building programme for Non Timber Forest Products (NTFP) institutions and stakeholders.
		1.4.3 Project to increase forest resources in the three OMVG catchment areas
	1.5 Promotion of fisheries production sectors	1.5.1 Inland fisheries and inland waterways management programme
		1.5.2 Programme to strengthen the technical, managerial and organisational capacities of institutions and actors
		1.5.3 Monitoring, Control and Surveillance Programme for Fisheries Activities
		1.5.4 Capacity building programme for professional organisations and consultation bodies
		1.5.5 Strengthening cooperation in fisheries and aquaculture
		1.5.6 Improving the production of inland fisheries resources in the OMVG catchment areas
	1.6. Planning and coordinating the provision of agricultural extension and training services	1.6.1 Provision of agricultural services (ROOTS)
		1.6.2 Organisational functioning and management (SODAGRI's strategic plan)
		1.6.3 Capacity building programme for commodity groups and consultation bodies
2. Improving people's income and reducing poverty	2.1 Contribution to poverty reduction	2.1.1 Supporting the resilience of poor households to climate shocks (SODAGRI's strategic plan)
		2.1.2 Support for fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal river basins
		2.1.3 Gaoual-Koundara-Mali Integrated Rural Development Project (PDRI-GKM)
		2.1.4 Development of small areas for market gardening
		2.1.5 Non-timber forest products (NTFP) development project in OMVG watersheds
	2.2 Structuring of producer organisations	2.2.1 Improving the business environment for commercial agricultural development (GIRAV)
		2.2.2 Promote the development of commercial agriculture (P164184)
		2.2.3 Institutional support and strengthening of agricultural services project
	2.3 Development of value chains, improvement of market access and revival of women's activities	2.3.1 Market access (ROOTS)
		2.3.2 Value chain development (SODAGRI's strategic plan)
		2.3.3 Improving market access (P164184)
		2.3.4 Supporting private investment (P164184)
		2.3.5 Rice processing, preservation and marketing (PRO-GB)
		2.3.6 Fruit and vegetable value-adding programme
		2.3.7 In-country NTFP distribution and marketing system improvement programme
		2.3.8 In-country fish distribution and marketing system improvement programme
		2.3.9 Project for the diversification of family agriculture, integrated markets and nutrition in the face of climate change in Guinea Bissau (REDE)
		2.3.10 Promotion of agricultural and agro-industrial sectors

Strategic focus	Provisions	Measures
	2.4 Development of financial services	2.3.11 Support project for the tree sector
		2.3.12 Market access and development of animal product chains.
		2.4.1 Mobilising productive private investment along value chains (GIRAV)
		2.4.2 Strengthening the financing system for forestry economic activities
		2.4.3 Setting up an agricultural insurance system
		2.4.4 Strengthening the financing system for inland fisheries and aquaculture
3. Protection and enhancement of the environment and contribution to climate change mitigation and adaptation	3.1. Preserve the quality of natural resources and optimise their management	3.1.1 Sustainable Land Management Programme
		3.1.2 Support for local government development and natural resource management (SODAGRI's strategic plan)
		3.1.3 Protected areas biodiversity monitoring, control and surveillance programme
	3.2 Designing and promoting integrated resource management systems	3.2.1 Monitoring, control and surveillance programme for forestry resource development activities in and around the Gambia, Kayanga/Géba and Koliba/Corubal river basins
		3.2.2 Fisheries Monitoring, Control and Surveillance Programme in the Gambia, Kayanga/Géba and Koliba/Corubal river basins
4. Legal and legislative framework	4.1 Strengthening the legal framework for agroforestry	4.1.1 Development and/or revision of the regulatory and legal framework for water users' cooperatives and associations.
		4.1.2 Development and/or revision of the legislative framework for agricultural water pricing policy.
		4.1.3 Development and/or revision of the legal framework for public-private partnerships (PPPs) in agriculture.
		4.1.4 Elaboration and/or revision of the regulatory and legal framework for the exploitation of forest resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins.
		4.1.5 Training and capacity building of members of forestry groups for the proper application of the texts regulating and providing a legal framework for the sustainable exploitation of forestry resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins
		4.1.6 Project on land tenure security in the Gambia, Kayanga/Geba and Koliba/Corubal river basins.
	4.2 Strengthening the legal framework for fisheries and aquaculture production	4.2.1 Elaboration and/or revision of the regulatory and legal framework for the exploitation of inland fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins
		4.2.2 Training and capacity building of fisheries managers for a proper application of the texts regulating and legally framing the sustainable exploitation of fisheries resources and aquaculture in the basins of the Gambia, Kayanga/Geba and Koliba/Corubal rivers.
5. Research, data acquisition, collection and processing and knowledge dissemination	5.1 Research and training	5.1.1 Capacity building programme in the agricultural sector to help the sector structure itself
		5.1.2 Technical cooperation programme with FAO, CILSS, ECOWAS, etc.
		5.1.3 Research programme on NTFP collection, packaging and processing techniques

Strategic focus	Provisions	Measures
		5.1.4. Inland Fisheries and Aquaculture Research Programme.
		5.1.5. Technical cooperation programme with FAO, Worldfish, Sub-Regional Fisheries Commission, ECOWAS, etc.
		5.1.6. Capacity building programme for Administration and Research.
	5.2 Knowledge management and resource monitoring	5.2.1. Programme to develop agricultural research, training and extension.

4.2 STRATEGIC AXIS 1 - ENSURE FOOD SELF-SUFFICIENCY THROUGH MORE SUSTAINABLE AGRICULTURAL AND LIVESTOCK PRODUCTION

4.2.1 Provision 1.1 - Increased and sustainable agricultural production and productivity

To boost agricultural productivity and resilience, it is essential to support wider access to the use of quality inputs, including improved certified seeds and mineral and organic fertilisers for integrated soil fertility management.

For producers to increase food security, they need better access to productivity-enhancing innovations (certified seeds of improved varieties, fertilisers and other complementary inputs), integrated pest management practices, improved technologies and best agricultural practices.

Several improved varieties of rice, maize, millet, sorghum, groundnut, cassava, etc. with high yields, early maturation, pest resistance and drought tolerance are available in the OMVG area, as well as other technologies and innovations, and could be transferred.

Strong and professional seed cooperatives and other private sector actors could be supported to multiply seeds of new varieties and develop the national seed market.

Investments in soil regeneration/recovery, including the fight against salinization, will optimise fertiliser use. Several salt-tolerant varieties and appropriate saline soil recovery techniques have been developed in the region (Senegal, Mali) and elsewhere (e.g. China) and could be transferred to The Gambia for wider dissemination.

Measure 1.1.1 - Building a productive and resilient agri-food system (GIRAV)

The measure is divided into two parts:

1. Improve water management by rehabilitating and/or expanding small-scale irrigation systems for rice and horticultural crops in selected project areas: (i) civil works for irrigation infrastructure; (ii) adoption of simple, efficient and labour-saving water management technologies and solar energy systems to upgrade production systems (iii) establishment or strengthening of water users associations (WUAs).

2. Finance the widespread adoption of improved technologies: (i) climate-smart technology packages; (ii) environmentally friendly practices for agricultural intensification in selected production systems (organic fertilisers, biological plant treatment, etc.); and (iii) technologies that address key constraints in agriculture and processing along the value chain, such as the need for mechanisation to address farm labour shortages, improved processing equipment, or reduction of post-harvest losses.

Measure 1.1.1	Building a productive and resilient agri-food system (GIRAV)
Origin (institution / project / programme):	Inclusive and Resilient Agricultural Value Chain in The Gambia (GIRAV) (P173070) Component 2. Building a productive and resilient agri-food system
Objective:	The objective of Component 2 is to increase agricultural productivity through climate-smart intensification of selected production systems, focusing on improved water management and promoting access to improved technologies and innovations.
Location:	Banjul/Kanifing, Brikama, Kerewan, Mansa Konko and Sierra. Lower Gambia Zone - Estuary and mangroves
Main beneficiary states of the action:	The Gambia
Description of the action:	<ul style="list-style-type: none"> ► Improve water management and expand irrigated areas ► Increase access to technology, innovation and advisory services
Project ownership and implementation:	Ministry of Agriculture Central Project Coordination Unit
Duration:	No indication
Costs and funding:	Total estimated cost of USD 12 million IDA - The World Bank
Expected results:	<ul style="list-style-type: none"> - Improve water management by rehabilitating and/or developing small-scale irrigation systems for rice and horticultural crops in selected project areas. - Support for community vegetable gardens for women (to increase their income and nutrition at household level). - Establishment or strengthening of water user associations (WUAs). - Development of management procedures and guidelines for the operation and maintenance of funded irrigation infrastructure to ensure sustainability. - Widespread adoption of improved technologies, including: (i) climate-smart technology packages; (ii) environmentally friendly practices; and (iii) technologies that address key constraints in agriculture and processing along the value chain.

Measure 1.1.2 - Develop mangrove agriculture (PRO-GB)

Measure 1.1.2	Modernisation and rehabilitation of the salted "Bolanhas"
Origin (institution / project / programme):	PRO-GB - European Union Programme for Resilience and Socio-Economic Opportunities in Guinea-Bissau
Objective:	To increase the resilience, incomes and levels of food and nutritional security of families involved in the sustainable development of the mangrove rice sector in selected areas of Guinea-Bissau.
Location:	15 intervention zones: three (3) large contiguous zones each involving about 1,000 producers (area of about 1,000 ha) and a dozen smaller zones each involving about 200 producers (areas of about 200 ha each). It is expected that PRO-GB - European Union Programme for Resilience and Socio-Economic Opportunities in Guinea-Bissau will benefit from this measure.
Main beneficiary states of the action:	Guinea Bissau
Description of the action:	<ul style="list-style-type: none"> ▶ Modernisation of salt marshes ("bolanhas"), rehabilitation and protection; ▶ Improving water management in salt marsh plots; ▶ Adapting farming techniques to climate change; ▶ Restoration of mangroves; ▶ Support for productive diversification initiatives and nutrition-sensitive agricultural production (coordinated with the horticulture, poultry and "local services" components of the PRO-GB); <ul style="list-style-type: none"> ○ Fruit cultivation on the upstream edge of the "bolonha" ○ Solar salt production ○ Mangrove beekeeping ○ Fish farming
Project ownership and implementation:	Ministry of Agriculture Central Project Coordination Unit
Duration:	5 years (2019-2023)
Costs and funding:	Total estimated cost of USD 1.5 million (by 2022 and 2023) Funded by the 11th European Development Fund
Risks envisaged:	<ul style="list-style-type: none"> ▶ Change in the structure and status of cultivated mangrove land once improvements are made to the water management infrastructure. ▶ Minor risks are related to theft and equipment failure
Expected results:	<p>Sustainable increase in family production of mangrove rice nationwide</p> <p>Sustainable increase of family farmers' income by adding value to the rice chain</p> <p>Sustainable improvement of food and nutritional security levels of families covered by the mangrove cultivation component.</p>

Measure 1.1.3 - Support project to improve the resilience of mangrove rice cultivation in The Gambia

Measure 1.1.3	Project to support the improvement of the resilience of mangrove rice production in The Gambia
Origin (institution / project / programme) :	Ministry of Agriculture
Objective:	To increase the resilience, incomes and levels of food and nutritional security of families involved in the sustainable development of the mangrove rice sector in The Gambia.
Location:	Lower Gambia Zone - Estuary and mangroves
Main beneficiary states of the action :	The Gambia

Description of the action :	<ul style="list-style-type: none"> ▶ Modernisation of salt marshes through their rehabilitation and protection; ▶ Improving water management in salt marsh plots; ▶ Adapting farming techniques to climate change ; ▶ Restoration of mangroves ; ▶ Support for productive diversification and agricultural production initiatives : <ul style="list-style-type: none"> ○ Fruit growing on the upstream edge of the mangrove ○ Solar salt production ○ Mangrove beekeeping ○ Fish farming
Project ownership and implementation :	Ministry of Agriculture
Duration :	5 years (2023-2027)
Costs and funding :	Total estimated cost US\$4.5 million
Risks envisaged	<ul style="list-style-type: none"> ▶ Change in the structure and status of cultivated mangrove land once improvements are made to the water management infrastructure. ▶ Minor risks are related to theft and equipment failure
Expected results :	<p>Sustainable increase in family production of mangrove rice nationwide.</p> <p>Sustainable increase of family farmers' income by adding value to the rice chain.</p> <p>Sustainable improvement of food and nutritional security levels of families covered by the mangrove cultivation component.</p>

Measure 1.1.4 - Improvement of agricultural production and productivity

Measure 1.1.4	Improving agricultural production and productivity
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin
Objective:	Improving agricultural production and productivity
Location:	In OMVG area
Main beneficiary states of the action :	Guinea, Senegal, Gambia, Guinea Bissau
Description of the action :	<ul style="list-style-type: none"> ▶ Support the production of improved seeds; ▶ Supporting producers' equipment ; ▶ Support the production of organic manure ; ▶ Train producers on good agricultural practices in a context of climate variability and change (technical itineraries, post-harvest operations, etc.); ▶ Support the advisory support system with training; ▶ Establish demonstration fields for technical innovations; ▶ Train producers on innovative techniques and technologies for adaptation and mitigation of the effects of climate change.
Project ownership and implementation :	Government of Guinea, Senegal, Gambia and Guinea Bissau
Duration :	5 years (2023-2027)
Costs and funding :	<p>Total estimated cost: 15,015,000,000 FCFA (25,525,500 USD):</p> <p>Guinea : 3,882,500,000 FCFA</p> <p>Senegal : 3,882,500,000 FCFA</p> <p>Gambia : 3,625,000,000 FCFA</p> <p>Guinea Bissau : 3.625.000.000 FCFA</p>
Risks considered :	<ul style="list-style-type: none"> ▶ Delays in mobilising donor funding for the implementation of project activities

	<ul style="list-style-type: none"> ▶ Institutional instability (frequent change of officials and interlocutors at national counterpart level) ▶ Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level.
Expected results :	<ul style="list-style-type: none"> ▶ Sustainable increase in agricultural production in all 4 countries; ▶ Sustainable increase in farmers' incomes ; ▶ Sustainable improvement of family food and nutrition security levels.

Measure 1.1.5 - Rice cultivation development

Measure 1.1.5	Rice cultivation development
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin
Objective:	<p>Mitigation of negative impacts of the dam by :</p> <ul style="list-style-type: none"> (i) Setting up hydro-agricultural development upstream of the Sambangalou water reservoir in Guinea and ensuring access to basic social services for the displaced population; (ii) Setting up hydro-agricultural development downstream of the Sambangalou water reservoir in Senegal and ensuring access to basic social services for the displaced population; (iii) Implementation of the management of the flooded basins following the rolling of Sambangalou in Gambia; (iv) Rehabilitation of rice fields in Bafata.
Location:	<p>In Guinea: Parabanta Moussouly Koto, Missira, Tiéwiré, Souléré, Doundouk Saara and Tembouguidaré.</p> <p>In Senegal: Sambangalou, Niambara, Néoudou, M'bara, Roundé M'bara, Tépéré Diantou and Kédougou.</p> <p>In The Gambia: from Kunkafo Swamp (PK 478) to Banatenda (PK 362) in Banjul.</p> <p>In Guinea Bissau: Contuboel, Batafa and Carantaba.</p>
Main beneficiary states of the action :	Guinea, Senegal, Gambia, Guinea Bissau
Description of the action :	<p>In Guinea :</p> <ul style="list-style-type: none"> ▶ Land development and hydraulic equipment for 5,000 ha ▶ Construction and equipping of 2 community health centres with stand-alone water and sanitation facilities ▶ Construction and equipping of 2 community schools with independent water and sanitation services ▶ Drinking water supply - 7 boreholes equipped with human powered pumps (HPP) ▶ Development of a rural track (30 km) linking the displaced villages with engineering structures <p>In Senegal :</p> <ul style="list-style-type: none"> ▶ Land development and hydraulic equipment for 5,000 ha ▶ Construction and equipping of 2 community health centres with stand-alone water and sanitation facilities ▶ Construction and equipping of 2 community schools with independent water and sanitation services ▶ Drinking water supply - 7 boreholes equipped with PMH ▶ Development of a rural track (30 km) linking the displaced villages with engineering structures <p>In The Gambia:</p> <ul style="list-style-type: none"> ▶ Development of 1,850 ha of flooded basins following the rolling of Sambangalou

	In Guinea Bissau : ► Rehabilitation of rice fields covering 595 ha in Bafata
Project ownership and implementation :	Government of Guinea, Senegal, Gambia and Guinea Bissau
Duration :	5 years (2023-2027)
Costs and funding :	Total estimated cost 61,585,000,000 FCFA (104,694,500 USD): Guinea : 25,275,000,000 FCFA Senegal : 25,275,000,000 FCFA Gambia : 9,250,000,000 FCFA Guinea Bissau : 785,000,000 FCFA
Risks considered :	► Delays in mobilising donor funding for the implementation of project activities. ► Institutional instability (frequent change of officials and interlocutors at national counterpart level). ► Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level.
Expected results :	► Rice production and productivity are improved with the development of 5000 ha of irrigated rice fields in Guinea and 5000 ha in Senegal and the construction of tracks; ► The quality of life of households is improved with : ○ the construction of social facilities in Guinea: 2 community health centres; 2 community schools; 7 boreholes equipped with PMH for drinking water supply; ○ Construction of 30 km of rural tracks linking displaced villages in Guinea; ○ Construction of social facilities in Senegal: 2 community health centres; 2 community schools; 7 boreholes equipped with PMH for drinking water supply in Senegal; ○ Development of 30 km of rural tracks linking the displaced villages to Senegal.

4.2.2 Provision 1.2 - Increase in irrigated land / increase in irrigated crops

Expanding irrigated areas is a sure way to improve productivity and resilience to climate change and to reduce the local food deficit.

The flat topography of the Gambia River basin offers the possibility of developing more tidal irrigation systems in the lowlands, which is an advantage for the country, reducing irrigation costs as no pumping systems and energy are required.

An impressive example comes from Senegal, where the average yield of irrigated rice (7 metric tons per hectare) exceeds the yields of India and Thailand, which are major rice exporters.

It is not enough to expand irrigation infrastructure; it is equally essential that this infrastructure is operated efficiently and well maintained by strong and well-organised water users' associations.

Measure 1.2.1 - Development and management of infrastructures (ROOTS)

The measure includes: (i) consolidating 1,300 ha of existing tidal irrigation and developing 2,800 ha of new tidal irrigation on existing farmland (average size per community between 25 and 75 ha); (ii) developing 200 ha of new cascade dykes for wet season valley water control; (iii) developing 800 ha of new dykes for micro-catchment runoff control; (iv) establish and strengthen water user management units; (v) improve 20 km of causeways to access 800 ha of rice fields; (vi) improve 40 vegetable gardens and develop 30 new ones; (vii) around the production sites, rehabilitate 1,300 ha of mangroves and 1,400 ha of community forests.

Measure 1.2.1	Infrastructure development and management (ROOTS)
Origin (institution / project / programme):	IFAD Resilient Organisations for Small-scale Transformative Agriculture (ROOTS) project Component 1. Agricultural productivity and adaptation to climate change. Subcomponent 1.1: Infrastructure development and management
Objective:	Improving food security, nutrition and resilience of smallholder farmers to climate change in The Gambia. This component aims to strengthen the resilience of farmers' organisations to climate change through improved and sustainable access to natural resources.
Location:	ROOTS will be implemented in five regions: (i) Central River Region (CRR); (ii) North Bank Region (NBR); (iii) Lower River Region (LRR); (iv) West Coast Region (WCR); and (v) Upper River Region (URR). Within these regions, 39 districts were selected on the basis of indicators related to poverty, vulnerability, remoteness, quality and extent of infrastructure, and harmonisation with other donors. - Lower Gambia Zone - Wetlands (basins and floodplains)
Main beneficiary states of the action:	The Gambia
Description of the action:	<ul style="list-style-type: none"> ▶ This project will support the development of tidal irrigation in the dry season (mainly in CRR sites to withstand climate impacts, including Jahally/Pacharr, Sukuta and Barajalli) ▶ Application of a landscape approach to develop new wet season water control structures on existing water-deficient agricultural areas with rainwater harvesting through (i) cascading wet season valley bottom water control dykes and (ii) micro-basin water flow control dykes.
Project ownership and implementation:	Ministry of Agriculture
Duration:	6 years - 2020 to 2025
Costs and funding:	Total estimated cost USD 41,590,000
Expected results:	<ul style="list-style-type: none"> ▶ Consolidate 1,300 ha of existing tidal irrigation and develop 2,800 ha of new tidal irrigation on existing agricultural land (average size per community between 25 and 75 ha); ▶ Develop 200 ha of new cascade dykes for wet season valley water control; ▶ Develop 800 ha of new dykes to control micro-catchment runoff; ▶ Establish and strengthen water user management units; ▶ Improve 20 km of roadways to access 800 ha of rice fields; ▶ Improve 40 vegetable gardens and develop 30 new ones; ▶ Around the production sites, rehabilitate 1,300 ha of mangroves and 1,400 ha of community forests.

Measure 1.2.2 - Construction/rehabilitation of facilities and management of infrastructure (SODAGRI strategic plan)

The measure includes: (i) rehabilitation of the Anambé river facilities and pumping stations; (ii) development or rehabilitation of valleys and lowlands (covering a total area of about 7,871 ha); (iii) support for the development and use of market gardening areas (covering a total area of about 1,000 ha); (iv) support for the development and use of banana areas (covering a total area of about 1,300 ha); (v) construction or rehabilitation of access roads to production areas; (vi) rehabilitation of structural hydraulic works (Niandouba and Confluent dams, apart from those of the channels) in the Anambé basin; (vii) implementation of the strategy for the upkeep and maintenance of hydro-agricultural facilities and equipment, and access roads.

Measure 1.2.2	Realisation/rehabilitation of facilities and management of infrastructure (SODAGRI strategic plan)
Origin (institution / project / programme):	SODAGRI strategic plan Axis 2: Support for rural development Action Line 1: Construction/rehabilitation of facilities and infrastructure management
Objective:	Increase agricultural productivity and production through the development of sustainable production systems in order to restore, in the short and medium term, the trade balance deficit.
Location:	Kédougou, Tambacounda, Kolda (Velingara) regions. Zones Gambia Upstream - Foutah Jallon, Gambia - PNKP - Intermediate Valley, Gambia Downstream - Wetlands and Kayanga Upstream
Main beneficiary states of the action:	Senegal
Description of the action:	<ul style="list-style-type: none"> ▶ Rehabilitation of the Anambé facilities and pumping stations (sector 5 then 1,2,3 and 4) ▶ Development or rehabilitation of valleys and lowlands; <ul style="list-style-type: none"> o Sédhiou region: 500 ha in Diopcounda (PARIS); o Rehabilitation of the Diopcounda dam (PARIS); o Identification of sites in progress for 1,460 ha (2nd phase of PARIS); o Kédougou Department: 295 ha (Sambagara) under construction; o Vélingara Department: 140 ha in Temento and 90 ha in Saré wogna, under construction; o Studies underway for 1,030 ha of lowlands in the departments of Kédougou, Tambacounda and Vélingara. ▶ Support for the development and operation of market gardening areas (1,000 ha): agricultural drilling in areas where there is good quality groundwater for irrigation and where there are good operating flows that make the market gardening areas profitable. The drip irrigation system will be favoured; ▶ Support to the development and exploitation of banana areas (1,300 ha): rehabilitation and extension of banana areas (planting, installation of under-canopy irrigation systems, cableways and fencing); ▶ Construction or rehabilitation of tracks to open up production areas: (i) construction of 46.4 km of tracks to open up production areas (first generation tracks), including 5.3 km in the department of Tambacounda and 41.1 km in the department of Vélingara; (ii) studies underway for 73.82 km of tracks (second generation tracks), including 46.32 km in the department of Vélingara and 27.5 km in the department of Tambacounda; (iii) 23.1 km to facilitate access to the irrigated areas of the Anambé; implementation of studies, works and supervision of works for 400 km of tracks to open up production areas to be developed or rehabilitated during the implementation of this plan; ▶ Rehabilitation of structural hydraulic works: (i) rehabilitation of the Niandouba and Confluent dams, apart from those of the channels (Anambé basin);

	► Implementation of the maintenance strategy for hydro-agricultural facilities and equipment, and access roads.
Project ownership and implementation:	SODAGRI
Duration:	5 years - 2023 to 2027
Costs and funding:	Total estimated cost 64,984,725,000 CFA francs for the OMVG regions (95,080,278 USD).
Expected results:	Rehabilitation of the Anambé River facilities and pumping stations; Development or rehabilitation of valleys and lowlands (7871 ha); Development and operation of market garden areas (1,000 ha); Development and exploitation of banana plantations (1,300 ha); Construction or rehabilitation of tracks to open up production areas; Rehabilitation of the Niandouba and Confluent dams, apart from those of the channels; Implementation of the maintenance strategy for hydro-agricultural facilities and equipment, and access roads.

Measure 1.2.3 - Realisation/rehabilitation of hydro-agricultural developments in Guinea Bissau within the OMVG area (16,100 ha)

The National Agricultural Investment Plan (2nd Generation) foresees the development of approximately 16,100 ha of lowland rice in the OMVG area.

Measure 1.2.3	Realisation/rehabilitation of hydro-agricultural schemes in Guinea Bissau in the OMVG area (16,100 ha)
Origin (institution / project / programme):	National Agricultural Investment Plan (2nd Generation)
Objective:	Controlling water for a more productive, diversified and sustainable agriculture with a view to reducing food insecurity and poverty in Guinea-Bissau
Location:	Guinea Bissau in the OMVG area. Mainly in the Kayanga Downstream - Geba Zone but also in the Corubal Downstream - Wetlands Zone
Main beneficiary states of the action:	Guinea Bissau
Description of the action:	<p>Realisation/rehabilitation of hydro-agricultural schemes in Guinea Bissau in the OMVG area (16,100 ha): Vale de Gambiel - 10.000 ha; Xaianga/Badora - 180 ha; Malandi/Finet - 350 ha; Nimpala/Bidjine - 10 ha; Sintcham Bonco - 150 ha; Gandjara - 200 ha; Waquilaré - 65 ha; Bancuma - 28 ha; Candjadude - 30 ha; Gã-Sisse - 5 ha; Carantaba - 180 ha; Sintcham Iero Djadja/Pirada - 20 ha; Holoto/Pitche - 20 ha; Cantente - 15 ha; Tcheual/Mafanco - 15 ha; Copiro/Pitche - 100 ha; Padjama/Pitche - 30 ha; Bidinga Na Nhasse - 750 ha; Ufra Samba-Djau/Pitche - 20 ha; Coatche/Pitche - 100 ha; Buruntuma - 225 ha; Pirada - 135 ha; Kopa Mangui/Pirada - 200 ha</p> <ul style="list-style-type: none"> ► Inventory and diagnosis of the different types of existing infrastructure; ► Assessment of the degree of valorisation of existing infrastructures by the beneficiary populations; ► Assessment of the maintenance and upkeep of infrastructure by the population; ► Identification of problems: management problems, land problems, environmental problems, etc.; ► Support to producers' organisations for a better management of irrigated areas; ► Capacity building in the field of maintenance and upkeep of infrastructure and equipment;

	<ul style="list-style-type: none"> ► Support for the organisation and management of producer organisations and professionals in irrigation-related activities; ► Conducting studies and inventories of the potential of existing water resources and agricultural areas; ► Capacity building of actors involved in the agricultural and rural sector; ► Extension of irrigation equipment and materials, e.g. treadle pumps, tube wells, PVC and micro-irrigation drip kits; ► Construction of simple infrastructure for lowland development; ► Construction of simple rainwater and runoff collection and storage structures.
Project ownership and implementation:	The Ministry of Agriculture, Livestock and Forestry (MAEF)
Duration:	19 years (202-20240)
Costs and funding:	USD 159,390,000
Expected results:	Development of the most accessible water resources through the large-scale dissemination of efficient techniques and technologies for conserving rainwater and exploiting surface and underground water, at low cost and appropriable by the beneficiaries (farmers, stockbreeders, fishermen), and the creation of simple infrastructures calling largely on the participation of the populations for the development of shallow areas and mangroves and the creation of surface water collection and storage structures.

Measure 1.2.4 - Construction of the Hydro-Agricultural Development of Camposa (2000 ha), in Guinea-Bissau, on the Geba River

Measure 1.2.4	Construction of the Camposa Hydro-Agricultural Development (2000 ha), in Guinea-Bissau, on the Geba River
Origin (institution / project / programme):	OMVG Energy Project
Objective:	The main objectives are to irrigate agricultural land, supply water to the surrounding population and stop the spread of salt water.
Location:	Guinea-Bissau. The future site of Camposa is located in Bafatá - Zone Kayanga Aval - Géba
Description of the action:	► Construction of the Camposa Hydro-Agricultural Development.
Project ownership and implementation:	OMVG
Duration:	-
Costs and funding:	Total estimated cost of €80 million Sources: OMVG
Risks envisaged:	<ul style="list-style-type: none"> ► Instability of agricultural productivity due to climate change. ► Possible delay in the construction of the Camposa hydro-agricultural scheme. ► Political changes that may interfere with the objectives to be achieved. ► Delay in funding.
Expected results:	<ul style="list-style-type: none"> ► Construction of the Camposa dam. ► Irrigation of 2000 ha. ► Increasing agricultural productivity. ► Improvement of the living conditions of the beneficiary populations. ► Stop the progression of salt water.

Measure 1.2.5 - Development and expansion of hydro-agricultural schemes in Guinea within the OMVG area

In Guinea, the development of irrigated agriculture has focused on community schemes for smallholders. Based on the Schéma Directeur de Développement de l'Irrigation, a measure is proposed to reclaim existing irrigation schemes in the OMVG area and expand the area under irrigation. The average size of these schemes, most of which are village community irrigation, varies in most cases between 10 and 40 ha. The objective is to reach an effectively irrigated area of 10,500 ha in 2040, including 8,000 ha in the Koliba-Corubal river basin and 2,500 ha in the Gambia river basin.

This measure is fundamental for the diversification of agriculture and the increase of crop yields and, to this end, it must be accompanied by measures to improve income and market access.

Measure 1.2.5	Development and expansion of hydro-agricultural schemes (9,900 ha) in Guinea within the OMVG area
Origin (institution / project / programme):	Irrigation development master plan
Objective:	Implement sustainable hydro-agricultural developments on a sound basis (technical, socio-economic and environmental) by involving the population from the start (participatory approach) for the production of market-oriented agricultural products.
Location:	Villagers in the OMVG area in Guinea with land suitable for irrigation and interested in engaging in intensive market-oriented agriculture. Zones: Koliba Upstream - Foutah Jallon; Koliba-Corubal Middle Valley; and Gambia Upstream - Foutah Jallon
Main beneficiary states of the action:	Guinea
Description of the action:	<ul style="list-style-type: none"> ▶ Site selection, decision making, appraisal by the DNGR and its decentralised services ▶ Feasibility studies (design office) ▶ Environmental and Social Impact Assessment carried out by a consultancy firm under the supervision of the DNGR and the BEEE ▶ PDA studies carried out by a design office under the supervision of the DNGR ▶ Resettlement studies carried out by a consultancy firm under the supervision of the DNGR, the BEEE and the Prefecture ▶ Procurement of works carried out by the Directorate General of Public Procurement with or without delegation to the DNGR and its decentralised services ▶ Work and control carried out by a company. Control will be carried out by engineering offices and/or the decentralised services of the DNGR ▶ Creation of Water Users' Associations (WUA) by NGOs/EBs ▶ Training and consolidation of WUAs by NGOs ▶ Monitoring - Control - Audit carried out by the DNGR and its decentralised services.
Project ownership and implementation:	Ministry of Agriculture
Duration:	19 years (2022-2041) - actions need to continue over time
Costs and funding:	USD 105,042,000
Expected results:	<ul style="list-style-type: none"> ▶ Implementation of the Irrigation Development Master Plan strategy. ▶ Effectively irrigated area of 10,500 ha in 2040, including 8,000 ha in the Koliba-Corubal river basin and 2,500 ha in the Gambia river basin. ▶ Development and securing of irrigated agriculture.

Measure 1.2.6 - Expansion of irrigated agriculture in The Gambia and Senegal in the OMVG area

In addition to measures 1.2.1 and 1.2.2, in The Gambia and Senegal respectively, there is a need to further develop irrigated agriculture towards resilient, sustainable and viable agriculture. **The objective is to reach an effectively irrigated area of 20,000 ha in The Gambia and 10,000 ha in Senegal by 2040.**

Measure 1.2.6	Expansion of irrigated agriculture in The Gambia and Senegal in the OMVG area
Origin (institution / project / programme):	OMVG
Objective:	Implement sustainable hydro-agricultural developments on a sound basis (technical, socio-economic and environmental) by involving the population from the start (participatory approach) for the production of market-oriented agricultural products.
Location:	The Gambia and Senegal in the OMVG area - Areas: The Gambia Upstream - Foutah Jallon, The Gambia - PNKP - Intermediate Valley, The Gambia Downstream - Wetlands, The Gambia Downstream - Estuary and mangroves, Kayanga Upstream
Main beneficiary states of the action:	The Gambia and Senegal
Description of the action:	<ul style="list-style-type: none"> ▶ Selection of sites ▶ Feasibility studies (design office) ▶ Environmental and Social Impact Assessment ▶ Preliminary design of the facilities ▶ Procurement of works ▶ Work and control ▶ Creation of Water Users' Associations (WUA) ▶ Training and consolidation of WUAs by NGOs ▶ Monitoring - Control - Audit
Project ownership and implementation:	Ministries of Agriculture of The Gambia and Senegal
Duration:	19 years (2022-2041) - actions need to continue over time
Costs and funding:	USD 302,430,000
Expected results:	Implementation of the strategy for resilient and sustainable agriculture. Development and securing of irrigated agriculture

4.2.3 Provision 1.3 - Increased production and diversification of livestock

In all the countries of the OMVG region, diseases such as bovine pasteurellosis, anthrax, symptomatic anthrax, foot-and-mouth disease in cattle, peste des petits ruminants, pasteurellosis in small ruminants, Newcastle disease, Gumboro disease in poultry, etc. continue to be rife and cause considerable economic losses every year. These diseases constitute constraints to the increase in animal productivity and the income of livestock farmers and are detrimental to national economies. These constraints justify the implementation of a control programme (preventive and curative) for these diseases, accompanied by health monitoring activities. The actions to be implemented within this framework will focus on (i) strengthening the material (travel, infrastructure, equipment, etc.) and human (both qualitative and quantitative) resources of the veterinary services, (ii) introducing prophylaxis campaigns with the involvement of private veterinarians, (iii) setting up an epidemiological surveillance network both within the country and at the borders, etc.

Measure 1.3.1 - Health protection of livestock in the OMVG area

Measure 1.3.1	Health protection of livestock in the OMVG area
Origin (institution / project / programme):	Based on the development plans of the OMVG countries
Objective:	Remove health constraints by increasing vaccination coverage rates, applying animal health police measures and epidemiological surveillance in order to increase animal production (meat, chickens, milk, eggs, etc.).
Location:	Countries of the OMVG area
Main beneficiary states of the action:	All countries in the OMVG area
Description of the action:	<ul style="list-style-type: none"> ▶ Establish livestock vaccination parks and veterinary pharmacies (including in villages). ▶ Set up an epidemiological surveillance system in the different agro-ecological or eco-geographical zones by (i) collecting health data, (ii) transmitting them, (iii) analysing them, (iv) providing feedback and sharing information. ▶ Rehabilitate and continuously strengthen the technical capacities of livestock technicians and the resources (infrastructure and laboratory equipment for disease diagnosis), improve the logistics of national laboratories and deconcentrated services of research and development structures (regional, departmental and prefectural services). ▶ Organise systematic vaccination campaigns against priority diseases. ▶ Involve private veterinarians in the health protection of livestock.
Project ownership and implementation:	Countries of the OMVG area
Duration:	5 years (2023-2027)
Costs and funding:	USD 13,750,000
Expected results:	Mortality of cattle, sheep, goats and poultry is reduced thanks to an operational sanitary protection system in the OMVG area

Measure 1.3.2 - Selection and dissemination of Ndama breed improvers

Livestock productivity and animal production (especially milk and meat) are low and cannot meet the ever-increasing demand of the populations of the four countries of the OMVG basins. All these countries rely on imports of meat and dairy products. One of the factors limiting the poor performance of livestock farming is the low genetic potential of the local breeds used. Indeed, the milk production levels of the Ndama, the main breed used in the OMVG area, are low and range from 0.5 to 2 litres of milk per cow per day, depending on the season. Meat productivity is also low due to the small size of Ndama cattle. However, these breeds are hardy and well adapted to the precarious environmental conditions characterised by the presence of endemic diseases (trypanosomiasis among others), and seasonal variability of food and water resources. In this context, a coherent breed improvement programme combining intra-racial selection of local breeds and the introduction of exotic genes from highly productive breeds would improve productivity.

These programmes for the genetic improvement of local breeds should, however, also be accompanied by measures to improve breeding conditions (feeding, watering, health, etc.) in order to allow the genetic potential of the animals to be realised (especially the more demanding mixed breeds in terms of feeding, health, hygiene, etc.).

Intra-breed selection programmes for the Ndama breed have been conducted by the International Trypanotolerance Centre (ITC, now WALIC) in The Gambia and by the Senegalese Institute of Agricultural Research at the Centre de Recherches Zootechniques de Kolda (ISRA/CRZ de Kolda) in Senegal. These research programmes have yielded promising results in terms of improving the beef potential of the Ndama. However, purebred selection requires time to produce visible results. With regard to crossbreeding between the Ndama and exotic breeds, ITC has conducted on-station tests for the production of F1 crosses through the use of artificial insemination. In the 1980s, ISRA introduced breeders (Jersy, Montbeliarde) at the Sangalkam station to test their adaptation before disseminating them to intensive farms in the Niayes (Dakar region) as part of the development programmes for intensive dairy production in the Niayes. The same experiments were initiated in Senegal as part of the Livestock Support Projects (PAPEL) in the Groundnut Basin area and the Matam Agricultural Development Programme (PRODAM). From 2000 to 2008, the Ministry of Livestock initiated an ambitious genetic improvement programme in Senegal with more or less mixed results. The Ministry of Livestock's livestock development programmes (PEDESOC, PASA/Loumakaf, etc.) also introduced improved breeding stock in order to improve breed productivity through crossbreeding. The results of this work have begun to be disseminated among farmers and have led to the emergence of peri-urban dairy belts.

The revitalisation of breeding and crossbreeding programmes should help to increase animal productivity in the OMVG region. A successful breeding programme requires sustained support over many years (15 years at least). As for crossbreeding, the results require less time, but its success remains conditional on mastery of breeding conditions (feed, health).

Measure 1.3.2	Selection and dissemination of Ndama breed improvers
Origin (institution / project / programme):	-
Objective:	<ul style="list-style-type: none"> ▶ Selecting Ndama breeders on the station and disseminating their genes (semen) in the breeding environment ▶ Raising the genetic level of the local livestock ▶ Preserving local breeds
Location:	Senegal (ISRA/CRZ de Kolda) - The Gambia (ITC/WALIC) - The Gambia (ITC) All OMVG member countries for dissemination
Main beneficiary states of the action:	OMVG Area
Description of the action:	<ul style="list-style-type: none"> ▶ Construction of a genetic improvement centre in Vélingara, Walic-KM, Gabu and Koundara

	Intra-racial selection <ul style="list-style-type: none"> ▶ Define selection objectives in consultation with producers; ▶ Re-populate selection nuclei (purchase of animals, multiplication of residual nuclei); ▶ Design and implement a zootechnical performance monitoring system (reproduction, weight growth, milk production); ▶ Design and implement a pedigree control system; ▶ Design and implement a database to store regularly collected information on animal performance and pedigrees; ▶ Data analysis; ▶ Selecting the best sires on the basis of their genetic merit; ▶ Disseminate improved genes through natural breeding, but especially not through artificial insemination; ▶ Tracking broodstock and offspring on farms.
Project ownership and implementation:	Countries of the OMVG area
Duration:	5 years (2023-2027)
Costs and funding:	USD 12,000,000
Expected results	The Ndama breed is preserved and its productivity is improved

Measure 1.3.3 - Special artificial insemination programme for the improvement of national milk production

Measure 1.3.3	Special artificial insemination programme to improve national milk production
Origin (institution / project / programme):	Senegal/Ministry of Livestock
Objective:	To improve national milk production by crossing local breeds with high-producing imported breeds
Location:	National Centre for Genetic Improvement (CNAG/Senegal) for breeding and conservation of locally produced or imported seeds
Main beneficiary states of the action:	All countries in the OMVG area
Description of the action:	<ul style="list-style-type: none"> ▶ Rehabilitate the National Centre for Genetic Improvement (breeding facilities, semen quality control and zootechnical performance equipment, liquid nitrogen production units, other laboratory equipment and materials) ▶ Purchase of sires and heifers of exotic breeds (Montbeliarde, Holstein, etc.) ▶ Set up a crossbreeding programme to assess which degrees of exotic blood should be retained (the most suitable and productive) ▶ Design and implement a performance and pedigree monitoring system ▶ Design and implement a database to store regularly collected information on animal performance and pedigrees ▶ Producing seed at the National Centre for Genetic Improvement (CNAG) ▶ Use the seed to inseminate local breed females in the breeding environment

	<ul style="list-style-type: none"> ▶ Monitoring inseminated cows and their offspring in terms of health and production ▶ Training farmers to manage mixed-breed products
Project ownership and implementation:	Countries of the OMVG area
Duration:	5 years (2024-2028)
Costs and funding:	USD 15,000,000
Expected results:	National milk production is improved by the availability of highly productive mixed-breed animals with improved management conditions.

Measure 1.3.4 - Programme for the development of pastoral hydraulic infrastructure and management of agro-sylvo-pastoral spaces and resources and improvement of cross-border transhumance.

In the countries of the OMVG area, the dominant livestock systems are based on the exploitation of natural rangelands, which provide most of the livestock feed. This type of livestock farming is characterised by its mobility (within national borders, but also outside). However, these natural pastures are poor during a large part of the year and cannot cover the quantitative and qualitative needs of the livestock. Moreover, they are exposed to various factors of climatic deterioration (variability and decrease in rainfall), and anthropogenic factors (bush fires, overgrazing).

The absence or lack of facilities and rules for the concerted management of space and pastoral resources (creation of wells and pastoral boreholes, clear delimitation of grazing areas, livestock movement routes), does not facilitate the access of livestock to proper food and watering and creates difficulties in the cohabitation of crops and livestock. All these factors tend to make traditional livestock systems vulnerable. In this context, it is more than necessary to develop and manage the pastoral area to improve watering and feeding of livestock, and thus make them more productive and resilient. This requires the creation of a network of permanent water points in the pastoral area, support for communities in the proper management of hydraulic structures, and the definition and application of participatory and inclusive management rules (codes, local conventions, etc.).

The establishment of Pastoral Units (PUs) was initiated with a view to better managing forage and water resources for livestock and securing extensive pastoral/agropastoral livestock systems. These natural resource management tools have led to the regeneration of resources, improved feeding and watering conditions for livestock, and better cohabitation between livestock and agriculture. This model represented by the pastoral units could be replicated in Guinea and The Gambia, where livestock farming is still facing serious feeding and watering problems in the dry season and even during the rainy season.

The actions to be carried out to develop and better manage natural rangelands with a threefold aim of preserving and enhancing the potential of pastoral rangeland resources, satisfying the food needs of livestock and improving cohabitation between herders and farmers (reducing conflicts) involve:

- Characterisation of pastoral areas;
- The implementation of structuring facilities (boreholes, wells, vaccination stations, etc.);
- The implementation of management plans (management/protection of rangelands, management of water points, establishment of committees to welcome transhumant herders, committees to manage hydraulic works, etc.);
- Monitoring and evaluation of implementation.

Measure 1.3.4	Programme for the development of pastoral hydraulic infrastructure and management of agro-sylvo-pastoral spaces and resources and improvement of cross-border transhumance.
Origin (institution / project / programme):	National Programmes of OMVG member countries
Objective:	<ul style="list-style-type: none"> ▶ To improve and secure the feeding of pastoral/agropastoral livestock through the development and better management of space and resources. ▶ Reduce conflicts over the use of land, water and grazing resources.
Location:	All OMVG member countries
Main beneficiary states of the action:	All countries in the OMVG area
Description of the action:	<p>1. At National Level</p> <ul style="list-style-type: none"> ▶ Establishment of the baseline situation: maps of the resources of the pastoral territory, inventory of all available pastoral infrastructures and their condition; analysis of the management methods of pastoral resources. <p>2. Analysis of forms of organisation and partnership</p> <ul style="list-style-type: none"> ▶ Establishment or rehabilitation of water infrastructure (development of natural ponds, creation of wells and boreholes) for livestock watering. ▶ Develop an inclusive land use plan. ▶ Set up and validate a management plan (for rangelands, pastures, ponds, structures and waterworks, etc.). It sets out the rules to be followed by all users for the sustainable use of and equitable access to pastoral resources and the provisions, operating methods and access to the Pastoral Unit's infrastructure. These rules are established by common agreement between the different actors around pre-established objectives. ▶ Develop firebreaks and provide management authorities with the means to fight bushfires. ▶ Establish and strengthen the capacity of resource and facility management bodies/agencies. ▶ Establish an appropriate credit system for income-generating activities. ▶ Facilitating Ups: information, awareness raising, facilitating and leading discussions, capacity building, communication, advocacy, conflict management. ▶ Monitor and evaluate the implementation, which includes: (i) regular collection of data on the evolution of transhumance, the level of - frequentation and management of the borehole, the recurrence of conflicts...), (ii) timely data transmission to higher levels and (iii) appropriate data processing to output performance indicators and observe progress, so that adjustments can be made to correct failures. <p>3. Management of cross-border transhumance</p> <ul style="list-style-type: none"> ▶ Capacity building of transhumance actors: information, awareness raising to improve knowledge and adoption of legislative and regulatory provisions adopted by the states to organise and manage all aspects related to transhumance).

	<ul style="list-style-type: none"> ▶ Strengthen the capacities of livestock breeders' and pastoralists' organisations: development and implementation of a training programme in negotiation, advocacy and lobbying; organisation of information and training sessions on the legislative and regulatory mechanisms governing transhumance; development and implementation of a training programme on the design and implementation of livestock development actions. In addition, the project will support the creation and operation of transhumance committees, support the creation and/or operation of consultation frameworks, support training programmes on pastoralism, and conduct policy dialogue on cross-border transhumance issues. ▶ Set up a sub-regional observatory on transhumance. ▶ Support research and development programmes on pastoralism. ▶ Update, mark and protect transhumance corridors. ▶ Carry out related developments and infrastructures (provide for developments related to the transhumance corridors. It will therefore be necessary to set up, every 25 kilometres or so, facilities and infrastructure aimed at improving feeding and watering conditions during transhumance: rest areas, water points, feed stores). ▶ Set up zoo-sanitary infrastructures at the borders: veterinary posts with associated vaccination and quarantine stations. ▶ Facilitate the use of the International Transhumance Certificate. ▶ Set up an epidemiological surveillance network. ▶ Harmonise the texts regulating transhumance. ▶ Carry out pastoral developments: not only in the reception and transit areas, but also in the departure areas of transhumant herders. ▶ Set up a monitoring and early warning system on the risks of forage and water crises. ▶ Promote the integration of agriculture and livestock (in the departure areas: build manure pits; collect and store agricultural by-products for animal feed; develop fodder plots; promote mowing, conditioning and storage of hay, and in the reception areas, actions will aim at rehabilitating tending, establishing manure contracts for the fertilisation of agricultural land, etc.). ▶ Establish conflict prevention and resolution committees.
Project ownership and implementation:	Countries of the OMVG area
Duration:	5 years (2024-2028) - actions must be continuous over time
Costs and funding:	USD 20,000,000
Expected results:	Pastoral resources are well managed and livestock feeding is secure. Conflicts over the use of shared resources are mitigated.

Measure 1.3.5 - Diversification of livestock forms by promoting poultry farming, small ruminant farming, beekeeping, etc.

Measure 1.3.5	Diversification of forms of livestock farming by promoting poultry farming, small ruminant farming, beekeeping, etc.
Origin (institution / project / programme):	National programmes of OMVG member countries
Objective:	The overall objective of the programme is to promote the development of short-cycle species and beekeeping in order to diversify and sustainably increase the incomes of the main actors involved, notably women, youth and the most disadvantaged.
Location:	All OMVG member countries
Main beneficiary states of the action:	All countries in the OMVG area
Description of the action:	1. For poultry

	<ul style="list-style-type: none"> ▶ Introduce breeder cocks; ▶ Training of supervisors and producers in poultry nutrition and pathology; ▶ Popularise suitable rations and feeding methods for poultry. <p>2. For small ruminants</p> <ul style="list-style-type: none"> ▶ Supporting the control of plague and pneumo complex through vaccination and facilitating access to curative veterinary care; ▶ Fight against internal and external parasitism through the popularisation of anti-parasite treatments; ▶ Popularise model paddocks to show the effect of quality habitat on productivity; ▶ Improve nutrition by (i) promoting the practice of haymaking, enriching crop residues and bush straw, (ii) introducing fodder plants on farms, (iii) popularising rations based on local products, (iv) promoting fodder crops; ▶ To support the various actors in the sector through a support programme, particularly in terms of training on technical themes (food, and access to credit); ▶ Set up a supporting research programme focused on identifying the socio-economic and technical constraints that limit production. <p>3. For beekeeping</p> <ul style="list-style-type: none"> ▶ Delineate beekeeping action zones (zoning); ▶ Setting up improved hives; ▶ Transforming honey collectors into beekeepers; ▶ Strengthening the technical capacities of the actors (training on developing effective reforestation and cultivation of bee-forage plants); ▶ Implement measures to conserve the species (reforestation and cultivation of bee-forage plants, etc.); ▶ Set up one treatment unit per area with beekeeping potential.
Project ownership and implementation:	Countries of the OMVG area
Duration:	5 years (2023-2027)
Costs and funding:	USD 15,000,000
Expected results:	Income from livestock activities is increased and secured through diversification of activities

Measure 1.3.6 - Intensified livestock systems (improvement of management methods through intensification in peri-urban areas)

Measure 1.3.6	Programme for the intensification of livestock systems in peri-urban areas
Origin (institution / project / programme):	OMVG countries
Objective:	The overall objective is to increase milk and meat production in the peri-urban areas of the OMVG countries through the dissemination of improved livestock techniques.
Location:	OMVG Space
Main beneficiary states of the action:	OMVG member countries
Description of the action:	<ul style="list-style-type: none"> ▶ Improve livestock management by disseminating technical packages including (i) the construction of dairy and fattening sheds, (ii) proper feeding and watering, (iii) sufficient and sustained sanitary coverage, (iv) genetic improvement. ▶ Train producers in good production practices. ▶ Develop partnerships with other downstream sectors. ▶ Establish a training centre, which will serve as an experimental farm and a showcase for livestock production. ▶ Facilitate access to credit at acceptable rates. ▶ Offer proximity services for artificial insemination. ▶ Facilitate the setting up of infrastructures and strategies for the marketing of production (meat, milk, eggs, etc.). ▶ Develop partnerships with other downstream sectors.
Project ownership and implementation:	Livestock services in the 4 countries concerned
Duration:	6 years (2023-2028)
Costs and funding:	USD 10,000,000
Expected results:	<ul style="list-style-type: none"> ▶ A significant additional production of beef and milk resulting in reduced imports and improved food security and income; ▶ A sustained reduction in meat and milk imports is recorded; ▶ Meat marketing channels have become more fluid with a better distribution of income between the different participants in the chains.

4.2.4 Provision 1.4 - Development of agro-forestry food products

Measure 1.4.1 - Programme to improve techniques for collecting and valorising non-timber forest products (NTFPs)

Measure 1.4.1	Programme to improve techniques for collecting and valorising non-timber forest products (NTFPs)
Origin (institution / project / programme):	OMVG, National institutions in charge of natural resource management in general and forestry in particular
Objectives:	<ul style="list-style-type: none"> ► Increasing and enhancing the supply of NTFPs ► Support to NTFP chains to increase the value of products for export.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	► Improving NTFP collection, packaging and processing techniques
Project ownership and implementation:	OMVG
Duration:	05 years
Costs and funding:	200,000,000 FCFA (340,000 USD)
Expected results:	The quantities of NTFPs extracted by the forest dwellers in the three OMVG basins, organised in specific channels, are increased and make it possible to consider reaching external markets, based on the adoption of a quality label.

Measure 1.4.2 - Programme to strengthen the technical, managerial and organisational capacities of Non Timber Forest Products (NTFP) institutions and actors

Measure 1.6.2	Programme to strengthen the technical, managerial and organisational capacities of institutions and actors of non-timber forest products (NTFPs)
Origin (institution / project / programme):	OMVG
Objective:	To improve the skills of the members of the sectors and the researchers of the Institut des Technologies Alimentaires (ITA) in their interventions in the valorisation of NTFPs
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	► Training and capacity building of members of the sector groups in NTFP collection and processing
Project ownership and implementation:	OMVG
Duration:	3 years

Costs and funding:	300 million CFA francs
Expected results:	Group members and researchers well equipped to carry out their production/valorisation and research activities properly

Measure 1.4.3 - Project to increase forest resources in the three OMVG watersheds

Measure 1.4.3	Project to increase forest resources in the three OMVG watersheds
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin
Objective:	Reverse the trend of degradation of forest resources in the three OMVG watersheds.
Location:	<p><u>Guinea</u>: (ix) Badiar Sud; (x) N'Dama; (xi) Bretelle de Badiar; (xii) Mont Loura; (xiii) Gambia; (xiv) Kabela; (xv) N'Guidou and protected forests of the three catchment areas in Guinea.</p> <p><u>Senegal</u>: (i) Niokolo-Koba Park; (ii) Diambour Classified Forest; (iii) Kayanga Classified Forest; (iv) Falémé Zone of Hunting Interest (ZIC); (v) Kantora Classified Forest; (vi) Gouloubou Classified Forest; (vii) North Tambakounda Forest; (viii) South Tambakounda Forest in the Gambia River and Kayanga Basin and other protected forests in the area.</p> <p><u>The Gambia</u>: Niang West National Park, Bao Bolong Wetland Reserve and protected forests</p> <p><u>Guinea Bissau</u>: (i) Parque Nacional de Boé; (ii) Parque Nacional de Dulombi; (iii) Parque Nacional de Cantanhez; (iv) Parque Natural das Lagoas de Cufada located in the Korubal river basin and the protected forests in the area.</p>
Main beneficiary states of the action :	Guinea, Senegal, Gambia, Guinea Bissau
Description of the action :	<ul style="list-style-type: none"> ▶ Establishment of five (5) large-scale nurseries; ▶ Training of nurserymen in plant production and nursery management; ▶ Planting and protection of the plants; ▶ Raising awareness of good practices;
Project ownership and implementation :	Government of Guinea, Senegal, Gambia and Guinea Bissau
Duration :	5 years (2023-2027)
Costs and funding :	<p>Total estimated cost: CFAF 1,285,000,000 (USD 2,184,500):</p> <p>Guinea : 332,500,000 FCFA</p> <p>Senegal : 317,500,000 FCFA</p> <p>Gambia : 317.00.000 FCFA</p> <p>Guinea Bissau : 317,500,000 FCFA</p> <p>Beneficiaries: 10%; States: 40%.</p> <p>Technical and financial partners: 50%.</p>
Risks considered :	<ul style="list-style-type: none"> ▶ Delays in mobilising donor funding for the implementation of project activities ▶ Institutional instability (frequent change of officials and interlocutors at national counterpart level). ▶ Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level.
Expected results :	<ul style="list-style-type: none"> ▶ Sustainability and improvement of ecosystem services provided by the target forest areas

4.2.5 Provision 1.5 - Promotion of fisheries production sectors

Outside The Gambia, fishing in the three OMVG basins is important in view of the fishing potential they harbour and the low level of involvement of the populations in the exploitation of resources. Projects for the development of inland fisheries in this area should be drawn up and funding sought for their implementation.

Measure 1.5.1 - Inland Fisheries and Inland Waterways Management Programme

Measure 1.5.1	Inland Fisheries and Inland Waterways Management Programme
Origin (institution / project / programme):	OMVG, National institutions in charge of inland fisheries and aquaculture management
Objectives:	<ul style="list-style-type: none"> • Increased fisheries and aquaculture production • Diversification of fisheries production
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Inland fisheries framework surveys, focus groups
Project ownership and implementation:	OMVG
Duration:	05 years
Costs and funding:	One billion CFA francs (1,700,000 USD)
Expected results:	The fish needs of the populations living in the OMVG basins are known and allow for appropriate intervention scenarios to be considered to improve production and ensure their sustainable conservation

Measure 1.5.2 - Programme to strengthen the technical, managerial and organisational capacities of institutions and actors

Measure 1.5.2	Programme to strengthen the technical, managerial and organisational capacities of institutions and actors
Origin (institution / project / programme):	OMVG
Objective:	To improve the skills of fisheries managers and researchers in their interventions in the sustainable management of fisheries resources
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Training and capacity building of fisheries managers in the sustainable management of fisheries resources and aquaculture
Project ownership and implementation:	OMVG
Duration:	05 years
Costs and funding:	800 million CFA francs (1,360,000 USD)
Expected results:	Managers and researchers able to do their job properly

Measure 1.5.3 - Monitoring, Control and Surveillance Programme for Fisheries Activities

Measure 1.5.3	Monitoring, Control and Surveillance Programme for Fisheries Activities
Origin (institution / project / programme):	Guinea Bissau, Guinea, Senegal, The Gambia
Objective:	To improve the management of fisheries and aquaculture in the water bodies in the OMVG basins.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Participatory monitoring between fisheries managers, fisheries administration and fisheries research
Project ownership and implementation:	OMVG
Duration:	19 years
Costs and funding:	2,150 million CFA francs (3,655,000 USD)
Expected results:	Fisheries resources are better preserved

Measure 1.5.4 - Capacity building programme for professional organisations and consultation bodies

Measure 1.5.4	Capacity building programme for professional organisations and consultation bodies
Origin (institution / project / programme):	OMVG, the fisheries stakeholders grouped around their professional organisations, the services responsible for fisheries management, NGOs, research

Objective:	To improve the skills of fisheries and aquaculture stakeholders in the sustainable management of fisheries resources
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Training, capacity building, field trips
Project ownership and implementation:	National fisheries management services, research institutions, NGOs
Duration:	05 years
Costs and funding:	400 million CFA francs (680,000 USD)
Expected results:	Organisations of well-trained fisheries professionals involved in participatory monitoring of fisheries resources and the aquatic environment

Measure 1.5.5 - Strengthening cooperation in fisheries and aquaculture

Measure 1.5.5	Strengthening cooperation in fisheries and aquaculture
Origin (institution / project / programme):	OMVG
Objective:	To increase the intervention capacities of national actors in charge of fisheries and aquaculture management to better deal with the problems of development and sustainable management of fisheries resources and their environment
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Development of joint projects, exchange visits, training, capacity building, assessment of fishing potential, etc.
Project ownership and implementation:	OMVG, Institutions in charge of fisheries research and aquaculture, Directorate of Inland Fisheries and Aquaculture, etc.
Duration:	05 years
Costs and funding:	300 million CFA francs (510,000 USD)
Expected results:	Strengthening of technical cooperation between national institutions in charge of inland fisheries and aquaculture with counterpart institutions in neighbouring countries, FAO, WORLD FISH, etc.

Measure 1.5.6 - Improvement of the production of continental fisheries resources in the OMVG catchment areas

Measure 1.5.6	Improving the production of inland fisheries resources in the OMVG catchment areas
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin
Objective:	Increase the development of inland fisheries resources in the OMVG catchment areas

Location:	Guinea: Water bodies and rivers in the Guinean part of the catchment areas and riparian localities. Senegal: Water bodies and rivers in the Senegalese part of the catchment areas and riparian localities Gambia: Water bodies and watercourses in the Gambia River Basin in The Gambia and localities along the river. Guinea Bissau: Water bodies and rivers in the Guinea Bissau part of the catchment areas and riparian localities
Main beneficiary states of the action :	Guinea, Senegal, The Gambia, Guinea Bissau
Description of the action :	<ul style="list-style-type: none"> ▶ Build infrastructure for landing catches ▶ Support the equipment of the actors involved (fishermen, processors, traders) ▶ Training of stakeholders in the continental fisheries resources sector
Project ownership and implementation :	Government of Guinea, Senegal, The Gambia and Guinea Bissau
Duration :	5 years (2023-2027)
Costs and funding :	<p>Total estimated cost: CFAF 1,485,000,000 (USD 2,675,970):</p> <p>Guinea : 371,250,000 FCFA</p> <p>Senegal : 317,500,000 FCFA</p> <p>The Gambia : 371,250,000 FCFA</p> <p>Guinea Bissau : 371,250,000 FCFA</p> <p>Beneficiaries: 10%; States: 40%.</p> <p>Technical and financial partners: 50%.</p>
Risks considered :	<ul style="list-style-type: none"> ▶ Delays in mobilising donor funding for the implementation of project activities ▶ Institutional instability (frequent change of officials and interlocutors at national counterpart level). ▶ Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level.
Expected results :	▶ Improved food and nutrition security and increased income for local government and member state stakeholders.

4.2.6 Provision 1.6 - Strengthening the institutional capacity and delivery of agricultural services

Measure 1.6.1 - Provision of agricultural services (ROOTS)

The measure includes: (i) supporting farmers with various agricultural services (extension, input supply, financial education), with a focus on promoting Farmer Field Schools for rice and vegetables; (ii) supporting the emergence of 240 youth-led enterprises that will focus primarily on providing services to value chains; and (iii) developing the capacity of grassroots farmer organisations to develop services for their members, particularly women-led farmer organisations.

Measure 1.6.1	Provision of agricultural services (ROOTS)
Origin (institution / project / programme):	Resilient Organisations for Small-scale Transformative Agriculture (ROOTS) project Component 1. Agricultural productivity and adaptation to climate change. Subcomponent 1.2: Provision of agricultural services IFAD
Objective:	Improving food security, nutrition and resilience of smallholder farmers to climate change in The Gambia. This component aims to strengthen the resilience of farmers' organisations to climate change through improved access to agricultural services.

Location:	ROOTS will be implemented in five regions: (i) Central River Region (CRR); (ii) North Bank Region (NBR); (iii) Lower River Region (LRR); (iv) West Coast Region (WCR); and (v) Upper River Region (URR). Within these regions, 39 districts were selected on the basis of indicators related to poverty, vulnerability, remoteness, quality and extent of infrastructure, and harmonisation with other donors.
Main beneficiary states of the action:	The Gambia
Description of the action:	<ul style="list-style-type: none"> ► Support access to various agricultural services (extension, input supply, financial education), with a focus on promoting Farmer Field Schools for rice and vegetables; ► Support the emergence of 240 youth-led enterprises that will focus primarily on developing the capacity of grassroots farmer organisations to develop services for their members, particularly women-led farmer organisations.
Project ownership and implementation:	Ministry of Agriculture
Duration:	6 years - 2020 to 2025
Costs and funding:	Total estimated cost: USD 11,666,000.
Expected results:	Access to agricultural services is improved

Measure 1.6.2 - Functioning and organisational management (SODAGRI Strategic Plan)

The functioning and organisational management measure (SODAGRI strategic plan) includes: (i) setting up a monitoring, forecasting and partnership development unit; (ii) providing SODAGRI with additional human resources; (iii) building 4 regional offices (Kédougou, and Tambacounda); (iv) establishing solid relations with research institutes and universities; (v) consolidating links with technical services, projects and programmes in SODAGRI area of operation; (vi) strengthening links with LBA and other funding institutions (DER, FONGIP, BMN, among others); (vii) strengthening relations with local authorities; (viii) setting up a database of technical and/or financial partners; (ix) designing and disseminating a new SODAGRI presentation document; (x) developing and implementing a communication plan; (xi) developing and implementing a training plan for SODAGRI staff.

Measure 1.6.2	Functioning and organisational management (SODAGRI strategic plan)
Origin (institution / project / programme):	SODAGRI SODAGRI strategic plan Axis 1: Functioning and organisational management
Objective:	To develop a dynamic management tool capable of supporting the daily actions and interventions aimed at achieving the objectives of the actors in the targeted value chains.
Location:	Regions Kédougou, Tambacounda, Kolda (Velingara), Sédhiou and Ziguinchor
Main beneficiary states of the action:	Senegal - Gambia Upstream - Foutah Jallon, Gambia - PNKP - Intermediate Valley, Gambia Downstream - Wetlands and Kayanga Upstream
Description of the action:	<ul style="list-style-type: none"> ► Setting up a monitoring, forecasting and partnership development unit which will carry out project studies to be submitted to technical and financial partners ► Staffing of SODAGRI with human resources (among others 5 specialists in value chains, 5 specialists in local development, mastering land tenure tools (PAOS, SIF, CDI), 5 engineers in rural engineering) and material resources (80 laptops, 19 fixed computers, 136 tablets, 136 motorbikes and 37 vehicles (19 double-cabin pick-ups and 18 4X4 vehicles); 136 data collection tools - GPS) and financial resources (sufficient to allow the structure to function properly and to achieve the targeted objectives) ► Construction of regional directorates (Kédougou, Tambacounda);

	<ul style="list-style-type: none"> ▶ Establishing strong relationships with research institutes and universities ▶ Consolidation of links with technical services, projects and programmes in SODAGRI area of intervention ▶ Strengthening links with LBA and other financing institutions (DER, FONGIP, BMN, among others) ▶ Strengthening relations with local and regional authorities ▶ Establishment of a database of technical and/or financial partners ▶ Design and dissemination of a new SODAGRI presentation document ▶ Development and implementation of a communication plan ▶ Development and implementation of a training plan for SODAGRI staff.
Project ownership and implementation:	SODAGRI
Duration:	5 years - 2023 to 2027
Costs and funding:	Total estimated cost 7,294,365,000 CFA francs (for the OMVG regions, 12,002,510 USD).
Expected results:	Project studies to be submitted to technical and financial partners. Anticipation of new developments: technological watch (new varieties, new parboiling kit), environmental watch (new bio-pesticides), legal watch (law establishing the management and rural economy centre), among others.

Measure 1 6.3- Capacity building programme for sector groups and consultation bodies

Measure 1.6.3:	Capacity building programme for sector groups and consultation bodies
Origin (institution / project / programme):	OMVG, forest stakeholders grouped around their sector groups, forest management services, NGOs, research
Objective:	To improve the skills of the actors in the collection and valorisation of NTFPs and biodiversity in the framework of sustainable management of forest resources
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	▶ Training, capacity building, equipment
Project ownership and implementation:	National forest management services, research institutions, NGOs
Duration:	05 years
Costs and funding:	450 million CFA francs (765,000 USD)
Expected results:	Well-trained and equipped groups of local populations involved in the participatory monitoring of forest resources and biodiversity in protected areas

4.3 STRATEGIC AXIS 2 - IMPROVING PEOPLE'S INCOME AND REDUCING POVERTY

4.3.1 Provision 2.1 - Contribution to poverty reduction

Measure 2.1.1 - Supporting the resilience of poor households to climate shocks (SODAGRI Strategic Plan)

Measure 2.1.1:	Supporting the resilience of poor households to climate shocks
Origin (institution / project / programme):	SODAGRI SODAGRI strategic plan Axis 3: Support for municipalities, natural resource management and resilience to climate change Action line: 2 Supporting the resilience of poor households to climate shocks
Objective:	The implementation of social safety nets is essential in the SODAGRI intervention area to enable poor households to increase their resilience to climate change.
Location:	Kédougou, Tambacounda, Kolda, Sédhiou and Ziguinchor regions Zones: The Gambia Upstream - Foutah Jallon, The Gambia - PNKP - Intermediate Valley, The Gambia Downstream - Wetlands and Kayanga Upstream
Main beneficiary states of the action:	Senegal
Description of the action:	<ul style="list-style-type: none"> ► Support for the installation and operation of vegetable gardens: the establishment and operation of a fenced vegetable garden with a surface area of 100 m², half of which will be planted with moringa and various fruit trees, will help to improve the nutritional needs of each member of these households. ► Support for the acquisition and management of goats; provide five thousand (5000) poor households with goats. ► Support for the acquisition and management of poultry: will provide the five thousand (5000) poor households with ten hens and two roosters of an improved local breed. SODAGRI will support the acquisition of two bags of poultry feed for each of the five thousand newly beneficiary households each year. ► Support for the establishment of VSLAs and awareness-raising among vulnerable households: training community support networks on improving food, sanitation and hygiene practices.
Project ownership and implementation:	SODAGRI
Duration:	5 years - 2023 to 2027
Costs and funding:	Total estimated cost 5,281,250,000 CFA francs (for OMVG regions, 8,978,125 USD)
Expected results:	To improve the coverage of the nutritional needs of each member of five thousand (5000) vulnerable households: setting up a fenced vegetable garden with a surface area of 100 m ² in each household, and making goats and poultry available to these households. Strengthening food security and resilience to climate shocks in a sustainable manner.

Measure 2.1.2 - Support for inland fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal river basins

Measure 2.1.2	Support for inland fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal river basins
Origin (institution / project / programme):	OMVG
Objective:	Develop inland fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal river basins
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal and The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal and The Gambia
Description of the action:	
Project ownership and implementation:	Artisanal fisheries research and management institutions in the countries
Duration:	05 years
Costs and funding:	1.5 billion CFA francs (2,550,000 USD)
Expected results:	Increase in fisheries production and fishermen's income

Measure 2.1.3 - Gaoual-Koundara-Mali Integrated Rural Development Project (PDRI-GKM)

Measure 2.1.3:	Gaoual-Koundara-Mali Integrated Rural Development Project (PDRI-GKM)
Origin (institution / project / programme) :	Islamic Development Bank (IDB)
Objective:	To contribute to the government's efforts to reduce poverty and improve the living conditions of the population in the project area in a sustainable manner, alleviating the constraints related to agricultural difficulties in the region.
Location:	Guinea - Gaoual, Koundara regions, Mali. Zones Gambia - PNKP- Intermediate Valley, Koliba amont - Foutah Jallon and Koliba-Corubal Intermediate Valley
-Main beneficiary states of the action :	Guinea
Description of the action :	► Intensification of the rice, groundnut, onion and other market gardening sectors.
Project ownership and implementation :	Ministry of Agriculture and Livestock
Duration :	5 years
Costs and funding :	USD 15,000,000
Expected results :	20,000 producers are expected to benefit directly from this project, 40% of whom are women and 30% are young people. Improve household incomes in the project area and reduce post-harvest losses.

Measure 2.1.4 - Development of small schemes for market gardening

Measure 2.1.4	Development of small schemes for market gardening						
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin						
Objective:	Development of local production and access to nutrient supplements and drinking water						
Location:	In Guinea: Leykoila and Bankoulé (Koubia), Sounbouya (Mali), Kamaya, Kounsité (Gaoual), Sarangaika (Koundara) In Senegal: Diaguiri, Koumoutourou, Thiankoye and Diarha In Guinea Bissau: Quissem, Bucure Moci, Cheche, Pataque Boébè, Almam Fonsom						
Main beneficiary states of the action :	Guinea, Senegal, Guinea Bissau						
Description of the action :	<p>In Guinea :</p> <ul style="list-style-type: none"> ► Plot development of 6 perimeters of 10 ha each; ► Construction of the reservoir, water intake and solar delivery system to the 100m reservoir³ for each system; ► Construction of back-up boreholes (2 per perimeter). <p>In Senegal :</p> <ul style="list-style-type: none"> ► Plot development of 4 perimeters of 10 ha each; ► Construction of the reservoir, water intake and solar delivery system to the 100m reservoir³ for each system; ► Construction of back-up boreholes (2 per perimeter). <p>In Guinea Bissau :</p> <ul style="list-style-type: none"> ► Development of 6 plots of 10 ha each: 2 for Almam Fonsom and 1 for each other village; ► Construction of the reservoir, water intake and solar delivery system to the 100 m³ reservoir for each system; ► Construction of back-up boreholes (2 per perimeter). 						
Project ownership and implementation :	Government of Guinea, Senegal, Gambia and Guinea Bissau						
Duration :	5 years (2023-2027)						
Costs and funding :	<p>Total estimated cost: CFAF 3,520,000,000 (USD 5,984,000):</p> <table> <tr> <td>Guinea :</td> <td>1.320.000.000 FCFA</td> </tr> <tr> <td>Senegal :</td> <td>880,000,000 FCFA</td> </tr> <tr> <td>Guinea Bissau :</td> <td>1.320.000.000 FCFA</td> </tr> </table>	Guinea :	1.320.000.000 FCFA	Senegal :	880,000,000 FCFA	Guinea Bissau :	1.320.000.000 FCFA
Guinea :	1.320.000.000 FCFA						
Senegal :	880,000,000 FCFA						
Guinea Bissau :	1.320.000.000 FCFA						
Risks considered :	<ul style="list-style-type: none"> ► Delays in mobilising donor funding for the implementation of project activities ► Institutional instability (frequent change of officials and interlocutors at national counterpart level). ► Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level. 						
Expected results :	<ul style="list-style-type: none"> ► To improve the income of households in the project area through the development of small-scale market gardening. 						

Measure 2.1.5 - Non-timber forest products (NTFP) valorisation project in the OMVG watersheds

Measure 2.1.5	Non-timber forest products (NTFPs) development project in OMVG watersheds
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin
Objective:	Fight against food and nutritional insecurity of the populations and poverty in the three OMVG watersheds
Location:	Guinea: Locations near protected forests, classified forests and national parks. Senegal: Localities near protected forests, classified forests and national parks. The Gambia: Riparian areas of national parks and classified forests and protected forests. Guinea Bissau: Localities near protected forests, classified forests and national parks
Main beneficiary states of the action :	Guinea, Senegal, The Gambia, Guinea Bissau
Description of the action :	<ul style="list-style-type: none"> ▶ Identify priority NTFPs from each production area. ▶ Produce seedlings of NTFP-producing species. ▶ Support the planting and protection of NTFP-producing species. ▶ Raise awareness of the importance of NTFPs. ▶ Equip actors involved in the production, processing and marketing of NTFP value chains with a view to improving the value of products. ▶ Train actors in the use of equipment and good practices in NTFP valuation.
Project ownership and implementation :	Government of Guinea, Senegal, The Gambia and Guinea Bissau
Duration :	5 years (2023-2027)
Costs and funding :	<p>Total estimated cost: CFAF 1,495,000,000 (USD 2,541,500):</p> <p>Guinea : 373,750,000 FCFA</p> <p>Senegal : 317,500,000 FCFA</p> <p>The Gambia : 373,750,000 FCFA</p> <p>Guinea Bissau: 373,750,000 FCFA</p> <p>Beneficiaries: 10%; States: 40%.</p> <p>Technical and financial partners: 50%.</p>
Risks considered :	<ul style="list-style-type: none"> ▶ Delays in mobilising donor funding for the implementation of project activities ▶ Institutional instability (frequent change of officials and interlocutors at national counterpart level). ▶ Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level.
Expected results :	<ul style="list-style-type: none"> ▶ The populations will benefit more from the forest areas in order to improve their food and nutritional security on the one hand and to fight against poverty by increasing their income on the other. ▶ Sustainable use of forest resources, including non-timber forest products, so as not to jeopardise the productive potential.

4.3.2 Provision 2.2 - Structuring of producer organisations

In the OMVG area there are not enough strong producer and inter-professional organisations (especially for horticultural crops) to organise supply and meet the demand of agribusinesses and exporters.

The linkage between actors in production, processing, storage, marketing and exports is tenuous. While excellent initiatives, more support is needed to develop business partnerships between farmers' organisations and private agribusinesses to help integrate more small-scale producers into efficient and remunerative value chains, developing and implementing public-private alliances to improve the quality of agricultural production.

Measure 2.2.1 - Improving the business environment for the development of commercial agriculture (GIRAV)

Measure 2.2.1:	Improving the business environment for the development of commercial agriculture (GIRAV)
Origin (institution / project / programme):	Inclusive and Resilient Agricultural Value Chain in The Gambia (GIRAV) (P173070) Component 1. Improving the business environment for commercial agricultural development
Objective:	The objective of Component 1 is to support the establishment of an enabling environment for the competitive and sustainable development of a commercial agricultural/agro-food sector in The Gambia.
Location:	Banjul/Kanifing, Brikama, Kerewan, Mansa Konko and Sierra Zone: Gambia Downstream - Estuary and mangroves
Main beneficiary states of the action:	The Gambia
Description of the action:	<ul style="list-style-type: none"> ▶ Strengthening producer and professional organisations, involved in selected priority value chains - rice (to replace increasing imports), horticulture (vegetables and mangoes for urban supply and exports), cashew (for exports and domestic processing), poultry (urban markets) and in relation to maize for animal feed, and groundnuts (grain export market, through the provision of technical assistance, training, coaching and mentoring. ▶ The project will finance technical assistance to identify promising markets, the development of productive partnerships or contract farming between producers and buyers involved in processing and export to increase sales and diversify markets. ▶ Support the establishment of a well-coordinated/integrated cooperation mechanism between the different actors in the five targeted value chains. ▶ Strengthen the capacity of the Gambia Investment and Export Promotion Agency (GIEPA) and other relevant institutions to mobilise, facilitate and monitor private investment in agriculture and agribusiness. ▶ Support public-private dialogue on specific issues and reforms needed to develop commercial agriculture. ▶ Establish/improve aggregation/logistics platforms (packaging, cross-docking, storage) at critical locations in project areas. ▶ Strengthening of quality and sanitary and phytosanitary control systems: (i) revision and improvement of the country's quality and sanitary and phytosanitary control systems to harmonise them with the regional quality policy (ECOQUAL) put in place at ECOWAS level; (ii) upgrading of the facilities and equipment of the main food safety laboratories for quality control; (iii) the development of technical guidelines, manuals and training to improve the capacity of priority actors in the value chains to apply good agricultural practices; and (iv) the design and implementation of a promotion programme to improve the perception and visibility of Gambian products on international markets.
Project ownership and implementation:	Ministry of Agriculture Central Project Coordination Unit

Duration:	2021-2026
Costs and funding:	Total estimated cost USD 8 million. IDA
Expected results:	Strengthening producer and professional organisations involved in priority value chains. Establishment of a well-coordinated/integrated cooperation mechanism between the different actors in the five targeted value chains. Strengthening the capacity of the Gambia Investment and Export Promotion Agency (GIEPA) and other relevant institutions. Public-private dialogue on specific issues and reforms needed to develop commercial agriculture.

Measure 2.2.2 - Encourage the development of commercial agriculture (P164184)

Measure 2.2.2	Encourage the development of commercial agriculture
Origin (institution / project / programme):	The World Bank Guinea Commercial Agriculture Development Project (P164184) Component 2: Supporting private investment
Objective:	The development objective of the programme is to increase the number of farmers and rural households benefiting from commercial agricultural value chains in the programme areas. The objective of this component is to create the necessary enabling environment to foster the sustainable development of commercial agriculture in Guinea. It will build on IFC's Investment Climate for Agribusiness (ICA) project in Guinea.
Location:	Regions Boké, Kindia, Labé, Mamou, Faranah, Kankan In the OMVG area of interest are the Gambia Upstream - Foutah Jallon, Koliba Upstream - Foutah Jallon, Koliba Corubal Middle Valley
Main beneficiary states of the action:	Guinea
Description of the action:	<ul style="list-style-type: none"> ► Strengthen the capacity of key public institutions to facilitate private investment in commercial agriculture and efficient agricultural value emergence, including among others (i) the Investment Promotion Agency (APIP) to increase its capacity to attract, mobilise, facilitate and monitor private investment in agricultural value chains; (ii) the Guinean Export Promotion Agency (AGUIPEX) to facilitate and monitor agricultural exports; (iii) relevant government ministries and departments to improve information management on agricultural land; and (iv) the Guinean Export Promotion Agency (AGUIPEX) to facilitate and monitor agricultural exports; (iii) relevant government ministries and departments to improve the management of agricultural land information; and the undertaking of technical studies for future agricultural development planning in other mining hubs. ► Strengthen coordination along priority value chains, through (i) the preparation of a detailed mapping of priority value chains; (ii) the provision of technical assistance for the structuring of actors in two value chains into commodity-specific multi-actor platforms (iii) the preparation with value chain actors of detailed development plans for each of the priority value chains; (iv) the establishment of specific market information systems for each of the two selected value chains through the provision of technical assistance and equipment; and (v) the provision of technical assistance to improve the regulatory framework of the agricultural association.
Project ownership and implementation:	Ministry of Agriculture
Duration:	First phase: 5 years - 2022 to 2026 Second phase: 5 years
Costs and funding:	Total estimated cost of USD 31.7 million (Phases 1 and 2).

Expected results:	<p>Create 24,000 jobs along agricultural value chains, including 12,000 for women.</p> <p>145,000 farmers or rural households benefiting from business opportunities in agricultural value chains, of which 72,000 are women.</p> <p>Increase in the volume of agri-food products marketed by the beneficiaries supported by the project.</p>
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Measure 2.2.3 - Institutional support and strengthening of agricultural services project

Measure 2.2.3	Institutional Support and Strengthening of Agricultural Services Project								
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin								
Objective:	Strengthen public services in the OMVG area so as to make them more effective in their regalian mission, but also to support public and private service providers in their efforts to improve their responses to the demands for services from the various agricultural sectors.								
Location:	In OMVG space								
Main beneficiary states of the action :	Guinea, Senegal, The Gambia, Guinea Bissau								
Description of the action :	<p>Within the targeted regions, the prioritisation of interventions will be based on the weaknesses noted in the supply of services to producers in quantitative and qualitative terms: (i) the supply of advice to producers remains far below the needs, quantitatively, (ii) poor response to the real needs of producers and other rural actors in the sectors and territories due to insufficiently adapted advisory support (tendency towards standardisation of advisory support)</p> <ul style="list-style-type: none"> ▶ Support for work equipment, logistics ▶ Training/refresher courses on innovative approaches and methods of advisory support ▶ Research and development activities ▶ Setting up of a multi-stakeholder platform ▶ Setting up knowledge management and sharing groups 								
Project ownership and implementation :	Government of Guinea, Senegal, The Gambia and Guinea Bissau								
Duration :	5 years (2023-2027)								
Costs and funding :	<p>Total estimated cost: 678,000,000 FCFA (1,152,600 USD):</p> <table border="0"> <tr> <td>Guinea :</td> <td>172,500,000 FCFA</td> </tr> <tr> <td>Senegal :</td> <td>172,500,000 FCFA</td> </tr> <tr> <td>The Gambia :</td> <td>166,500,000 FCFA</td> </tr> <tr> <td>Guinea Bissau :</td> <td>166,500,000 FCFA</td> </tr> </table> <p>Beneficiaries: 10%; States: 40%. Technical and financial partners: 50%.</p>	Guinea :	172,500,000 FCFA	Senegal :	172,500,000 FCFA	The Gambia :	166,500,000 FCFA	Guinea Bissau :	166,500,000 FCFA
Guinea :	172,500,000 FCFA								
Senegal :	172,500,000 FCFA								
The Gambia :	166,500,000 FCFA								
Guinea Bissau :	166,500,000 FCFA								
Risks considered :	<ul style="list-style-type: none"> ▶ Delays in mobilising donor funding for the implementation of project activities ▶ Institutional instability (frequent change of officials and interlocutors at national counterpart level). ▶ Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level. 								
Expected results :	<ul style="list-style-type: none"> ▶ The operational capacities of public and private sector development support structures are strengthened to meet the needs of stakeholders. 								

4.3.3 Provision 2.3 — Development of value chains, improvement of market access and revival of women's activities

The marketing of locally grown agricultural products is very limited compared to imported products. Industrial infrastructure for processing agricultural products is absent or very rare, especially for horticulture and rice.

Measure 2.3.1 - Access to markets (ROOTS)

Measure 2.3.1	Create links between the value chain and the market, and finance Producer Public-Private Partnerships (4Ps)
Origin (institution / project / programme):	IFAD Resilient Organisations for Small-scale Transformative Agriculture (ROOTS) project Component 2: Access to markets
Objective:	Improving food security, nutrition and resilience of smallholder farmers to climate change in The Gambia. This component aims to strengthen the resilience of farmers' organisations to climate change through improved access to agricultural services.
Location:	The Gambia
Main beneficiary states of the action:	ROOTS will be implemented in five regions: (i) Central River Region (CRR); (ii) North Bank Region (NBR); (iii) Lower River Region (LRR); (iv) West Coast Region (WCR); and (v) Upper River Region (URR). Within these regions, 39 districts were selected on the basis of indicators related to poverty, vulnerability, remoteness, quality and extent of infrastructure, and harmonisation with other donors.
Description of the action:	<ul style="list-style-type: none"> ▶ Financing of Value Chain Interaction Platforms (VCIPs) - one for rice and one for vegetables in each project region with key value chain actors (producers, processors, traders, transporters) and the voice network; ▶ Project with key stakeholders in the value chain (producers, processors, traders, transporters) and the voice-based market information system introduced by NEMA, scaled up; ▶ Capacity development of the National Co-ordinating Organisation of Farmers' Associations in The Gambia (NACOFAG) and national food, rice and vegetable producers' organisations; ▶ Construction of markets and roads; ▶ The project will ensure that farmers' organisations and SMEs prepare high quality business plans, and special attention will be given to women-led farmers' organisations and SMEs; ▶ The project will ensure that matching grant resources are mobilised and used effectively; ▶ Post-investment business support is available to support the 4Ps, linking SMEs to specialist business development services, including certification and food safety standards.
Project ownership and implementation:	Ministry of Agriculture
Duration:	6 years - 2020 to 2025
Costs and funding:	Total estimated cost USD 13,453,000
Expected results:	Women and youth based farmer organisations have the knowledge and negotiating power to engage in inclusive and sustainable 4P partnerships. Viable and sustainable 4P business plans are designed and funded.

Measure 2.3.2 - Value Chain Development (SODAGRI Strategic Plan)

The measure supporting the development of value chains of the SODAGRI strategic plan includes (i) optimising crop production (surface area and yields) (particularly in the irrigated and rainfed rice, banana, maize, milk, market gardening, fonio and sesame value chains); (ii) establishing a strategic development plan for each value chain; (iii) setting up and running consultation frameworks for the various value chains; (iv) supporting the acquisition of agricultural equipment and materials; (v) drawing up and implementing a capacity-building plan; (vi) supporting the development of the agricultural sector; (iv) support for the acquisition of agricultural equipment and materials; (v) development and implementation of a capacity building and training plan for value chain actors; (vi) development of technical sheets for value chain actors; (vii) organisation of study and exchange visits; and (viii) establishment and facilitation of consultation frameworks for targeted value chain actors.

Measure 2.3.2	Value chain development (SODAGRI strategic plan)
Origin (institution / project / programme):	SODAGRI SODAGRI strategic plan Axis 2: Support for rural development Action line 2: Support to the development of value chains
Objective:	Promote agropastoral value chains and agribusiness with a view to developing and diversifying sources of growth and thus generating financial resources for the state.
Location:	Kédougou, Tambacounda, Kolda (Velingara)
Main beneficiary states of the action:	Senegal - Gambia Upstream - Foutah Jallon, Gambia - PNKP - Intermediate Valley, Gambia Downstream - Wetlands and Kayanga Upstream
Description of the action:	<ul style="list-style-type: none"> ▶ Rice value chain: (i) SODAGRI will support each of the four Unions in Anambé to transform into a cooperative in order to have a mini-rice mill that will allow the processing of paddy rice, and develop a central purchasing office for agricultural inputs. ▶ For rainfed rice, grown in the valleys, lowlands and plateaus, develop specific actions in terms of advisory support, training and acquisition of agricultural materials and equipment for tillage, threshing and processing. ▶ Banana value chain: (i) acquisition of vitro-plants for the renewal of vegetative material; (ii) improvement of irrigation systems by opting for under-plant sprinkling; (iii) installation of primary transport (cableway) that preserves the quality of bananas at the level of banana plantations; (iv) acquisition of mobile or fixed packaging stations; (v) improvement of secondary transport by acquiring refrigerated trucks; (vi) installation of cold rooms for ripening and marketing bananas; (vii) development of roads to open up banana production areas. ▶ Maize value chain: Advisory support from the Agricultural and Rural Advisors (ARA) will help increase average yields. ▶ Milk value chain: (i) Strengthening existing processing units in Tambacounda and Vélingara and supporting the installation of others, (ii) realizing at least 26 vaccination stations in Tambacounda through FAI funding. ▶ Market gardening value chain: RACs will focus on the organisation of beneficiaries (in cooperatives) and on the private management mode. ▶ Fonio value chain (i) structuring the value chain; (ii) capacity building of value chain actors; (iii) availability of certified seeds; (iv) control of cultivation practices; (v) support for the acquisition of fonio shelling machines (major constraint); (vi) access to finance; (viii) support for the marketing of fonio, as it occupies a niche market that is still small, high-end or occasional, but dynamic. Urban consumption is mainly in the form of shelled, precooked, dried and packaged fonio.

	<ul style="list-style-type: none"> ▶ Sesame value chain: (i) promote organic cultivation; (ii) use of new varieties with higher oil content as well as the use of white varieties to increase overall value added; (iii) organisation of the value chain into an inter-profession; (iv) marketing support. ▶ Establish a strategic development plan for each value chain. ▶ Set up and lead the consultation frameworks of the different value chains. ▶ Support for the acquisition of agricultural equipment and materials (covering procedures only): 1,400 power tillers; 2,000 ASI threshers; 1,400 motor mowers; 1,800 hullers (rice, maize); 4 mini rice mills; 200 tractors; 200 fonio hullers; 40,000 other small agricultural materials (sine hoes, UCF ploughs and seeders, donkey and horse carts). ▶ Elaboration and implementation of a capacity building and training plan for value chain actors: this training of trainers concerns the Agricultural and Rural Advisors (ARA). ▶ Elaboration of technical sheets for value chain actors. ▶ Organisation of study and exchange visits. ▶ Establishment and facilitation of stakeholder consultation frameworks in the targeted value chains. ▶ Support for the establishment and operation of the CGERs.
Project ownership and implementation:	SODAGRI
Duration:	5 years - 2023 to 2027
Costs and funding:	Total cost estimated at 756,600,000 CFA Francs (USD 1,286,220)
Expected results:	<p>Rice value chain: (i) Development of developed areas with a sowing objective of at least 8,000 ha per year (5,000 ha in the winter season and 3,000 ha in the off-season) for irrigated rice cultivation, with an average yield in the winter season of at least 6 t/ha and in the off-season at least 6.5 t/ha. (ii) Access to credit for agricultural campaigns at the appropriate times is facilitated by SODAGRI by improving the organisational level of Professional Organisations (POs); (iii) SODAGRI will support each of the four Unions in Anambé to become a cooperative in order to have a mini-rice mill that will allow the processing of paddy rice, and a central purchasing unit for agricultural inputs.</p> <p>Production of Basic, R1 and R2 rice seed that complies with the rice seed certification process.</p> <p>Banana value chain: The cultivated area will increase from 2,000 ha to 2,700 ha by 2027. There will be an evolution of the average yield, which will be 20 t/ha in the first year and will increase to at least 30 t/ha by the fourth year of the strategic plan.</p> <p>Maize value chain: The cultivated area will increase from 11,000 ha to 20,000 ha by 2027. The average yield will be 3 t/ha in the first year of the plan's implementation, rising to 3.5 t/ha from the second year until the end of the plan's implementation.</p> <p>Milk value chain: the quantity of milk collected and processed in the fifth year of the plan represents less than 30% of production potential in the two departments.</p> <p>Market gardening value chain: The cultivated area should increase from 75 ha to 1000 ha by 2027.</p> <p>Fonio value chain: The cultivated area will increase from 1,900 ha to 5100 ha in 2027. Increase the average yield of fonio to 700 - 800 kg/ha or even 1 t/ha.</p> <p>Sesame value chain: The cultivated area will increase from 650 ha to 01002 ha by 2027. Increase average fonio yield to 700 - 800 kg/ha.</p> <p>Professionalization and empowerment of Professional Organizations (POs) in the different value chains (rice, maize, banana, milk, market gardening, fonio and sesame) targeted by SODAGRI.</p>

Measure 2.3.3 - Improving market access (P164184)

Measure 2.3.3	Improving market access
Origin (institution / project / programme):	The World Bank Guinea Commercial Agriculture Development Project (P164184) Component 1: Improving market access in target areas
Objective:	The development objective of the programme is to increase the number of farmers and rural households benefiting from commercial agricultural value chains in the programme areas. The objective of this component will be to increase market access, reduce transport and logistics costs and improve the overall competitiveness of agriculture in the target areas.
Location:	Boké, Kindia, Labé, Mamou, Faranah, Kankan regions In the OMVG area: Upstream Gambia River Basin - Foutah Jallon, Koliba Upstream - Foutah Jallon, Koliba Corubal Intermediate Valley zones
Main beneficiary states of the action:	Guinea
Description of the action:	<ul style="list-style-type: none"> ▶ Rehabilitation of rural roads: Financing of feasibility studies and environmental and social impact assessments for the rehabilitation of approximately 800 km of unpaved rural roads linking the main production areas to the main trade corridors, including design elements to improve their resilience to climate change. ▶ Creation of aggregation and logistics centres: In the first phase, the project will support the establishment of (i) complementary facilities (a cattle yard, butchery facilities) for the slaughterhouse being completed by the government in the Conakry region as part of the overall effort to improve supply and sanitary standards of the meat value chain; (ii) smaller agri-logistics centres and small-scale slaughterhouses that meet standards, in Boke and Kindia. ▶ Support the sustainable management of market infrastructure - the project will provide technical assistance to ensure that effective management systems (including cost recovery) are in place for rural roads and market infrastructure rehabilitated or constructed under the project.
Project ownership and implementation:	Ministry of Agriculture
Duration:	First phase: 5 years - 2022 to 2026 Second phase: 5 years
Costs and funding:	Total estimated cost US\$ 150.4 million (Phases 1 and 2).
Expected results:	<ul style="list-style-type: none"> ▶ Create 24,000 jobs along agricultural value chains, including 12,000 for women. ▶ 145,000 farmers or rural households benefiting from business opportunities in agricultural value chains, of which 72,000 are women. ▶ Rehabilitated roads. ▶ Increase in the volume of agri-food products marketed by the beneficiaries supported by the project.

Measure 2.3.4 - Supporting private investment (P164184)

Measure 2.3.4	Supporting potential investors and private finance for inclusive supply chains
Origin (institution / project / programme):	The World Bank Guinea Commercial Agriculture Development Project (P164184) Component 2: Supporting private investment
Objective:	The development objective of the programme is to increase the number of farmers and rural households benefiting from commercial agricultural value chains in the programme areas. The objective of this component is to promote and support private investment in commercial agriculture, in order to foster the development of priority and inclusive agricultural value chains
Location:	Regions Boké, Kindia, Labé, Mamou, Faranah, Kankan In the OMVG area: Upstream Gambia River Basin - Foutah Jallon, Koliba Upstream - Foutah Jallon, Koliba Corubal Intermediate Valley zones
Main beneficiary states of the action:	Guinea
Description of the action:	<ul style="list-style-type: none"> ► Support to potential investors: (i) facilitate business partnerships between potential investors and producers to stimulate value chain development; (ii) provide training and technical assistance to all potential investors with a focus on the needs of women and young investors to strengthen their business capacity and improve their participation in value chain activities; (iii) collect and share information on financial services available for commercial agriculture, and provide training and technical assistance to financial institutions to strengthen their capacity to assess agribusiness projects and design appropriate financial services (iv) support the implementation of investments (sub-projects) supported under the Dedicated Financing Facility (DFF), including the review of sub-projects to streamline the implementation of climate change mitigation and adaptation approaches; and (v) draw lessons from pilot investments to adapt the support provided. ► Provide co-financing for competitively selected pilot investment initiatives (sub-projects) through a dedicated funding mechanism (DFF). This co-financing will vary according to the profile of the investors (size and technical capacity) and will allow for training, technical assistance targeted at the investment initiative and limited support for investment costs, as further defined in the Partnership Agreement. Climate resilient investments will be promoted in the MGIM and it is expected that at least fifty percent of the sub-projects supported will have climate co-benefits.
Project ownership and implementation:	Ministry of Agriculture
Duration:	First phase: 5 years - 2022 to 2026 Second phase: 5 years
Costs and funding:	Total estimated cost US\$ 79.2 million (Phases 1 and 2).
Expected results:	<ul style="list-style-type: none"> ► Create 24,000 jobs along agricultural value chains, including 12,000 for women. ► 145,000 farmers or rural households benefiting from business opportunities in agricultural value chains, of which 72,000 are women. ► Increase in the volume of agri-food products marketed by the beneficiaries supported by the project.

Measure 2.3.5 - Processing, conservation and marketing of rice (PRO-GB)

Measure 2.3.5	Rice processing, conservation and marketing of rice
Origin (institution / project / programme):	PRO-GB - European Union Programme for Resilience and Socio-Economic Opportunities in Guinea-Bissau
Objective:	To increase the resilience, incomes and levels of food and nutritional security of families involved in the sustainable development of the mangrove rice sector in selected areas of Guinea-Bissau.
Location:	5,200 ha of "bolanhas": three (3) large contiguous areas each involving about 1,000 producers (area of about 1,000 ha) and a dozen smaller areas each involving about 200 producers (area of about 200 ha each). Downstream Corubal Area - Wetlands (floodplains, mangroves and estuary)
Main beneficiary states of the action:	Guinea Bissau
Description of the action:	<ul style="list-style-type: none"> ► Support for rice processing and preservation (from the second half of 2020) ► Support for marketing and market access (from the 2nd half of 2020) ► Support for the development of inter-professional mechanisms in the rice sector (from the second half of 2020)
Project ownership and implementation:	European Union Central Project Coordination Unit
Duration:	5 years (2019-2023)
Costs and funding:	Total estimated cost of USD 3 million (by 2022 and 2023)
Expected results:	<ul style="list-style-type: none"> ► Sustainable increase in family production of mangrove rice nationwide ► Sustainable increase of family farmers' income by adding value to the rice chain ► Sustainable improvement of food and nutritional security levels of families covered by the mangrove cultivation component.

Measure 2.3.6 - Fruit and vegetable value adding programme

Measure 2.3.6	Fruit and Vegetable Value Adding Programme
Origin (institution / project / programme):	National Agricultural Investment Plan (2nd Generation)
Objective:	This programme aims to hull 12,000 t of cashew nuts for export, which represents about half of annual exports, and to process and preserve fruits and vegetables, also for export
Location:	Guinea Bissau
Main beneficiary states of the action:	Guinea Bissau
Description of the action:	<ul style="list-style-type: none"> ► Elaboration and implementation of a Master Plan for the Industrialisation of the Cashew Nut Sector; ► Improvement of technical conditions for production and processing and upgrading of existing units; ► Creation of semi-industrial cashew processing units, approx. 134; ► Support for workforce training and strengthening of national production capacity; ► Carrying out a diagnostic study on the integration of Guinea-Bissau trade on the regional and international market; ► Professionalization of the actors, from the production to the export stages;

	<ul style="list-style-type: none"> ► Financing of processing, preservation and storage units for fruit and vegetables; ► Creation of a packaging production unit and technical and management training for companies; ► Development of consultancy activities; ► Market studies for fruit and vegetables to define the most promising products for export; ► Establishment of an Agricultural Products Export Development Fund (FDEPA).
Project ownership and implementation:	Ministry of Agriculture and Private Sector Rehabilitation and Development Project (PRDSP)
Duration:	08 years
Costs and funding:	USD 13,695,500
Expected results:	<p>The development of processing will lead to significant added value, especially if the current (unofficial) organic label can be maintained and strengthened.</p> <p>The extension of the programme to fruit and vegetables should help limit the country's dependence on the only current export product, cashew nuts.</p>

Measure 2.3 7- Programme to improve the NTFP distribution and marketing system within countries

Measure 2.3.7:	Programme to improve the distribution and marketing system for NTFPs within countries
Origin (institution / project / programme):	OMVG
Objective:	Improving the distribution and marketing system for NTFPs within countries
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	<ul style="list-style-type: none"> ► A network of distributors will be set up for the sale of repackaged NTFPs in appropriate formats
Project ownership and implementation:	OMVG
Duration:	05 years
Costs and funding:	200 million CFA francs (USD 453,333)
Expected results:	The NTFP distribution and marketing system in the three basins is improved and allows members of the sector groups to benefit from their activities

Measure 2.3.8 - Programme to improve the distribution and marketing system of fish within the countries

Measure 2.3.8	Programme to improve the inland fish distribution and marketing system
Origin (institution / project / programme):	OMVG
Objective:	Improving the in-country fish distribution and marketing system
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Support to the diagnosis of the fish sector in the 4 Member States, and implementation of a programme to improve fish distribution and marketing systems.
Project ownership and implementation:	OMVG
Duration:	05 years
Costs and funding:	800 million CFA francs (USD 176,800)
Expected results:	The fish distribution and marketing system in the three basins is improved and allows fisheries and aquaculture actors to benefit from their activities

Measure 2.3.9 Project for the diversification of family agriculture, integrated markets and nutrition in the face of climate change in Guinea Bissau (REDE)

Measure 2.3.9	Diversification of Family Agriculture, Integrated Markets and Nutrition in the Face of Climate Change in Guinea Bissau (REDE)
Origin (institution / project / programme) :	Project for the diversification of family agriculture, integrated markets and nutrition in the face of climate change in Guinea Bissau (REDE). Component 1 - Diversification of Family Farming, Component 2 - Market integration and rural entrepreneurship
Objective:	To sustainably increase the income and food diversity of rural households in the eastern and northern regions of Guinea Bissau. The development objective is to support the diversification of family farming adapted to climate change in order to improve market access and food diversity in the regions of Bafatá, Cacheu, Gabù and Oio, while promoting rural entrepreneurship of youth and women, people with disabilities and returned migrants, and their integration into regional and sub-regional trade corridors. The project will contribute directly to the United Nations Sustainable Development Goals (SDGs) 1, 2, 5, 8 and 13.
Location:	Gabù, Cacheu, Bafatá and Oio
Main beneficiary states of the action :	Guinea Bissau
Description of the action :	Component 1: Diversification of family farming <ul style="list-style-type: none"> ► Sustainable management of upland agriculture : <ul style="list-style-type: none"> Participatory elaboration of simplified management plans covering a total intervention area of 14,000 ha for 3,500 ha of managed lowlands Promotion of good agricultural practices and sustainable natural resource management: (i) Strengthening of peer-to-peer technical advisory support on agro-resilient agricultural production methods through the facilitation of farmer field schools (FFS); (ii) implementation of 47 development plans and sustainable management of upland lands; (iii) protection and generation of palm groves that occupy the edges between upland lands and lowlands, with the establishment of a protective strip and the planting of 1,400

	<p>ha of palm groves to limit the silting of lowlands; (iv) protection and community management of forests on upland areas (1,400 ha) through the creation of community management committees to define rules of use, community monitoring and the valorisation of non-timber forest products; (v) communication on environmental and climate issues. These activities include the production and dissemination of brochures and posters, the production of radio programmes broadcast by community radios and the organisation of video documentaries at community level followed by debates and discussions led by the animators.</p> <p>► Development and sustainable management of lowland crops</p> <ul style="list-style-type: none"> • Hydro-agricultural development of lowland areas. The interventions will focus on the rehabilitation of old rice-growing areas with a high potential, but which have been severely degraded, and on market gardening sites that are currently being exploited and can be equipped with boreholes with solar pumps in order to overcome the constraints of difficulty and the current lack of water. • Development of irrigation systems for market gardening. The planned developments will allow the development of market gardening in the dry season on 500 ha, through irrigation systems based on the development of perimeters. • It will be completed with collective facilities at the perimeter level: (i) a protective fence around the perimeter, (ii) drying areas and a first space for sorting and packaging market garden produce, and (iii) a mini day care centre allowing mothers spending most of their time in the field to leave their children in a safe place. • The emergence of the Water and Natural Resources Users' Associations WUA/NR. <p>► Productivity improvement and diversification of lowland crops</p> <ul style="list-style-type: none"> • Production of certified short-cycle rice seed (90-105 days) on 30 ha; • Improvement of technical itineraries through Farmer Field Schools (FFS); • Support for mechanisation service delivery initiatives (motorised farming). <p>► Improving family nutritional security and supporting women's integration</p> <ul style="list-style-type: none"> • Involvement of women in the project in a transversal way in all project interventions; • Securing women's access to land on developed sites; • Development of women's leadership in decision-making bodies implemented over four years in favour of 400 women (100/region), including functional literacy (with the National Literacy Directorate), a training package on the creation of associations in rural areas and women's leadership, gender and equity, women's economic rights, management of farmers' organisations (governance, accountability framework, conflict management, intergenerational dialogue and preparation for the next generation); and the facilitation of a women's consultation process in the project's intervention areas in conjunction with existing movements; • Setting up of rural day-care centres with equipped canteens integrated into the infrastructure of irrigated areas (about ten for about 300 children under 3 years old). <p>Component 2: Market integration and rural entrepreneurship</p> <p>► Rehabilitation of economic infrastructure</p>
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	<ul style="list-style-type: none"> Rehabilitation of 10 existing physical markets improving the expected flow of transactions of agricultural products: 3 semi-wholesale markets (annual volume varying between 20,000 and 30,000 tonnes of agricultural products), 5 weekly markets (annual volume varying between 5,000 and 12,000 tonnes), 2 collection markets supplying the semi-wholesale markets (annual volume between 1,000 and 2,000 tonnes) and 175 km of rural access roads. <p>► Use, management and maintenance of economic infrastructure</p> <ul style="list-style-type: none"> The rehabilitation of the economic infrastructure will be constantly accompanied by a social engineering system aimed at i) the establishment and support of 10 multi-actor market platforms that will provide a permanent framework for exchanges between organised market actors; ii) the establishment and support of 10 market management mechanisms (MSEs, cooperatives) that will be mandated by the local authorities owning the infrastructure in the form of a public-private partnership, to ensure the transparent operation of the market and its services, including an information system on the prices of agricultural products made available to users on a regular and reliable basis and the strengthening of agricultural producers' cooperatives as the preferred users of the markets; iii) the establishment and support of 21 village committees for the maintenance of tracks (CITEP) rehabilitated by the Project, which will be integrated into the multi-actor market platforms. <p>► Women and youth entrepreneurship</p> <ul style="list-style-type: none"> To support viable entrepreneurial initiatives for 200 young people aged 18-35 (50/region) in market-related activities, through adapted financing, entrepreneurial coaching and technical capacity building in the areas of their activities (50% girls and 10% people with disabilities/HIV/migrants) Will support a sustainable social entrepreneurship model for nutrition through the local production of fortified infant formula. <p>► Regional trade integration</p> <ul style="list-style-type: none"> Improving knowledge of cross-border trade in agro-pastoral products through: i) a basic study on the marketing circuit, cross-border flows and barriers to trade, ii) setting up and running a system for monitoring cross-border flows, iii) setting up and running a system for monitoring barriers to cross-border trade, and iv) two thematic studies on promising sectors. Capacity building of actors and trade relations, through: i) the organisation of workshops to build the capacity of different groups of actors (producers, traders, transporters), ii) the organisation of prospecting missions and trade relations, iii) the conduct of study tours and exchanges of experience in the sub-region, and iv) the mobilisation of international and national technical expertise to support the preparation and implementation of activities. Facilitating political dialogue between actors and improving road governance by i) setting up and running Regional Conciliation Frameworks in which stakeholders will exchange views, ii) organising "awareness caravans" and advocacy campaigns for the removal or reduction of barriers to cross-border trade, iii) setting up and running Border Information Centres (BICs) and organising consultations between stakeholders at the borders, and iv) visibility and communication actions (kakemonos, radio broadcasts and discussions).
Project ownership and implementation :	Ministry of Agriculture and Rural Development (MADR). Project Management Unit (PMU) based in Bissau
Duration :	2020-2025 (6 years)
Costs and funding :	Total estimated cost USD 55,084 IFAD, Kuwait Fund, Abu Dhabi Fund, Adaptation Fund c
Risks considered :	<p>► Political instability and governance</p> <p>► Capacity of local authorities to commit to the maintenance of investments, including runways</p>

Expected results :	<ul style="list-style-type: none"> ▶ 80% of producers increase their income by at least 30%, ▶ 14,000 ha of upland and 3,500 ha of lowland are being diversified into crops with yields improved by 30%. ▶ 50% of households improve their nutritional security ▶ 175 km of rural tracks are rehabilitated, 3 wholesale markets, 5 weekly markets and two existing collection centres are upgraded to enable a 30% increase in the marketing of agricultural products with promising outlets (market gardening, rice growing, cassava, groundnuts, etc.) ▶ 1,200 rural micro-enterprises (RMEs), 30% of which are of high nutritional value, mainly run by cooperatives, women, youth, people with disabilities and returned migrants, are supported in agricultural value chains and related activities to improve their income and resilience.
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Measure 2.3.10 - Promotion of agricultural and agro-industrial sectors

Measure 2.3.10	Promotion of agricultural and agro-industrial sectors
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin
Objective:	To sustainably improve the income of farms involved in the production and processing of products in the targeted sectors by creating rural micro-enterprises based on contract farming and the processing of agricultural products; to reduce the poverty and vulnerability of producers.
Location:	OMVG area
Main beneficiary states of the action :	Guinea, Senegal, The Gambia, Guinea Bissau
Description of the action :	<ul style="list-style-type: none"> ▶ Support for the organisation of stakeholders in the targeted sectors (rice, groundnuts, horticulture - market gardening). ▶ Professionalization of the actors in each sector. ▶ Support for the professionalisation of rural micro-enterprises and their commercial development. ▶ Establishment of the Rural Entrepreneurship Resource Centre (CREER). ▶ Strengthening and implementation of market access sub-project models (MAPS). ▶ Construction of marketing infrastructure. ▶ Support for the creation and equipment of industrial units for the processing of products from the targeted sectors. ▶ Construction of feeder roads.
Project ownership and implementation :	Government of Guinea, Senegal, Gambia and Guinea Bissau
Duration :	5 years (2023-2027)
Costs and funding :	<p>Total estimated cost: 10,050,000,000 FCFA (17,085,000 USD):</p> <p>Guinea : 3,075,000 FCFA</p> <p>Senegal : 2,875,000 FCFA</p> <p>The Gambia : 2,050,000 FCFA</p> <p>Guinea Bissau: 2,050,000 FCFA</p> <p>Beneficiaries: 10%; States: 40%.</p> <p>Technical and financial partners: 50%.</p>
Risks considered :	<ul style="list-style-type: none"> ▶ Delays in mobilising donor funding for the implementation of project activities ▶ Institutional instability (frequent change of officials and interlocutors at national counterpart level). ▶ Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level.
Expected results :	<ul style="list-style-type: none"> ▶ Improving the productivity of the sectors; ▶ Adding value to agricultural products; ▶ Encouraging entrepreneurship ; ▶ Develop the employability of young people and women in rural areas.

Measure 2.3.11 - Support project for the tree sector

Measure 2.3.11	Support project for the tree sector. Targeted sectors: Mangoes and citrus fruits in Senegal, Guinea, Gambia and Guinea-Bissau, Cashew nuts in Guinea-Bissau and Guinea.
Origin (institution / project / programme) :	Master Plan for the Agricultural and Forestry Sector in the Gambia River Basin
Objective:	To improve the competitiveness of the mango, citrus and cashew industries and the resilience of the populations in the target areas
Location:	OMVG Space
Main beneficiary states of the action :	Guinea, Senegal, The Gambia, Guinea Bissau
Description of the action :	<p>Within the targeted regions, the prioritisation of intervention sites will be based on the agro-economic potential in the area of each country (presence of orchards, actors present, potential for processing development).</p> <ul style="list-style-type: none"> ▶ Variety creation and selection, ▶ Capacity building of actors in production, processing and marketing, ▶ Creation of processing units: mango, citrus and cashew processing, ▶ Installation of shopping counters.
Project ownership and implementation :	Government of Guinea, Senegal, Gambia and Guinea Bissau
Duration :	5 years (2023-2027)
Costs and funding :	<p>Total estimated cost: 10,000,000,000 FCFA (17,000,000 USD):</p> <p>Guinea : 2,500,000,000 FCFA Senegal : 2,500,000,000 FCFA The Gambia : 2,500,000,000 FCFA Guinea Bissau : 2,500,000,000 FCFA</p> <p>Beneficiaries: 10%; States: 40%. Technical and financial partners: 50%.</p>
Risks considered :	<ul style="list-style-type: none"> ▶ Delays in mobilising donor funding for the implementation of project activities ▶ Institutional instability (frequent change of officials and interlocutors at national counterpart level). ▶ Delays due to insufficient coordination and involvement of actors and institutions, especially at regional level.
Expected results :	<ul style="list-style-type: none"> ▶ Improving the productivity of the tree sector; ▶ Encouraging entrepreneurship ; ▶ Develop the employability of young people and women in rural areas.

Measure 2.3.12 - Programme to facilitate market access and promote the livestock/meat and milk sectors in the OMVG area

Measure 2.3.12:	Programme to facilitate market access and promote the livestock/meat and milk sectors in the OMVG area
Origin (institution / project / programme) :	OMVG countries
Objective:	The overall objective is to facilitate processing (animals and animal products) and marketing.
Location:	OMVG area
Main beneficiary states of the action :	OMVG member countries
Description of the action :	<ul style="list-style-type: none"> ▶ Establish well-equipped livestock marketing facilities ▶ Setting up modern slaughterhouses ▶ Setting up mini-dairies
Project ownership and implementation :	Livestock services in the 4 countries concerned
Duration :	5 years (2024-2028)
Costs and funding :	USD 13,500,000
Expected results :	<ul style="list-style-type: none"> ▶ Improving the marketing and processing conditions for livestock and livestock products ▶ Facilitating market access for livestock and livestock products

4.3.4 Provision 2.4 - Development of financial services

The financing needs of agriculture can be classified into two main categories: short-term credit (working capital, seasonal credit for seeds, fertilisers, purchase of labour, etc.) and credit for collective (storage, processing or packaging of products) and individual (agricultural equipment, transport, etc.) equipment needs.

Repayment problems are often linked to factors beyond the control of farmers, such as crop failure and price falls, which could be addressed with a good agricultural insurance scheme.

Measure 2.4.1 - Mobilising productive private investment along value chains (GIRAV)

Measure 2.4.1	Mobilising productive private investment along value chains (GIRAV)
Origin (institution / project / programme):	The World Bank Inclusive and Resilient Agricultural Value Chain in The Gambia (GIRAV) (P173070) Component 3. Mobilising productive private investment along value chains
Objective:	To provide co-financing and implementation support to competitively selected productive micro-projects in agricultural production, marketing, processing or service provision, submitted by small private investors, individuals or groups, and SMEs - in the targeted regions and the selected value chain.
Location:	Banjul/Kanifing, Brikama, Kerewan, Mansa Konko and Sierra Zone: Downstream Gambia River Basin - Estuary and mangroves
Main beneficiary states of the action:	The Gambia
Description of the action:	<ul style="list-style-type: none"> ► Provide financing and technical support for small-scale investments by individuals, producer groups, traders, processors and service providers; ► Provide financing and technical support for larger investments by agri-food SMEs along the targeted value chains; ► Micro-projects with a clear impact on the resilience of agricultural production, using climate-smart technologies and contributing to food security will be particularly targeted.
Project ownership and implementation:	Ministry of Agriculture Central Project Coordination Unit
Duration:	(To be defined)
Costs and funding:	Total estimated cost USD 7 million.
Expected results:	Private investment is being mobilised.

Measure 2.4.2 - Strengthening the financing system for forestry economic activities

Measure 2.4.2	Strengthening the financing system for forestry economic activities
Origin (institution / project / programme):	Guinea Bissau, Guinea, Senegal, The Gambia
Objective:	Increasing opportunities for financing forest-based economic activities in countries
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	► Fundraising, preparation and submission of draft funding applications
Project ownership and implementation:	OMVG, Research Institutions, States
Duration:	05 years
Costs and funding:	250 million CFA francs (USD 425,000)
Expected results:	Existence of credit lines to finance forestry economic activities in the basins

Measure 2.4.3 - Setting up an agricultural insurance system

Measure 2.4.3	Setting up an agricultural insurance system
Origin (institution / project / programme):	OMVG, Ministries of Agriculture of OMVG member countries
Objective:	Protect farmers by compensating for damage, and loss of income, arising from some (or all) of the problems that cannot be managed normally.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	The Gambia, Guinea, Guinea Bissau, Senegal
Description of the action:	<ul style="list-style-type: none"> ► Identify the needs, attitudes and beliefs of smallholders ► Adapt products to the specificities of this market ► Combine a comprehensive approach to strategy, policy, regulation and support infrastructure development with government subsidies to make agricultural insurance viable and affordable
Project ownership and implementation:	States, Ministries of Economy, Ministries of Agriculture, OMVG legal advisors
Duration:	05 years
Costs and funding:	USD 3 million
Expected results:	Development of agricultural investment and credit. Development of the insurance market. Contribution to the modernisation of agriculture.

Measure 2.4.4 - Strengthening the financing system for inland fisheries and aquaculture

Measure 2.4.4	Strengthening the financing system for inland fisheries and aquaculture
Origin (institution / project / programme):	Guinea Bissau, Guinea, Senegal, The Gambia
Objective:	Increasing financing opportunities for inland fisheries and aquaculture in the countries
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	► Research on funding, preparation of draft funding applications
Project ownership and implementation:	OMVG, Research Institutions, States
Duration:	05 years
Costs and funding:	1 billion CFA francs (USD 1,700,000)
Expected results:	Existence of credit lines that can finance fisheries and aquaculture activities in the basins

4.4 STRATEGIC AXIS 3 - PROTECTION AND ENHANCEMENT OF THE ENVIRONMENT AND CONTRIBUTION TO CLIMATE CHANGE MITIGATION AND ADAPTATION

4.4.1 Provision 3.1 - Preserve the quality of natural resources and optimise their management

Measure 3.1.1 - Sustainable soil management programme

According to the World Bank (2006), sustainable land management is a process based on expert knowledge that enables integrated management of the environment, biodiversity, and soil and water resources (as well as input and output externalities) to meet increasing demand for food and fibre, while ensuring the sustainability of livelihoods and ecosystem services. Actions taken to ensure sustainable land use must therefore take into account - and be in synergy with - other nationally and internationally defined objectives in the areas of food security, biodiversity and forests, among others, and contribute to national development goals.

This measure is complemented by the measures proposed under Provision 3.2 of the sectoral plan "Protection of the environment and ecosystems".

Measure 3.11	Sustainable soil management programme
Origin (institution / project / programme):	OMVG
Objective:	To contribute to the protection of resources and the improvement of communities' living conditions through the identification and implementation of strategies to combat land degradation.
Location:	The whole of the OMVG area
Main beneficiary states of the action:	The Gambia, Guinea, Guinea Bissau and Senegal
Description of the action:	<ul style="list-style-type: none"> ▶ Carry out a diagnostic portrait, with the help of farmers' organisations (FOs) and other agricultural stakeholders, on the state of soil health at the scale of the 3 basins; ▶ Land use mapping; ▶ Identify control solutions adapted to the context of each area and propose effective and sustainable control strategies; ▶ Establish a solid scientific knowledge base on land degradation; ▶ Encourage integrated planning at basin and site level to reduce land degradation and protect surface and groundwater from chemical pollution.
Project ownership and implementation:	States, Ministries of Agriculture
Duration:	5 years - 2024 to 2028
Costs and funding:	Total estimated cost USD 7,500,000
Expected results:	A management framework for assessing the state of land degradation and sustainable land management in the three basins

Measure 3.1.2 - Support for the development of local authorities and the management of natural resources (SODAGRI strategic plan)

Measure 3.1.2	Support for the development of local authorities and the management of natural resources (SODAGRI strategic plan)
Origin (institution / project / programme):	SODAGRI Axis 3: Support for municipalities, natural resource management and resilience to climate change Action line 1; Support to local authorities' development and natural resources management
Objective:	The competition for land and natural resources calls for a strengthening of the partnership with the municipalities.
Location:	Regions Kédougou, Tambacounda, Kolda, Sédhiou and Ziguinchor Zones: Upstream Gambia River Basin - Foutah Jallon, Gambia - PNKP - Intermediate Valley, Gambia Downstream - Wetlands and Kayanga Upstream
Main beneficiary states of the action:	Senegal
Description of the action:	<ul style="list-style-type: none"> ► Support to municipalities in the elaboration and implementation of Land Use Plans (POAS) and Municipal Spatial Planning Schemes (SCADT): <ul style="list-style-type: none"> ○ Establishment and capacity building of the POAS implementing bodies; ○ Support for the popularisation and communication of the POAS, in particular through the development of a model communication plan on the tool, to be adapted to each commune; ○ Providing the actors with materials to enable them to play a full role in the implementation of the tool; ○ Translation of POAS materials into the main national languages spoken in the communes; ○ Accompanying the communes in identifying strategies for the self-financing of the activities of their POAS; ○ Local accompaniment of communal actors, via SODAGRI operational mechanism, for a good appropriation and application of the POAS; ○ Update the Charter of the Irrigated and Developed Area (CDIA), ○ Continue the dissemination of the CDIA to the actors and users of the space, by involving the territorial administration more and through, in particular, the popularisation of the supports in national languages; ○ Strengthen the capacity of SODAGRI operational mechanism in order to provide local support to communes in processing land applications and monitoring development, in accordance with the CDIA; ○ To support the communes in the signature of the CDIA commitment by the beneficiaries of land, notably in the framework of agricultural projects and programmes and land formalisation through the implementation of a Land Information System. ► Support to local authorities for the implementation of a manual land information system: <ul style="list-style-type: none"> ○ Propose a format for each land tool ○ Share and complete the model with local and regional authorities ○ Request a visa from municipal councils for the use of land tools

	<ul style="list-style-type: none"> ○ Support for the construction of rural infrastructure by local authorities through the Intercommunity Support Fund (ISF). SODAGRI will finance, through the local authorities in its intervention zone and the various ISFs: 150 vaccination stations including 34 in Vélingara and 26 Tambacounda departments; 15 ponds developed or rehabilitated in a sustainable manner; 50 feed stores of 50 tons, including 13 in the department of Vélingara (one per commune) and 8 in the department of Tambacounda (one per commune); 20 milk collection centres linked to processing units, equipped with solar tanks and each with two refrigerated tricycles and equipment to check the quality of the milk, in the departments of Vélingara and Tambacounda; 100 cereal stores of between 100 and 500 tonnes; 20 animal slaughtering areas to avoid clandestine slaughtering of animals; ▶ Support for the elaboration of Communal Development Plans (CDP). ▶ Support for capacity building of elected officials and members of the State and Environment Commissions. The training plan will evolve by regularly taking into account new needs identified in the framework of the implementation of activities ▶ Support for bushfire control and prevention: <ul style="list-style-type: none"> ○ To inform and sensitize local populations on the causes and harms of bushfires; ○ Opening and rehabilitating firebreaks; ○ Facilitate, in close collaboration with the target populations, the revitalization and restructuring of the bushfire control committees for functionality; ○ Create new bushfire control committees in areas deemed sensitive if they do not have any; ○ Promote the participation of communes in the fight against bushfires; ○ Promote collective dynamics based on local solidarity towards the sustainable management of productive resources; ○ Invite community radio stations to make this a mission (bushfire awareness).
Project ownership and implementation:	SODAGRI
Duration:	5 years - 2023 to 2027
Costs and funding:	Total estimated cost: 5,952,700,000 CFA francs for the OMVG regions (USD 10,119,590).
Expected results:	<ul style="list-style-type: none"> ▶ Land governance in the municipalities is improved; ▶ The municipalities are supported in the integrated and sustainable economic development of rural areas. ▶ Land tool package. ▶ Strengthening the technical and organisational capacities of territorial actors in order to promote and encourage sustainable territorial development. ▶ SODAGRI will finance, through the local authorities in its intervention zone and the various ISPs 150 vaccination stations, including 34 in the department of Vélingara and 26 in the department of Tambacounda; 15 ponds developed or rehabilitated in a sustainable manner; 50 50-ton livestock feed stores, including 13 in the department of Vélingara (one per commune) and 8 in the department of Tambacounda (one per commune); 20 milk collection centres linked to processing units, equipped with solar tanks and each with two refrigerated tricycles and equipment to check the quality of the milk, in the departments of Vélingara and Tambacounda; 100 cereal stores of between 100 and 500 tonnes; 20 animal slaughtering areas to prevent the illegal slaughter of animals. ▶ The development of the CDP ▶ Bushfire reduction

Measure 3.1.3 - Programme for Monitoring, Control and Surveillance of Biodiversity in Protected Areas

Measure 3.1.3	Monitoring, Control and Surveillance Programme for Protected Areas Biodiversity
Origin (institution / project / programme):	Guinea Bissau, Guinea, Senegal, The Gambia
Objective:	Improving the management of Protected Areas in the different OMVG basins through monitoring of biodiversity and the factors affecting it
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	Guinea Bissau, Guinea, Senegal, The Gambia
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	► Annual Monitoring of Protected Areas Biodiversity
Project ownership and implementation:	OMVG
Duration:	18 years
Costs and funding:	1330 million CFA francs (USD 2,261,000)
Expected results:	The state of biodiversity in the basins is known, as well as its evolution and the factors threatening it

4.4.2 Provision 3.2 - Design and promote integrated resource management systems

Measure 3.2.1 - Monitoring, Control and Surveillance Programme for Forest Resource Development Activities in and around the Gambia, Kayanga/Geba and Koliba/Corubal River Basins

Measure 3.2.1	Monitoring, Control and Surveillance Programme for Forest Resource Development Activities in and around the Gambia, Kayanga/Geba and Koliba/Corubal River Basins
Origin (institution / project / programme):	OMVG, Institutions in charge of forest resources management
Objective:	Sustainable management of forest resources in the three basins
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area,
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Training, capacity building, equipment, joint field patrols for forest control, monitoring and surveillance
Project ownership and implementation:	Equipped state and local structures in charge of forest monitoring in the different countries
Duration:	05 years
Costs and funding:	350 million CFA francs (USD 595,000)
Expected results:	Participatory monitoring structures are created in the main Protected Areas in the four OMVG countries for better forest management in and around the basins

Measure 3.2.2 - Monitoring, Control and Surveillance Programme for Fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal River Basins

Measure 3.2.2:	Fisheries Monitoring, Control and Surveillance Programme in the Gambia, Kayanga/Geba and Koliba/Corubal River Basins
Origin (institution / project / programme):	OMVG, Institutions in charge of the management of inland artisanal fisheries
Objective:	Sustainable management of fisheries resources in the three basins
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Training, capacity building, fisheries control, monitoring and surveillance trips
Project ownership and implementation:	Structures in charge of fisheries surveillance in the different countries
Duration:	05 years
Costs and funding:	800 million CFA francs (USD 1,088,000)
Expected results:	Participatory monitoring structures are created in the main fishing areas in the 4 OMVG countries for better management of fisheries in and around the basins

4.5 STRATEGIC AXIS 4 - STRENGTHENING THE LEGAL AND LEGISLATIVE FRAMEWORK

4.5.1 Provision 4.1 - Strengthening the legal framework in the agroforestry sector

Measure 4.1.1 - Elaboration and/or revision of the regulatory and legal framework of water users' cooperatives and associations

Water users' associations are the main form of local irrigation management. They have grown rapidly around the world in recent years and have become an essential component of irrigation management.

Measure 4.1.1	Development and/or revision of the regulatory and legal framework for water users' cooperatives and associations
Origin (institution / project / programme):	OMVG, Ministries of Agriculture of OMVG member countries
Objective:	Establish clear and appropriate roles for all individuals and groups involved in irrigation management
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	The Gambia, Guinea, Guinea Bissau and Senegal
Description of the action:	<ul style="list-style-type: none"> ► Identification of the institutional requirements for adequate water resources management in terms of awareness, capacity and management ► Revise legislation to take account of customs where necessary and organise national consultations; ► Elaboration of a charter of water users' associations for the Gambia, Kayanga/Geba and Koliba/Corubal river basins ► Capacity building of water user associations.
Project ownership and implementation:	States, Ministries of Agriculture, OMVG legal advisors
Duration:	05 years
Costs and funding:	USD 5 million
Expected results:	Definition of the legal status of water users' associations. Separation of regulatory and supply functions.

Measure 4.1.2 - Development and/or revision of the legislative framework in terms of agricultural water pricing policy

In order to finance the annual maintenance and upkeep of the structure, a charge for water consumed will have to be introduced. Without revenue, the management committee will not be able to maintain the structure and it will eventually deteriorate and no longer play its role in retaining runoff. The sustainability of the crops from year to year will depend on the presence of water, which depends on the efficiency of the structure. Payment for the water consumed is therefore an imperative to ensure the sustainability of the structure and its facilities.

Measure 4.1.2	Development and/or revision of the legislative framework for agricultural water pricing policy
Origin (institution / project / programme):	OMVG, Ministries of Agriculture of OMVG member countries
Objective:	To ensure the financial resources necessary for the proper functioning of the works.

Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	The Gambia, Guinea, Guinea Bissau and Senegal
Description of the action:	<ul style="list-style-type: none"> ▶ Develop studies to define agricultural water pricing and revise legislation to take account of customs where necessary and organise national consultations; ▶ To ensure that sufficient financial resources are allocated in the state budget to achieve the annual and tri-annual objectives set in the initial start-up phase of the schemes (5-10 years); ▶ Generalise the installation of water meters on connections to bill for water according to use; ▶ Strengthen efforts to renew and maintain works.
Project ownership and implementation:	States, Ministries of Agriculture, OMVG legal advisors
Duration:	05 years
Costs and funding:	USD 5 million
Expected results:	Financial resources are guaranteed for the operation and maintenance of hydro-agricultural facilities.

Measure 4.1.3 - Development and/or revision of the legal framework for public-private partnerships (PPPs) in agriculture

Measure 4.1.3	Development and/or revision of the legal framework for public-private partnerships (PPPs) in agriculture
Origin (institution / project / programme):	OMVG, Ministries of Economy and Agriculture of OMVG member countries
Objective:	Clarify the guidelines for the PPP policy
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	The Gambia, Guinea, Guinea Bissau and Senegal
Description of the action:	<ul style="list-style-type: none"> ▶ Review the legal and institutional framework of each country. ▶ Development of tools for the evaluation and optimisation of expenditure in proposed public-private partnership projects
Project ownership and implementation:	States, Ministries of Agriculture, OMVG legal advisors
Duration:	02 years
Costs and funding:	USD 3 million
Expected results:	<ul style="list-style-type: none"> ▶ Facilitating private funding. ▶ Lighten the burden on the State for the construction of irrigation infrastructure and its operation and maintenance.

Measure 4.1.4 - Elaboration and/or revision of the regulatory and legal framework for the exploitation of forest resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins

Measure 4.1.4	Elaboration and/or revision of the regulatory and legal framework for the exploitation of forest resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins
Origin (institution / project / programme):	OMVG, Ministries of the Environment of OMVG member countries
Objective:	Improved conditions for sustainable development and conservation of forest resources in the three OMVG basins.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Study of documents on the forestry and hunting codes, conventions and treaties on biodiversity, wildlife management, wetlands, documentary research, reporting; validation session of regulatory and legislative text proposals on the management and conservation of the three OMVG PDDI basins
Project ownership and implementation:	States, Ministries in charge of the Environment, OMVG legal advisors
Duration:	05 years
Costs and funding:	250 million CFA francs (USD 425,000)
Expected results:	A regulatory and legal framework for the sustainable exploitation and conservation of forest resources is available for each of the three OMVG basins.

Measure 4.1.5 - Training and capacity building of members of forestry groups for a good application of the texts regulating and providing a legal framework for the sustainable exploitation of forest resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal basins

Measure 4.1.5	Training and capacity building of members of forestry groups for a proper application of the texts regulating and legally framing the sustainable exploitation of forestry resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins
Origin (institution / project / programme):	OMVG, OMVG Member States
Objective:	Improving the competence of forest resource officials, managers and researchers in the proper handling of tasks related to the sustainable management and conservation of forest resources in and around the OMVG basins
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole OMVG area
Main beneficiary states of the action:	Guinea-Bissau, Guinea, Senegal, The Gambia
Description of the action:	Teaching, practical training, field trips, study tours
Project ownership and implementation:	OMVG, management of programmed actions
Duration:	05 years
Costs and funding:	400 million CFA francs (USD 680,000)

Expected results:	Well-trained research and development staff capable of doing the work expected of them
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Measure 4.1.6 - Project on land tenure security in the Gambia, Kayanga/Geba and Koliba/Corubal river basins

Measure 4.1.6	Secure access to land for both local populations and investors
Origin (institution / project / programme):	OMVG, OMVG Member States
Objective:	Ensure equitable access for all producers and other users in a coherent manner to land resources, particularly secure agricultural land, in order to encourage public, community and individual investments in family farms as a priority and other forms of agricultural enterprise in order to make them more efficient and viable in a perspective of sustainable food sovereignty.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole OMVG area
Main beneficiary states of the action:	The Gambia, Guinea, Guinea-Bissau, Senegal
Description of the action:	<ul style="list-style-type: none"> ▶ Revise legislation to take account of customs where necessary and organise national consultations; ▶ Elaboration of a land charter for the Gambia, Kayanga/Geba and Koliba/Corubal river basins ▶ Develop appropriate tools (e.g. small-scale mapping) ▶ Train local authorities to use these tools and involve them in spatial management and conflict resolution/prevention
Project ownership and implementation:	OMVG and the states
Duration:	05 years
Costs and funding:	USD 8.5 million
Expected results:	<ul style="list-style-type: none"> ▶ Secure access to land for both local populations and investors. ▶ Harmonisation of a common land policy.

4.5.2 Provision 4.2 - Strengthening the legal framework for fisheries and aquaculture production

Measure 4.2.1 - Elaboration and/or revision of the regulatory and legal framework of the exploitation of inland halieutic resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins.

Measure 4.2.1	Elaboration and/or revision of the regulatory and legal framework for the exploitation of inland fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins.
Origin (institution / project / programme):	OMVG, Ministries of Fisheries of OMVG member countries
Objective:	Improved conditions for sustainable development and conservation of fisheries resources and aquaculture in the three OMVG basins.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	Guinea Bissau, Guinea, Senegal, The Gambia
Description of the action:	Study of documents on the fisheries and aquaculture code, conventions and treaties on biodiversity, wildlife management, wetlands, documentary research, reporting; validation session of proposed regulatory and legislative texts on the management and conservation of the three OMVG basins.
Project ownership and implementation:	States, Ministries in charge of Fisheries and Aquaculture, OMVG legal advisors
Duration:	05 years
Costs and funding:	250 million CFA francs (USD 425,000)
Expected results:	A regulatory and legal framework for the sustainable exploitation and conservation of fisheries resources is available for each of the three OMVG basins.

Measure 4.2.2 - Training and capacity building of fisheries managers for a good application of the texts regulating and legally framing the sustainable exploitation of fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins

Measure 4.2.2:	Training and capacity building of fisheries managers for a proper application of the texts regulating and legally framing the sustainable exploitation of fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins.
Origin (institution / project / programme):	OMVG, OMVG Member States
Objective:	Improving the competence of civil servants, managers and fisheries researchers in the correct handling of tasks related to the management and sustainable conservation of fisheries resources and aquaculture in the basins.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	Guinea-Bissau, Guinea, Senegal, The Gambia
Description of the action:	Teaching, practical training, field trips, study tours
Project ownership and implementation:	OMVG, management of programmed actions

INTERVENTION STRATEGY - EXPECTED RESULTS AND ACTIONS TO BE UNDERTAKEN

Duration:	05 years
Costs and funding:	500 million CFA francs (USD 1,360,000)
Expected results:	Well-trained staff who can do the job.

4.6 STRATEGIC AXIS 5 - RESEARCH, DATA ACQUISITION, COLLECTION AND PROCESSING AND KNOWLEDGE DISSEMINATION

4.6.1 Provision 5.1 - Develop research and training

Agricultural innovation is essential to reverse the decline in productivity, resilience and competitiveness of farming systems.

Measure 5.1.1 - Capacity building programme in the agricultural sector to help the sector to structure itself

The World Bank defines capacity as follows: "It is the people, institutions and practices that enable countries to achieve their development goals. They include human skills and institutional and organisational structures, procedures and systems".

Measure 5.1.1:	Capacity building programme in the agricultural sector to help the sector to structure itself.
Origin (institution / project / programme) :	OMVG, the World Bank
Objective:	Building capacity to promote agricultural development
Location (whole OMVG area, in the 3 BV, national, zone, GPS coordinates) :	Gambia, Guinea, Guinea Bissau and Senegal
Main beneficiary states of the action :	Gambia, Guinea, Guinea Bissau and Senegal
Description of the action :	<ul style="list-style-type: none"> ▶ Design and implementation of organisational structures (such as planning services, extension and research services, and agricultural credit agencies); ▶ Provision of short or long-term assistance ; ▶ Training.
Project ownership and implementation :	Ministries of Agriculture; OMVG
Duration :	10 years
Costs and funding :	15 million USD
Risks considered :	Insufficient local resources to support project activities
Expected results :	Equip national and regional institutions with the necessary capacity to develop their own agricultural policies.

Measure 5.1.2 - Technical cooperation programme with FAO, CILSS, ECOWAS, etc.

Actions 5.1.2	Technical cooperation programme with FAO, CILSS, ECOWAS, etc.
Origin (institution / project / programme):	OMVG
Objective:	Improving technical cooperation with partners for more effective interventions
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The entire OMVG area
Main beneficiary states of the action:	Guinea-Bissau, Guinea, Senegal, The Gambia

Description of the action:	Development of joint projects, technical assistance to country teams in the implementation of certain activities, training, capacity building, hosting of trainees, implementation of joint research activities, forest potential assessments
Project ownership and implementation:	Entire OMVG area, conventions, memoranda of understanding, joint projects
Duration:	05 years
Costs and funding:	350 million CFA francs (USD 595,000)
Expected results:	Effectiveness of the teams involved in the activities identified in and around the three basins

Measure 5.1.3 - Research programme on NTFP collection, packaging and processing techniques

Measure 5.1.3	Research programme on NTFP collection, packaging and processing techniques
Origin (institution / project / programme):	OMVG, Forest Research Institutions in the 4 member countries
Objective:	Generate scientific and technical knowledge necessary for the effective collection, packaging and processing of NTFPs
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole OMVG area
Main beneficiary states of the action:	Guinea-Bissau, Guinea, Senegal, The Gambia
Description of the action:	Priority studies, Study on biodiversity and natural habitats, Study of the life traits of the main species exploited (regeneration), Study of the main threats to the forests in and around the basins, Study of the terrestrial and aquatic environment of the basins, Framework surveys on the number of actors involved in the socio-economic activities of NTFP collection/valorisation.
Project ownership and implementation:	OMVG, Forest Research Institutions
Duration:	05 years
Costs and funding:	650 million CFA francs (USD 1,105,000)
Expected results:	Reliable scientific and technical knowledge of the forest system is available in all the basins and allows for good management and conservation of forest resources for the benefit of the local populations

Measure 5.1.4 - Inland Fisheries and Aquaculture Research Programme

Measure 5.1.4	Inland Fisheries and Aquaculture Research Programme
Origin (institution / project / programme):	OMVG, Fisheries and Aquaculture Research Institutions in the 4 member countries
Objective:	To produce scientific and technical knowledge necessary for the proper management and development of fisheries and aquaculture
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	Guinea-Bissau, Guinea, Senegal, The Gambia

Description of the action:	Priority studies, Study on inland fisheries and aquaculture, Study of the life traits of the main exploited species, Study of the fishing potential in the basins, Study of the aquatic environment of the basins, Framework surveys on the number of fishermen and socio-economic activities in inland fisheries; Study of the impacts of the dam on inland resources and their exploitation, development of the bio-technical and socio-economic bases of inland fisheries and aquaculture...
Project ownership and implementation:	OMVG, Fisheries and Aquaculture Research Institutions
Duration:	05 years
Costs and funding:	2 billion CFA francs (USD 3,400,000)
Expected results:	Reliable scientific and technical knowledge of the fisheries system is available in all the basins and enables good management and conservation of fisheries resources for the benefit of the local populations

Measure 5.1.5 - Technical cooperation programme with FAO, Worldfish, Sub-Regional Fisheries Commission, ECOWAS, etc.

Measure 5.1.5	Technical cooperation programme with FAO, Worldfish, Sub-Regional Fisheries Commission, ECOWAS, etc.
Origin (institution / project / programme):	OMVG
Objective:	Improving technical cooperation with partners for more effective interventions
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	Guinea-Bissau, Guinea, Senegal, Gambia
Description of the action:	Development of joint projects, technical assistance to country teams in the implementation of certain activities, training, capacity building, hosting of trainees, implementation of joint research activities, assessment of fishing potential
Project ownership and implementation:	Entire OMVG area, conventions, memoranda of understanding, joint projects
Duration:	05 years
Costs and funding:	500 million CFA francs (USD 850,000)
Expected results:	Effectiveness of the teams involved in the activities identified in the three basins

Measure 5.1.6 - Administration and Research Capacity Building Programme

Measure 5.1.6:	Administration and Research Capacity Building Programme
Origin (institution / project / programme) :	OMVG
Objective:	Strengthen the capacity of the Administration and Research to manage the project activities.
Location (whole OMVG area, in the 3 BV, national, zone, GPS coordinates) :	The entire OMVG area
Main beneficiary states of the action :	Guinea Bissau, Guinea, Senegal, Gambia
Description of the action :	Training, capacity building, practical training, study tours.
Project ownership and implementation :	OMVG

Duration :	10 years
Costs and funding :	2 billion CFA francs (USD 3,400,000)
Expected results :	Well-equipped national service technicians to ensure successful implementation of projects.

4.6.2 Provision 5.2 - Knowledge management and resource monitoring

Measure 5.2.1 - Programme to develop agricultural research, training and extension

Measure 5.2.1	Programme to develop agricultural research, training and extension
Origin (institution / project / programme):	OMVG
Objective:	<ul style="list-style-type: none"> ▶ To boost agricultural research and education in order to develop new technologies and expertise that can improve the agricultural policies of the OMVG Member States; ▶ Disseminate information about technologies, recent research, markets, inputs and financial services or about climate and weather; ▶ Train and provide advice to individual farmers or groups of farmers, producer organisations, cooperatives and other agri-businesses in the market chain; ▶ Testing new technologies and agricultural practices at farm level and adapting them to the concrete conditions of their use; ▶ Develop business management skills among small-scale producers and other local entrepreneurs; ▶ Facilitate links between market actors (regarding financial and non-financial inputs, processing, marketing, etc.) while taking into account collaboration in their trade and promoting social learning between them; ▶ Support the implementation of government policies and programmes through information, awareness raising and advice on technological options, including wise land management, food safety and animal welfare; ▶ Contribute to the preparation of more appropriate policies and programmes, by promoting the inclusion of information and suggestions from farmers and local entrepreneurs; ▶ To raise awareness among farmers of the new opportunities offered by organic certification, fair trade and other production methods.
Location (whole OMVG area, in the 3 basins, national, zone, GPS coordinates):	The whole of the OMVG area
Main beneficiary states of the action:	The Gambia, Guinea, Guinea Bissau, Senegal,
Description of the action:	<ul style="list-style-type: none"> ▶ Setting up a diagnosis of the research and extension system related to the agro-sylvo-pastoral and fisheries sector; ▶ Strengthening the technical capacity of institutions through their level of access to the infrastructure, equipment, tools and software for analysis and management needed to address agricultural policy challenges. ▶ Definition of a policy for archiving and proactive dissemination of data in the sector; <ul style="list-style-type: none"> ○ Creation of databases and websites; ○ Networking of relevant institutions and experts; ○ Coordination of the rapid dissemination of sector data through all appropriate communication channels (media, roundtables, press releases, periodical bulletins); ○ Development of partnerships with sub-regional, regional and international institutions.

INTERVENTION STRATEGY - EXPECTED RESULTS AND ACTIONS TO BE UNDERTAKEN

	<ul style="list-style-type: none"> ▶ Develop internationally acceptable methodologies for the creation of statistical databases; ▶ Establishment of databases in the four OMVG Member States
Project ownership and implementation:	OMVG
Duration:	19 years
Costs and funding:	USD 16,150,000
Expected results:	<ul style="list-style-type: none"> ▶ Quantitative and qualitative reinforcement of human resources in ministries, universities, responsible organizations for the agro-sylvo-pastoral and fisheries sector; ▶ Strengthening the technical capacity of institutions through their level of access to the infrastructure, equipment, tools and software for analysis and management needed to address agricultural policy challenges; ▶ A database is set up in the four OMVG member states; ▶ An extension system is in place.

5 ACTION PLAN

5.1 OVERVIEW / SYNTHESIS OF THE SECTOR PLAN / RESULTS FRAMEWORK

Strategic axes/objectives	Overall results (provisions)	Specific results (measures)
1. Ensure food self-sufficiency through more sustainable agricultural and livestock production	1.1 Increased and sustainable agricultural production and productivity	<p>1.1.1 Small-scale irrigation systems for rice and horticultural crops in the selected project areas have been rehabilitated or developed, water user associations (WUAs) have been established.</p> <p>Projects through the widespread adoption of improved technologies were funded: (i) climate-smart technology packages; (ii) environmentally friendly practices for agricultural intensification in selected production systems (organic fertilisers, biological plant treatment, etc.); and (iii) technologies that address key constraints in agriculture and processing along the value chain, such as the need for mechanisation to address farm labour shortages, improved processing equipment, or reduction of post-harvest losses.</p> <p>1.1.2 Three (3) large contiguous areas each involving about 1,000 producers (area of about 1,000 ha) and a dozen smaller areas each involving about 200 producers (area of about 200 ha each) were upgraded and rehabilitated.</p> <p>1.1.3 Family production of mangrove rice nationwide has increased in a sustainable manner.</p> <p>The incomes of family farmers by adding value to the rice chain have increased in a sustainable way.</p> <p>The food and nutritional security levels of the families covered by the mangrove cultivation component have increased in a sustainable way.</p> <p>1.1.4 Agricultural production in the four countries in the OMVG area, the incomes of the beneficiary farmers and the levels of food and nutritional security of the beneficiary families have increased in a sustainable way.</p> <p>1.1.5 Rice production and productivity have been improved with the establishment of 5,000 ha of irrigated rice cultivation in Guinea and 5,000 ha in Senegal, and with the construction of tracks.</p> <p>The quality of life of households has been improved with the construction of social facilities.</p>
	1.2 Increase in irrigated land / increase in irrigated crops	<p>1.2.(i) 1,300 ha of existing tidal irrigation were consolidated and 2,800 ha of new tidal irrigation on existing farmland (average size per community between 25 and 75 ha) were developed; (ii) 200 ha of new cascade dykes for wet season valley water control were developed; (iii) 800 ha of new dykes for micro-basin runoff control were developed; (iv) water user management units were established and strengthened; (v) 20 km of causeways to access 800 ha of rice fields were improved; (vi) 40 kitchen gardens were improved and 30 were developed; (vii) 1,300 ha of mangroves and 1,400 ha of community forests, around production sites, were rehabilitated.</p>

		1.2.2 The Anambé river facilities and pumping stations have been rehabilitated; (ii) 7,871 ha of valleys and lowlands have been developed or rehabilitated; (iii) the development and operation of 1,000 ha of market gardening areas have been supported; (iv) the development and operation of 1,300 ha of banana areas have been supported; (vi) structural hydraulic works (Niandouba and Confluent dams, apart from those of the channels) in the Anambé basin have been rehabilitated; (vii) a strategy for the upkeep and maintenance of hydro-agricultural facilities and equipment, and access roads has been implemented.
		1.2.3 Hydro-agricultural schemes in Guinea Bissau in the OMVG area (16,100 ha) have been realised / rehabilitated: Vale de Gambiel - 10.000 ha; Xaianga/Badora - 180 ha; Malandi/Finet - 350 ha; Nimpala/Bidjine - 10 ha; Sintcham Bonco - 150 ha; Gandjara - 200 ha; Waquillare - 65 ha; Bancuma - 28 ha; Candjadude - 30 ha; Gã-Sisse - 5 ha; Carantaba - 180 ha; Sintcham Iero Djadja/Pirada - 20 ha; Holoto/Pitche - 20 ha; Cantente - 15 ha; Tcheual/Mafanco - 15 ha; Copiro/Pitche - 100 ha; Padjama/Pitche - 30 ha; Bidinga Na Nhasse - 750 ha; Ufra Samba-Djau/Pitche - 20 ha; Coatche /Pitche - 100 ha; Buruntuma - 225 ha; Pirada - 135 ha; Kopa Mangui/Pirada - 200 ha
		1.2.4 The Camposa hydro-agricultural development (2,000 ha) in Guinea-Bissau on the Géba River has been constructed.
		1.2.5 Hydro-agricultural schemes in Guinea in the OMVG area have been built/developed: an effectively irrigated area of 10,500 ha in 2040, of which 8,000 ha in the Coliba-Korubal river basin and 5,000 ha in the Gambia river basin is expected.
		1.2.6 20,000 ha in The Gambia and 10,000 ha in Senegal are irrigated in 2040.
	1.3 Increasing production and diversifying livestock	1.3.1 A disease control programme (preventive and curative), accompanied by health monitoring activities, has been implemented.
		1.3.2 Programmes for the selection and dissemination of Ndama breed improving genes have been established.
		1.3.3 A special artificial insemination programme for the improvement of national milk production at the level of each member country of the OMVG has been set up.
		1.3.4 A programme for the development of pastoral hydraulics (facilities) and the management of agro-sylvopastoral spaces and resources and the improvement of cross-border transhumance has been put in place.
		1.3.5 Programmes for the diversification of livestock forms, promotion of poultry farming, small ruminant farming, beekeeping, etc. 1.3.5 Programmes for diversification of livestock, promotion of poultry, small ruminants, beekeeping, etc., have been set up.
		1.3.6 Programmes for intensification of livestock systems in peri-urban areas have been implemented.
	1.4 Development of agro-forestry food products	1.4.1 Programmes to improve NTFP collection and valorisation techniques have been set up in the four OMVG member states.
		1.4.2 Programmes to strengthen the technical, managerial and organisational capacities of NTFP institutions and stakeholders have been set up in the four OMVG member states.
		1.4.3 Ecosystem services provided by the target forest areas are sustained and enhanced.

	1.5 Promotion of fisheries production sectors	<p>1.5.1 Inland fisheries and inland waterways management programmes have been put in place in the 4 OMVG Member States.</p> <p>1.5.2 Programmes to strengthen the technical, managerial and organisational capacities of institutions and actors have been set up in the four OMVG Member States.</p> <p>1.5.3 Monitoring, Control and Surveillance programmes for fisheries activities have been put in place in the 4 OMVG Member States.</p> <p>1.5.4 Capacity building programmes for professional organisations and consultation bodies have been set up in the four OMVG Member States.</p> <p>1.5.5 Cooperation on fisheries and aquaculture between the 4 OMVG Member States has been strengthened.</p> <p>1.5.6 Food and nutritional security have been improved and the incomes of local and state actors have been increased.</p>
	1.6 Strengthening the institutional capacity and delivery of agricultural services	<p>1.6.1 (i) Support to farmers for various agricultural services (extension, input supply, financial education), with emphasis on the promotion of Farmer Field Schools for rice and vegetables has been put in place; (ii) 240 youth-led enterprises that will focus primarily on the provision of services to value chains have emerged; (iii) the capacity of farmer organizations to develop self-sustaining services, particularly women-led farmer organizations, is increased.</p> <p>1.6.2 (i) A monitoring, forecasting and partnership development unit has been set up; (ii) SODAGRI's human resources have been strengthened; (iii) 4 regional directorates (Kédougou, Tambacounda, Sédhiou and Ziguinchor) have been set up; (iv) solid relations with research institutes and universities have been established; (v) links with technical services, projects and programmes in SODAGRI's area of intervention have been consolidated; (vi) links with LBA and other funding institutions (DER, FONGIP, BMN, among others) have been strengthened; (vii) relations with local authorities have been strengthened; (viii) a database of technical and/or financial partners has been established; (ix) a new SODAGRI presentation document has been drafted and disseminated; (x) a communication plan has been developed and implemented; (xi) a training plan for SODAGRI staff has been developed and implemented.</p> <p>1.6.3 A capacity building programme for commodity groups and consultative bodies has been put in place.</p>
2. Improving people's income and reducing poverty	2.1 Contribution to poverty reduction	<p>2.1.1 (i) The installation and operation of vegetable gardens was supported; (ii) The acquisition and management of goats was supported; (iii) The acquisition and management of chickens was supported; (iv) The establishment of AVEC and the sensitisation of vulnerable households was supported.</p> <p>2.1.2 Inland fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal river basins were supported.</p> <p>2.1.3 (i) 20,000 producers have benefited, of which 40% are women and 30% are youth; (ii) household incomes in the project area have been improved and post-harvest losses reduced.</p> <p>2.1.4 Household incomes in the project area have been improved through the development of small-scale market gardening schemes.</p> <p>2.1.5 People have benefited more from forest areas: on the one hand their food and nutritional security has been improved and on the other hand their incomes have been increased.</p> <p>Forest resources, including non-timber forest products, have been harvested sustainably.</p>

	2.2 Structuring of producer organisations	2.2.1 (i) The capacity of key organisations overseeing the priority value chain has been strengthened; (ii) Key market infrastructure has been developed; (iii) Quality and sanitary and phytosanitary control systems have been strengthened.
		2.2.2 The capacity of relevant government agencies (the Investment Promotion Agency (APIP), the Guinean Export Promotion Agency (AGUIPEX), relevant government ministries and departments to improve the management of information on agricultural land) has been strengthened; coordination along priority value chains has been enhanced; sanitary and phytosanitary control, quality, norms and standards have been improved.
		2.2.3 The operational capacities of public and private sector development support structures have been strengthened to meet the needs of stakeholders.
	2.3 Development of value chains, improvement of market access and revival of women's activities	2.3.1 Value chain-market linkages have been created; Producer Public-Private Partnerships (4Ps) have been funded.
		2.3.2 (i) Crop production (area and yields) (particularly in the irrigated and rainfed rice, banana, maize, milk, market gardening, fonio and sesame value chains) has been optimised; (ii) A strategic development plan has been drawn up for each value chain; (iii) Consultation frameworks for the various value chains have been set up; (iv) Support has been provided for the acquisition of agricultural equipment and materials; (v) a capacity building and training plan for value chain actors has been developed and implemented; (vi) technical sheets for value chain actors have been developed; (vii) study visits and exchanges have been organised; and (viii) consultation frameworks for targeted value chain actors have been established.
		2.3.3 800 km of rural roads were rehabilitated; (ii) aggregation and logistics centres were created; and (iii) sustainable management of market infrastructure was supported.
		2.3.4 Potential investors have been supported and private investments for inclusive supply chains have been financed.
		2.3.5 Rice processing and preservation were supported; (ii) marketing and market access were supported; and (iii) the emergence of inter-professional mechanisms in the value chains was supported.
		2.3.6 (i) value has been added to the cashew chain and to fruits and vegetables; (ii) the current (unofficial) organic cashew label has been maintained and strengthened; (iii) the extension of the programme to fruits and vegetables should help limit the country's dependence on cashew exports
		2.3.7 A programme to improve the distribution and marketing system for NTFPs within countries has been put in place in the OMVG states.
		2.3.8 A programme to improve the in-country fish distribution and marketing system has been put in place in the OMVG States.

		2.3.9 80% of producers have increased their income by at least 30%; 14,000 ha of upland and 3,500 ha of lowland have been diversified and yields improved by 30%; 50% of households have improved their nutritional security; 175 km of rural tracks have been rehabilitated, 3 semi-wholesale markets, 5 weekly markets and two existing collection centres have been upgraded to enable a 30% increase in the marketing of agricultural products with promising outlets (market gardening, rice growing, cassava, groundnuts, etc.)) ; 1.200 rural microenterprises (REM), 30% of which are of high nutritional value, mainly run by cooperatives, women, young people, people with disabilities and returnees, have been supported in the agricultural sectors and their related activities to improve their income and resilience capacities.
		2.3.10 (i) Productivity of targeted value chains has been improved; (ii) Value added on agricultural products has been created; (iii) Entrepreneurship has been created; (iv) Employability of rural youth and women has been developed.
		2.3.11 (i) Productivity of the tree sectors has been improved; (ii) Entrepreneurship has been encouraged; (ii) Employability of youth and women in rural areas has been developed.
		2.3.12 (i) Marketing and processing conditions for livestock and livestock products have been improved; (ii) Market access for livestock and livestock products has been facilitated.
	2.4 Development of financial services	2.4.1 Co-financing and support was provided for competitively selected productive micro-projects in the field of agricultural production, marketing, processing or service provision.
		2.4.2 The financing system for forestry economic activities has been strengthened.
		2.4.3 An agricultural insurance system has been set up.
		2.4.4 The financing system for inland fisheries and aquaculture has been strengthened.
	3. Protection and enhancement of the environment and contribution to climate change mitigation and adaptation	3.1 Preserve the quality of natural resources and optimise their management
		3.1.1 A Sustainable Land Management Programme has been established in the OMVG area
		3.1.2 (i) Support was provided to communes for the development and implementation of Land Use Plans (POAS); (ii) Support was provided to local authorities for the establishment of a land information system; (iii) Support was provided for the construction of rural infrastructure by local authorities through the Intercommunity Support Fund (ISF); (iv) Support has been provided for the development of Communal Development Plans (PDC); (v) Support has been provided for capacity building of elected officials and members of land commissions and environmental commissions; (vi) Support has been provided for the fight and prevention of bush fires.
		3.1.3 A Monitoring, Control and Surveillance Programme for Protected Areas Biodiversity has been established.
	3.2 Design and promote integrated resource management systems	3.2.1 A Monitoring, Control and Surveillance Programme for forest resource development activities in and around the Gambia, Kayanga/Géba and Koliba/Coruba river basins has been established.
		3.2.2 A Fisheries Monitoring, Control and Surveillance Programme in the Gambia, Kayanga/Géba and Koliba/Coruba river basins has been put in place.
4. Strengthening the legal and legislative framework	4.1 Strengthening the legal framework in the agro-sylvo-pastoral field	4.1.1 The regulatory and legal framework for water users' cooperatives and associations has been developed and/or revised.
		4.1.2 The legislative framework for agricultural water pricing policy has been developed and/or revised.

		4.1.3 The legal framework for public-private partnerships (PPPs) in agriculture has been developed and/or revised.
		4.1.4 The regulatory and legal framework for the exploitation of forest resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins has been developed and or revised.
		4.1.5 Training and capacity building of members of forestry groups for the proper application of texts regulating and legally framing the sustainable exploitation of forestry resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins have been put in place.
		4.1.6 Access to land for both local people and investors has been secured.
	4.2 Strengthening the legal framework for fisheries and aquaculture production	4.2.1 The regulatory and legal framework for the exploitation of inland fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins has been developed and/or revised.
		4.2.2 Training and capacity building of fisheries managers for the proper application of the texts regulating and providing a legal framework for the sustainable exploitation of fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins have been implemented.
5 Research, data acquisition, collection and processing, and knowledge dissemination	5.1 Research and training	5.1.1 Capacity building programme in the agricultural sector to help the sector to structure itself has been put in place.
		5.1.2 A technical cooperation programme with FAO, CILSS, ECOWAS, etc. has been established.
		5.1.3 A research programme on NTFP collection, packaging and processing techniques has been established.
		5.1.4 A research programme on inland fisheries and aquaculture has been set up.
		5.1.5 A Technical Cooperation Programme with FAO, Wordfish, Sub-Regional Fisheries Commission, ECOWAS, etc. has been established.
		5.1.6 An Administration and Research Capacity Building Programme has been established.
	5.2 Knowledge management and resource monitoring	5.2.1 A diagnosis of the research and extension system related to the agro-sylvo-pastoral and fisheries sector has been carried out;
		The technical capacity of institutions through their level of access to infrastructure, equipment, tools and software for analysis and management, necessary to address agricultural policy challenges, has been strengthened; A policy of archiving and proactive dissemination of data in the sector has been defined; Internationally acceptable methodologies for the creation of statistical databases have been developed; Databases are being set up in the four OMVG member states.

5.2 TIMELINE OF MEASURES

AGRO-SYLVO-PASTORAL AND FISHERIES SECTOR TIMELINE

Strategic Axis, Provisions, and Measures			Horizons																		
			2025				2030					2040									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Strategic axis 1 - Ensure food self-sufficiency through more sustainable agricultural and livestock production																					
Provision 1.1 - Increased and sustainable agricultural production and productivity																					
Measure 1.1.1	Building a productive and resilient agri-food system (P173070)																				
Measure 1.1.2	Develop mangrove agriculture (PRO-GB)																				
Measure 1.1.3	Project to support the improvement of resilience in mangrove rice production in The Gambia																				
Measure 1.1.4	Improving agricultural production and productivity																				
Measure 1.1.5	Rice cultivation development																				
Provision 1.2 - Increase in irrigated land / increase in irrigated crops																					
Measure 1.2.1	Infrastructure development and management (ROOTS)																				
Measure 1.2.2	Realisation/rehabilitation of facilities and infrastructure management (SODAGRI)																				
Measure 1.2.3	Realisation/rehabilitation of hydro-agricultural schemes in Guinea Bissau in the OMVG area (16,100 ha)																				
Measure 1.2.4	Construction of the Camposa hydro-agricultural scheme (2000 ha), in Guinea-Bissau, on the Géba River.																				
Measure 1.2.5	Development and expansion of hydro-agricultural schemes in Guinea in the OMVG area																				
Measure 1.2.6	Expansion of irrigated agriculture in The Gambia and Senegal in the OMVG area																				
Provision 1.3 - Increased production and diversification of livestock																					
Measure 1.3.1	Health protection of livestock in the OMVG area																				
Measure 1.3.2	Regional research programme on genetic improvement is developed and implemented in the OMVG area																				
Measure 1.3.3	Special artificial insemination programme to improve national milk production																				
Measure 1.3.4	Programme for the development of pastoral hydraulic infrastructure and management of agro-sylvo-pastoral spaces and resources and improvement of cross-border transhumance.																				
Measure 1.3.5	Diversification of livestock forms through the promotion of poultry farming, small ruminant farming, beekeeping, etc.																				
Measure 1.3.6	Intensified livestock systems (improved management through intensification in peri-urban areas.																				
Provision 1.4 - Development of agro-forestry food products																					
Measure 1.4.1	Programme to improve techniques for collecting and valorising non-timber forest products (NTFPs).																				
Measure 1.4.2	Technical, managerial and organisational capacity building programme for Non Timber Forest Products (NTFP) institutions and stakeholders.																				
Measure 1.4.3	Project to increase forest resources in the three OMVG catchment areas																				
Provision 1.5 - Promotion of fisheries production sectors																					
Measure 1.5.1	Inland fisheries and inland waterways management programme																				
Measure 1.5.2	Programme to strengthen the technical, managerial and organisational capacities of institutions and actors																				
Measure 1.5.3	Monitoring, Control and Surveillance Programme for Fisheries Activities																				
Measure 1.5.4	Capacity building programme for professional organisations and consultation bodies																				
Measure 1.5.5	Strengthening cooperation in fisheries and aquaculture																				
Measure 1.5.6	Improving the production of inland fisheries resources in the OMVG catchment areas																				
Provision 1.6 - Planning and coordinating the provision of agricultural extension and training services																					
Measure 1.6.1	Provision of agricultural services (ROOTS)																				
Measure 1.6.2	Organisational functioning and management (SODAGRI's strategic plan)																				
Measure 1.6.3	Capacity building programme for commodity groups and consultation bodies																				

Strategic Axis, Provisions, and Measures			Horizons																		
			2025				2030					2040									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Strategic axis 2 - Improving people's income and reducing poverty																					
Provision 2.1 - Contribution to poverty reduction																					
Measure 2.1.1	Supporting the resilience of poor households to climate shocks (SODAGRI's strategic plan)																				
Measure 2.1.2	Support for fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal river basins																				
Measure 2.1.3	Gaoual-Koundara-Mali Integrated Rural Development Project (PDRI-GKM)																				
Measure 2.1.4	Development of small areas for market gardening																				
Measure 2.1.5	Non-timber forest products (NTFP) development project in OMVG watersheds																				
Provision 2.2 - Structuring of producer organisations																					
Measure 2.2.1	Improving the business environment for commercial agricultural development (GIRAV)																				
Measure 2.2.2	Promote the development of commercial agriculture (P164184)																				
Measure 2.2.3	Institutional support and strengthening of agricultural services project																				
Provision 2.3 - Development of value chains, improvement of market access and revival of women's activities																					
Measure 2.3.1	Market access (ROOTS)																				
Measure 2.3.2	Value chain development (SODAGRI's strategic plan)																				
Measure 2.3.3	Improving market access (P164184)																				
Measure 2.3.4	Supporting private investment (P164184)																				
Measure 2.3.5	Rice processing, preservation and marketing (PRO-GB)																				
Measure 2.3.6	Fruit and vegetable value-adding programme																				
Measure 2.3.7	In-country NTFP distribution and marketing system improvement programme																				
Measure 2.3.8	In-country fish distribution and marketing system improvement programme																				
Measure 2.3.9	Project for the diversification of family agriculture, integrated markets and nutrition in the face of climate change in Guinea Bissau (REDE)																				
Measure 2.3.10	Promotion of agricultural and agro-industrial sectors																				
Measure 2.3.11	Projet d'appui aux filières arboricoles																				
Measure 2.3.12	Market access and development of animal product chains.																				
Provision 2.4 - Development of financial services																					
Measure 2.4.1	Mobilising productive private investment along value chains (GIRAV)																				
Measure 2.4.2	Strengthening the financing system for forestry economic activities																				
Measure 2.4.3	Setting up an agricultural insurance system																				
Measure 2.4.3	Strengthening the financing system for inland fisheries and aquaculture																				
Strategic axis 3 - Protection and enhancement of the environment and contribution to climate change mitigation and adaptation																					
Provision 3.1 - Preserve the quality of natural resources and optimise their management																					
Measure 3.1.1	Sustainable Land Management Programme																				
Measure 3.1.2	Support for local government development and natural resource management (SODAGRI's strategic plan)																				
Measure 3.1.3	Protected areas biodiversity monitoring, control and surveillance programme																				
Provision 3.2 - Designing and promoting integrated resource management systems																					
Measure 3.2.1	Monitoring, control and surveillance programme for forestry resource development activities in and around the Gambia, Kayanga/Géba and Koliba/Corubal river basins																				
Measure 3.2.2	Fisheries Monitoring, Control and Surveillance Programme in the Gambia, Kayanga/Géba and Koliba/Corubal river basins																				

ACTION PLAN

Strategic Axis, Provisions, and Measures			Horizons																		
			2025				2030				2040										
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Strategic axis 4 - Strengthening the legal and legislative framework																					
Provision 4.1 - Strengthening the legal framework for agroforestry																					
Measure 4.1.1	Development and/or revision of the regulatory and legal framework for water users' cooperatives and associations.																				
Measure 4.1.2	Development and/or revision of the legislative framework for agricultural water pricing policy.																				
Measure 4.1.3	Development and/or revision of the legal framework for public-private partnerships (PPPs) in agriculture.																				
Measure 4.1.4	Elaboration and/or revision of the regulatory and legal framework for the exploitation of forest resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins.																				
Measure 4.1.5	Training and capacity building of members of forestry groups for the proper application of the texts regulating and providing a legal framework for the sustainable exploitation of forestry resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins																				
Measure 4.1.6	Project on land tenure security in the Gambia, Kayanga/Geba and Koliba/Corubal river basins.																				
Provision 4.2 - Strengthening the legal framework for fisheries and aquaculture production																					
Measure 4.4.1	Elaboration and/or revision of the regulatory and legal framework for the exploitation of inland fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins																				
Measure 4.4.2	Training and capacity building of fisheries managers for a proper application of the texts regulating and legally framing the sustainable exploitation of fisheries resources and aquaculture in the basins of the Gambia, Kayanga/Geba and Koliba/Corubal rivers.																				
Axe stratégique 5 - Recherche, acquisition, collecte et traitement des données, et diffusion de la connaissance																					
Provision 5.1 - Research and training																					
Measure 5.1.1	Capacity building programme in the agricultural sector to help the sector structure itself																				
Measure 5.1.2	Technical cooperation programme with FAO, CILSS, ECOWAS, etc.																				
Measure 5.1.3	Research programme on NTFP collection, packaging and processing techniques																				
Measure 5.1.4	Inland Fisheries and Aquaculture Research Programme.																				
Measure 5.1.5	Technical cooperation programme with FAO, Worldfish, Sub-Regional Fisheries Commission, ECOWAS, etc.																				
Measure 5.1.6	Capacity building programme for Administration and Research.																				
Provision 5.2 - Knowledge management and resource monitoring																					
Measure 5.2.1	Programme to develop agricultural research, training and extension																				

5.3 COST OF THE MEASURES

SUMMARY OF COSTS OF MEASURES IN THE AGRO-SYLVO-PASTORAL AND FISHERIES SECTOR

Activities	Details	Budget (USD)	2025	2030	2040
Sectoral Plan Agriculture - Livestock - Forestry - Fisheries					
Strategic axis 1	Ensure food self-sufficiency through more sustainable agricultural and livestock production	1 055 911 258	333 794 964 32%	400 495 293 38%	321 621 000 30%
Strategic axis 2	Improving people's income and reducing poverty	396 207 562	165 049 126 42%	182 450 437 46%	48 708 000 12%
Strategic axis 3	Protection and enhancement of the environment and contribution to climate change mitigation and adaptation	21 563 590	13 483 220 63%	6 890 370 32%	1 190 000 6%
Strategic axis 4	Strengthening the legal and legislative framework	24 390 000	10 641 000 44%	13 613 000 56%	136 000 1%
Strategic axis 5	Research, acquisition, collection and processing of data and dissemination of knowledge	40 500 000	11 477 000 28%	17 693 000 44%	11 330 000 28%
Programme Overall Budget		1 538 572 410	534 445 310	621 142 100	382 985 000

COSTS OF MEASURES IN THE AGRO-SYLVO-PASTORAL AND FISHERIES SECTOR

Activities	Details	Budget (USD)	2025	2030	2040
Sectoral Plan Agriculture - Livestock - Forestry - Fisheries					
Strategic axis 1	Ensure food self-sufficiency through more sustainable agricultural and livestock production	1 055 911 258	333 794 964	400 495 293	321 621 000
			32%	38%	30%
Provision 1.1	Increased and sustainable agricultural production and productivity	148 220 000	92 232 000	55 988 000	0
Measure 1.1.1	Building a productive and resilient agri-food system (P173070)	12 000 000	9 600 000	2 400 000	
Measure 1.1.2	Develop mangrove agriculture (PRO-GB)	1 500 000	1 500 000		
Measure 1.1.3	Project to support the improvement of resilience in mangrove rice production in The Gambia	4 500 000	3 000 000	1 500 000	
Measure 1.1.4	Improving agricultural production and productivity	25 525 500	15 315 300	10 210 200	
Measure 1.1.5	Rice cultivation development	104 694 500	62 816 700	41 877 800	
Provision 1.2	Increase in irrigated land / increase in irrigated crops	783 892 278	172 129 958	292 045 320	319 717 000
Measure 1.2.1	Infrastructure development and management (ROOTS)	41 950 000	41 950 000		
Measure 1.2.2	Realisation/rehabilitation of facilities and infrastructure management (SODAGRI)	95 080 278	69 019 958	26 060 320	
Measure 1.2.3	Realisation/rehabilitation of hydro-agricultural schemes in Guinea Bissau in the OMVG area (16,100 ha)	159 390 000	30 690 000	59 400 000	69 300 000
Measure 1.2.4	Construction of the Camposa hydro-agricultural scheme (2000 ha), in Guinea-Bissau, on the Géba River.	80 000 000	5 000 000	75 000 000	
Measure 1.2.5	Development and expansion of hydro-agricultural schemes in Guinea in the OMVG area	105 042 000	9 550 000	36 075 000	59 417 000
Measure 1.2.6	Expansion of irrigated agriculture in The Gambia and Senegal in the OMVG area	302 430 000	15 920 000	95 510 000	191 000 000
Provision 1.3	Increased production and diversification of livestock	85 750 000	42 466 667	43 283 333	0
Measure 1.3.1	Health protection of livestock in the OMVG area	13 750 000	9 166 667	4 583 333	
Measure 1.3.2	Regional research programme on genetic improvement is developed and implemented in the OMVG area	12 000 000	4 800 000	7 200 000	
Measure 1.3.3	Special artificial insemination programme to improve national milk production	15 000 000	6 000 000	9 000 000	
Measure 1.3.4	Programme for the development of pastoral hydraulic infrastructure and management of agro-sylvo-pastoral spaces and resources and improvement of cross-border transhumance.	20 000 000	8 500 000	11 500 000	
Measure 1.3.5	Diversification of livestock forms through the promotion of poultry farming, small ruminant farming, beekeeping, etc.	15 000 000	9 000 000	6 000 000	
Measure 1.3.6	Intensified livestock systems (improved management through intensification in peri-urban areas.	10 000 000	5 000 000	5 000 000	
Provision 1.4	Development of agro-forestry food products	3 034 500	1 616 700	1 417 800	0
Measure 1.4.1	Programme to improve techniques for collecting and valorising non-timber forest products (NTFPs).	340 000	136 000	204 000	
Measure 1.4.2	Technical, managerial and organisational capacity building programme for Non Timber Forest Products (NTFP) institutions and stakeholders.	510 000	170 000	340 000	
Measure 1.4.3	Project to increase forest resources in the three OMVG catchment areas	2 184 500	1 310 700	873 800	
Provision 1.5	Promotion of fisheries production sectors	10 580 970	5 237 700	3 439 270	1 904 000
Measure 1.5.1	Inland fisheries and inland waterways management programme	1 700 000	1 190 000	510 000	
Measure 1.5.2	Programme to strengthen the technical, managerial and organisational capacities of institutions and actors	1 360 000	952 000	408 000	
Measure 1.5.3	Monitoring, Control and Surveillance Programme for Fisheries Activities	3 655 000	1 105 000	850 000	1 700 000
Measure 1.5.4	Capacity building programme for professional organisations and consultation bodies	680 000	476 000	204 000	
Measure 1.5.5	Strengthening cooperation in fisheries and aquaculture	510 000		306 000	204 000
Measure 1.5.6	Improving the production of inland fisheries resources in the OMVG catchment areas	2 675 970	1 514 700	1 161 270	
Provision 1.6	Planning and coordinating the provision of agricultural extension and training services	24 433 510	20 111 940	4 321 570	0
Measure 1.6.1	Provision of agricultural services (ROOTS)	11 666 000	11 666 000		
Measure 1.6.2	Organisational functioning and management (SODAGRI's strategic plan)	12 002 510	7 986 940	4 015 570	
Measure 1.6.3	Capacity building programme for commodity groups and consultation bodies	765 000	459 000	306 000	
TOTAL Strategic axis 1		1 055 911 258	333 794 964	400 495 293	321 621 000

Activities	Details	Budget (USD)	2025	2030	2040
Strategic axis 2	Improving people's income and reducing poverty	396 207 562	165 049 126	182 450 437	48 708 000
			42%	46%	12%
Provision 2.1	Contribution to poverty reduction	35 053 625	25 502 175	9 551 450	0
Measure 2.1.1	Supporting the resilience of poor households to climate shocks (SODAGRI's strategic plan)	8 978 125	5 386 875	3 591 250	
Measure 2.1.2	Support for fisheries in the Gambia, Kayanga/Geba and Koliba/Corubal river basins	2 550 000		2 550 000	
Measure 2.1.3	Gaoual-Koundara-Mali Integrated Rural Development Project (PDRI-GKM)	15 000 000	15 000 000		
Measure 2.1.4	Development of small areas for market gardening	5 984 000	3 590 400	2 393 600	
Measure 2.1.5	Non-timber forest products (NTFP) development project in OMVG watersheds	2 541 500	1 524 900	1 016 600	
Provision 2.2	Structuring of producer organisations	39 680 000	16 000 000	17 776 000	5 904 000
Measure 2.2.1	Improving the business environment for commercial agricultural development (GIRAV)	8 000 000	6 400 000	1 600 000	
Measure 2.2.2	Promote the development of commercial agriculture (P164184)	31 680 000	9 600 000	16 176 000	5 904 000
Measure 2.2.3	Institutional support and strengthening of agricultural services project	1 152 600	691 560	461 040	
Provision 2.3	Development of value chains, improvement of market access and revival of women's activities	295 848 937	117 721 951	148 822 987	42 804 000
Measure 2.3.1	Market access (ROOTS)	13 453 000	13 453 000		
Measure 2.3.2	Value chain development (SODAGRI's strategic plan)	1 286 220	884 000	402 220	
Measure 2.3.3	Improving market access (P164184)	150 480 000	45 600 000	76 836 000	28 044 000
Measure 2.3.4	Supporting private investment (P164184)	79 200 000	24 000 000	40 440 000	14 760 000
Measure 2.3.5	Rice processing, preservation and marketing (PRO-GB)	3 000 000	3 000 000		
Measure 2.3.6	Fruit and vegetable value-adding programme	13 659 500	5 463 800	8 195 700	
Measure 2.3.7	In-country NTFP distribution and marketing system improvement programme	453 333	226 667	226 667	
Measure 2.3.8	In-country fish distribution and marketing system improvement programme	176 800	88 400	88 400	
Measure 2.3.9	Project for the diversification of family agriculture, integrated markets and nutrition in the face of climate change in Guinea Bissau (REDE)	55 084	55 084		
Measure 2.3.10	Promotion of agricultural and agro-industrial sectors	17 085 000	10 251 000	6 834 000	
Measure 2.3.11	Projet d'appui aux filières arboricoles	17 000 000	10 200 000	6 800 000	
Measure 2.3.12	Market access and development of animal product chains.	13 500 000	4 500 000	9 000 000	
Provision 2.4	Development of financial services	12 125 000	5 825 000	6 300 000	0
Measure 2.4.1	Mobilising productive private investment along value chains (GIRAV)	7 000 000	4 550 000	2 450 000	
Measure 2.4.2	Strengthening the financing system for forestry economic activities	425 000	170 000	255 000	
Measure 2.4.3	Setting up an agricultural insurance system	3 000 000		3 000 000	
Measure 2.4.4	Strengthening the financing system for inland fisheries and aquaculture	1 700 000	1 105 000	595 000	
TOTAL Strategic axis 2		382 707 562	165 049 126	182 450 437	48 708 000

Activities	Details	Budget (USD)	2025	2030	2040
Strategic axis 3	Protection and enhancement of the environment and contribution to climate change mitigation and adaptation	21 563 590	13 483 220	6 890 370	1 190 000
			63%	32%	6%
Provision 3.1	Preserve the quality of natural resources and optimise their management	19 880 590	12 939 220	5 751 370	1 190 000
Measure 3.1.1	Sustainable Land Management Programme	7 500 000	3 000 000	4 500 000	
Measure 3.1.2	Support for local government development and natural resource management (SODAGRI's strategic plan)	10 119 590	9 463 220	656 370	
Measure 3.1.3	Protected areas biodiversity monitoring, control and surveillance programme	2 261 000	476 000	595 000	1 190 000
Provision 3.2	Designing and promoting integrated resource management systems	1 683 000	544 000	1 139 000	0
Measure 3.2.1	Monitoring, control and surveillance programme for forestry resource development activities in and around the Gambia, Kayanga/Géba and Koliba/Corubal river basins	595 000		595 000	
Measure 3.2.2	Fisheries Monitoring, Control and Surveillance Programme in the Gambia, Kayanga/Géba and Koliba/Corubal river basins	1 088 000	544 000	544 000	
TOTAL Strategic axis 3		21 563 590	13 483 220	6 890 370	1 190 000

Activities	Details	Budget (USD)	2025	2030	2040
Strategic axis 4	Strengthening the legal and legislative framework	24 390 000	10 641 000	13 613 000	136 000
			44%	56%	1%
Provision 4.1	Strengthening the legal framework for agroforestry	22 605 000	9 570 000	12 899 000	136 000
Measure 4.1.1	Development and/or revision of the regulatory and legal framework for water users' cooperatives and associations.	5 000 000	3 000 000	2 000 000	
Measure 4.1.2	Development and/or revision of the legislative framework for agricultural water pricing policy.	5 000 000	3 000 000	2 000 000	
Measure 4.1.3	Development and/or revision of the legal framework for public-private partnerships (PPPs) in agriculture.	3 000 000		3 000 000	
Measure 4.1.4	Elaboration and/or revision of the regulatory and legal framework for the exploitation of forest resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins.	425 000	170 000	255 000	
Measure 4.1.5	Training and capacity building of members of forestry groups for the proper application of the texts regulating and providing a legal framework for the sustainable exploitation of forestry resources in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins	680 000		544 000	136 000
Measure 4.1.6	Project on land tenure security in the Gambia, Kayanga/Geba and Koliba/Corubal river basins.	8 500 000	3 400 000	5 100 000	
Provision 4.2	Strengthening the legal framework for fisheries and aquaculture production	1 785 000	1 071 000	714 000	0
Measure 4.2.1	Elaboration and/or revision of the regulatory and legal framework for the exploitation of inland fisheries resources and aquaculture in the Gambia, Kayanga/Geba and Koliba/Corubal river basins	425 000	255 000	170 000	
Measure 4.2.2	Training and capacity building of fisheries managers for a proper application of the texts regulating and legally framing the sustainable exploitation of fisheries resources and aquaculture in the basins of the Gambia, Kayanga/Geba and Koliba/Corubal rivers.	1 360 000	816 000	544 000	
TOTAL Strategic axis 4		24 390 000	10 641 000	13 613 000	136 000

ACTION PLAN

Activities	Details	Budget (USD)	2025	2030	2040
Strategic axis 5	Research, acquisition, collection and processing of data and dissemination of knowledge	40 500 000	11 477 000 28%	17 693 000 44%	11 330 000 28%
Provision 5.1	Research and training	24 350 000	6 377 000	12 593 000	5 380 000
Measure 5.1.1	Capacity building programme in the agricultural sector to help the sector structure itself	15 000 000	5 000 000	7 000 000	3 000 000
Measure 5.1.2	Technical cooperation programme with FAO, CILSS, ECOWAS, etc.	595 000	357 000	238 000	
Measure 5.1.3	Research programme on NTFP collection, packaging and processing techniques	1 105 000		1 105 000	
Measure 5.1.4	Inland Fisheries and Aquaculture Research Programme.	3 400 000		2 040 000	1 360 000
Measure 5.1.5	Technical cooperation programme with FAO, Worldfish, Sub-Regional Fisheries Commission, ECOWAS, etc.	850 000	340 000	510 000	
Measure 5.1.6	Capacity building programme for Administration and Research.	3 400 000	680 000	1 700 000	1 020 000
Provision 5.2	Knowledge management and resource monitoring	16 150 000	5 100 000	5 100 000	5 950 000
Measure 5.2.1	Programme to develop agricultural research, training and extension	16 150 000	5 100 000	5 100 000	5 950 000
TOTAL Strategic axis 5		40 500 000	11 477 000	17 693 000	11 330 000
Programme Overall Budget		1 538 572 410	534 445 310	621 142 100	382 985 000

5.4 RISKS OF NON-IMPLEMENTATION OF MEASURES

Risks	Assumptions/accompanying measures
Strategic Axis 1. Ensure food self-sufficiency through more sustainable agricultural and livestock production	
Agricultural production is stagnating at current levels, irrigated areas are struggling to develop and be maintained, yields are not increasing	<p>The monitoring and evaluation of agricultural development programmes should help to ensure proper implementation and identify obstacles to development</p> <p>The introduction of a water tariff in all equipped areas of the basins must cover the operating and maintenance costs of the infrastructure (communication and transparency are necessary for user acceptance)</p> <p>Financial resources need to be planned to ensure the successful development of services to farmers. The involvement of the private sector is encouraged through the establishment of PPPs</p>
Forage resources are insufficient and do not allow for an increase in production. New pathogens appear and limit the intensification of production	<p>The procedures for the management/protection of grazing areas must be strengthened (communication campaign) in the different basin countries (homogenisation of legislation)</p> <p>Regular controls must ensure compliance with sanitary measures (strengthening of the State Plant and Animal Protection Services)</p>
Deforestation reduces prospects for improved agroforestry food production	Offences must be correctly and fairly punished (increase in the number of forest guards) in a homogeneous way in the OMVG countries
The production of suitable fingerlings and fish feed is an obstacle to the development of aquaculture	A particular effort is made to develop capacity and financial means in the upstream links of fish production
Strategic Axis 2. Improving people's income and reducing poverty	
Lack of capital and high interest rates do not allow the emergence of agribusiness. Parallel markets/channels make contractualisation between the links in the value chains difficult	<p>An effort is being made to attract private investment in the agro-industrial sector (agro-industrial growth pole)</p> <p>A special effort is made to strengthen FOs and to formally structure value chains</p>
The level of risk in the countries concerned does not allow banks to offer attractive banking services to farmers	<p>Guarantee funds have been set up to compensate for these risks and make investment accessible to the farming community</p> <p>Insurance systems are proposed</p>
Strategic Axis 3. Protection and enhancement of the environment and contribution to climate change mitigation and adaptation	
Soil quality is deteriorating despite the efforts made. Agricultural intensification is even increasing pollution locally	<p>Measures establishing the polluter pays principle are proposed and implemented in basin countries.</p> <p>Agro-ecological practices are promoted through ECOWAS programmes</p>
Post-harvest losses remain high	Storage platforms must be developed at several levels of the territory (important networking)

Risks	Assumptions/accompanying measures
	Agro-industrial clusters with collection platforms are organised
Biodiversity continues to deteriorate	Awareness of this risk is raised at several levels, particularly in schools Agro-ecological practices are promoted
Strategic Axis 4: Strengthening the legal and legislative framework	
Legal reforms are difficult to implement, they take time, they generate social tensions. The means of monitoring compliance with the legislation do not follow the reforms	Financial means are mobilised and planned to support States in the implementation of appropriate legislation and to strengthen State services in charge of controls A homogenisation of legislation is taking place between the OMVG countries
Strategic Axis 5: Acquisition, collection and processing of data and information and dissemination of knowledge	
Data is not collected and reported regularly, measurement and recording tools are not properly maintained and do not allow for reliable data collection.	Budgets are planned to guarantee the means of monitoring and maintenance (GIS / measuring station / annual declaration of production / land tenure) Some state services are outsourced to the private sector in order to ensure the regularity and relevance of the necessary data

5.5 OWNERSHIP OF THE MEASURES

Project owner	List of provisions / measures	Estimated cost (USD)	2022-2025	2025-2030	2030-2040	Planned / anticipated financing
Strategic Axis 1 - Ensure food self-sufficiency through more sustainable agricultural and livestock production						
Ministry of Agriculture Gambia	1.1.1	12,000,000				12,000,000 USD IDA - The World Bank
Ministry of Agriculture - Guinea Bissau	1.1.2	1,500,000				1,500,000 USD European Union
Ministry of Agriculture Gambia	1.1.3	4.500.000				4,500,000 USD Donors (IDA, BDA, OMVG)
Government of Guinea, Senegal, Gambia and Guinea Bissau	1.1.4	25.525.500				25,525,500 USD
Government of Guinea, Senegal, Gambia and Guinea Bissau	1.1.5	25.525.500				25,525,500 USD
Ministry of Agriculture - Gambia	1.2.1	41,950,000				41,950,000 USD IFAD
SODAGRI	1.2.2	95,080,278				95,080,278 State of Senegal and partners
Ministry of Agriculture, Livestock and Forestry (MAEF) - Guinea Bissau	1.2.3	159,390,000				159,390,000 State of Guinea Bissau and donors (IDA, BDA, OMVG)
Ministry of Agriculture - Guinea Bissau and OMVG	1.2.4	80,000,000				USD 80,000,000 OMVG
Ministry of Agriculture - Guinea	1.2.5	105,042,000				105,042,000 USD State of Guinea (BND), Donors (IDA, BDA, OMVG)
Ministries of Agriculture of The Gambia and Senegal / OMVG	1.2.6	302,430,000				302,430,000 USD States of The Gambia and Senegal, Donors (IDA, BDA, OMVG)
Ministries of Agriculture +OMVG	1.3.1	13,750,000				13,750,000 USD OMVG States, Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries of Agriculture +OMVG	1.3.2	12,000,000				12,000,000 OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries of Agriculture +OMVG	1.3.3	15,000,000				15,000,000 OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries of Agriculture +OMVG	1.3.4	20,000,000				20,000,000 OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries of Agriculture +OMVG	1.3.5	15,000,000				15,000,000 OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)

Ministries of Agriculture +OMVG	1.3.6	10,000,000				10,000,000 OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of forests + OMVG	1.4.1	340,000				340,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of forests + OMVG	1.4.2	510,000				510,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Government of Guinea, Senegal, Gambia and Guinea Bissau	1.4.3	2.184 500				2,184,500 USD Beneficiaries: 10%; States: 40%. Technical and financial partners: 50%.
Ministries in charge of fisheries + OMVG	1.5.1	1,700,000				1,700,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of fisheries + OMVG	1.5.2	1,360,000				1,360,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of fisheries + OMVG	1.5.3	3,655,000				3,655,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of fisheries + OMVG	1.5.4	680,000				680,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of fisheries + OMVG	1.5.5	510,000				510,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Government of Guinea, Senegal, Gambia and Guinea Bissau	1.5.6	2.675.970				2,675,970 USD. Beneficiaries: 10%; States: 40%. Technical and financial partners: 50%.
Ministry of Agriculture - Gambia	1.6.1	11,666,000				11,666,000 USD IFAD
SODAGRI	1.6.2	12,002,510				12,002,510 USD State of Senegal and partners
Ministries in charge of forests + OMVG	1.6.3	765,000				765,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Strategic Axis 2 - Improving people's income and reducing poverty						
SODAGRI	2.1.1	8,978,125				8,978,125 USD State of Senegal and partners
Ministries in charge of fisheries + OMVG	2.1.2	2,550,000				2,550,000 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministère de l'Agriculture et de l'Élevage	2.1.3	15.000.000				15.000.000 USD BID – Banque Islamique de Développement

Gouvernement de Guinée, Sénégal, Gambie et Guinée Bissau	2.1.4	5.984.000				5.984.000 USD Bailleurs (IDA, BDA, OMVG)
Gouvernement de Guinée, Sénégal, Gambie et Guinée Bissau	2.1.5	2.541.500				2.541.500 USD Bénéficiaires : 10% ; Les Etats : 40% Partenaires techniques et financiers : 50%
Ministry of Agriculture - Gambia	2.2.1	8,000,000				8,000,000 USD IDA - The World Bank
Ministry of Agriculture - Guinea	2.2.2	31,680,000				31,680,000 USD IDA - The World Bank
Ministères de l'agriculture – Gambie, Guinée, Guinée Bissau et Sénégal	2.2.3	1.152.600				1.152.600 Etats de Gambie, Guinée, Guinée Bissau et Sénégal Bailleurs
Ministry of Agriculture - Gambia	2.3.1	13,453,000				13,453,000 USD IFAD
SODAGRI	2.3.2	1,286,220				1,286,220 USD State of Senegal and partners
Ministry of Agriculture - Guinea	2.3.3	150,480,000				150,480,000 USD IDA - The World Bank
Ministry of Agriculture - Guinea	2.3.4	79,200,000				79,200,000 USD IDA - The World Bank
Ministry of Agriculture - Guinea Bissau	2.3.5	3,000,000				3,000,000 USD European Union
Ministry of Agriculture - Guinea Bissau	2.3.6	13,659,500				453,333 USD State of Guinea Bissau Donors (FAO, IFAD, EU, IDA, OMVG)
Ministries in charge of forests + OMVG	2.3.7	453,333				453,333 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of fisheries + OMVG	2.3.8	176,800				176,800 USD OMVG States Donors (FAO, IFAD, UEMOA, NGOs, OMVG)
Ministère de l'agriculture – Guinée Bissau	2.3.9	155.084.000				55.084.000 USD FIDA, Fond du Koweit. Fonds Abou-Dhabi, Fond d'Adaptation
Gouvernement de Guinée, Sénégal, Gambie et Guinée Bissau	2.3.10	17.085.000				17.085.000 USD Bénéficiaires : 10% ; Les Etats : 40% Partenaires techniques et financiers : 50%
Gouvernement de Guinée, Sénégal, Gambie et Guinée Bissau	2.3.11	17.000.000				17.000.000 USD Bénéficiaires : 10% ; Les Etats : 40% Partenaires techniques et financiers : 50%
Ministères de l'agriculture +OMVG	2.3.12	13.500.000				13.500.000 USD Etats de l'OMVG, Bailleurs (IFAD, UEMOA, EU, OMVG)
Ministry of Agriculture - Gambia	2.4.1	7,000,000				8,000,000 USD IDA - The World Bank

Ministries in charge of forests + OMVG	2.4.2	425,000				425,000 USD OMVG States Donors (IFAD, UEMOA, NGOs, OMVG)
Ministries in charge of agriculture + Economy + OMVG	2.4.3	3,000,000				425,000 USD OMVG States Donors (IFAD, UEMOA, EU, OMVG)
Ministries in charge of fisheries + OMVG	2.4.4	1,700,000				425,000 USD OMVG States Donors (IFAD, UEMOA, NGOs, OMVG)
Strategic Axis 3 - Preserve the quality of natural resources and optimise their management						
Ministries of Agriculture + GMO	3.1.1	7,500,000				7,500,000 USD OMVG States Donors (FAO, UEMOA, NGOs, OMVG)
SODAGRI	3.1.2	10,119,590				15,568,600 USD State of Senegal and partners
Ministries in charge of forests + OMVG	3.1.3	2,261,000				425,000 USD OMVG States Donors (IFAD, UEMOA, FAO, NGOs, OMVG)
Ministries in charge of forests + OMVG	3.2.1	595,000				595,000 USD OMVG States Donors (FAO, UEMOA, NGOs, OMVG)
Ministries in charge of fisheries + OMVG	3.2.2	1,088,000				1,088,000 USD OMVG States Donors (IFAD, UEMOA, FAO, NGOs, OMVG)
Strategic Axis 4 - Legal and legislative framework						
States, Ministries of Agriculture, OMVG legal advisors	4.1.1	5,000,000				5,000,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
Ministries in charge of agriculture + Economy + OMVG	4.1.2	5,000,000				5,000,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
Ministries in charge of agriculture + Economy + OMVG	4.1.3	3,000,000				3,000,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
Ministries in charge of forests + OMVG	4.1.4	425,000				425,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
Ministries in charge of forests + OMVG	4.1.5	680,000				680,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
States, Ministries of Agriculture, OMVG legal advisors	4.1.6	8,500,000				8,500,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
Ministries in charge of fisheries + OMVG	4.2.1	425,000				425,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
Ministries in charge of fisheries + OMVG	4.2.2	1,360,000				1,360,000 USD OMVG States Donors (IDA, UEMOA, EU, OMVG)
Strategic Axis 5 - Research, data acquisition, collection and processing & knowledge dissemination						
States, Ministries of Agriculture, and OMVG	5.1.1	15,000,000				15,000,000 USD OMVG States Donors (IDA, UEMOA, EU, FAO, OMVG)

States, Ministries of Agriculture, Livestock + Forestry + Fisheries and OMVG	5.1.2	595,000				595,000 USD OMVG States Donors (IDA, UEMOA, EU, FAO, OMVG)
Ministries in charge of forests + OMVG	5.1.3	1,105,000				1,105,000 USD OMVG States Donors (IDA, UEMOA, EU, FAO, OMVG)
Ministries in charge of fisheries + OMVG	5.1.4	3,400,000				3,400,000 USD OMVG States Donors (IDA, UEMOA, EU, FAO, OMVG)
Ministries in charge of fisheries + OMVG	5.1.5	850,000				850,000 USD OMVG States Donors (IDA, UEMOA, EU, FAO, OMVG)
Ministries in charge of fisheries + OMVG	5.1.6	850,000				850,000 USD OMVG States Donors (IDA, UEMOA, EU, FAO, OMVG)
States, Ministries of Agriculture + Livestock + Forestry + Fisheries and OMVG	5.2.1	3,400,000				3,400,000 USD OMVG States Donors (IDA, UEMOA, EU, FAO, WTO)

5.6 IMPLEMENTATION FRAMEWORK

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
Overall goal - vision 2040	A competitive, sustainable, climate change resilient and inclusive agro-sylvo-pastoral and fisheries sector ensuring food security, improving quality of life and securing the environment						
Strategic areas	Strategic Area 1 - Ensure food self-sufficiency through more sustainable agricultural and livestock production						
	Strategic Area 2 - Improving people's income and reducing poverty						
	Strategic Axis 3 - Protection and enhancement of the environment and contribution to climate change mitigation and adaptation						
	Strategic Area 4 - Strengthening the legal and legislative framework						
	Strategic Area 5 - Research, data acquisition, collection and processing, and knowledge dissemination						
Action Plan 1 (Decision 1) Agriculture	Measure 1.1.1 - Building a productive and resilient agri-food system (GIRAV)	Productivity of targeted agricultural products (yield in metric tonnes/hectare)	12	Ministry of Agriculture Gambia	2023 - 2028	Annual report of the Ministry and the World Bank	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.1.2 - Develop mangrove agriculture (PRO-GB)	Area of mangrove recovered (ha) Productivity of mangrove rice cultivation (yield in metric tons/hectare) Average income of farmers	1,5	Ministry of Agriculture Guinea Bissau	2022-2024	Ministry and EU Annual Report	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.1.3 - Support project to improve the resilience of mangrove rice cultivation in The Gambia	Area of mangrove recovered (ha) Productivity of mangrove rice cultivation (yield in metric tons/hectare) Average income of farmers	4,5	Ministry of Agriculture Gambia	2023 - 2027	Annual report of the Ministry and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.1.4 - Improvement of agricultural production and productivity	Crop productivity (yield in metric tonnes/hectare) Average income of farmers Food Consumption Score (FCS)	25,5	Ministries of Agriculture of Member States / OMVG	2023 - 2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.1.5 - Rice cultivation	Irrigated rice area (ha) Rice productivity (yield in metric tonnes/hectare) Average income of farmers	104,7	Ministries of Agriculture of Member States / OMVG	2023 - 2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.2.1 - Development and management of infrastructures (ROOTS)	Area actually irrigated (ha)	41,9	Ministry of Agriculture - Gambia	2022-2025	Annual report of the Ministry of Agriculture and IFAD	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.2.2 - Construction/rehabilitation of facilities and management of infrastructures (SODAGRI's strategic plan)	Area actually irrigated (ha)	95,1	SODAGRI	2023-2027	Annual report of SODAGRI and the Donors	SODAGRI and donors have mobilised the necessary funds for the project

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
	Measure 1.2.3 - Realisation/rehabilitation of hydro-agricultural developments in Guinea Bissau within the OMVG area (16 100 ha)	Area actually irrigated (ha)	159,4	Ministry of Agriculture, Livestock and Forestry (MAEF) - Guinea Bissau	2022-2040	Annual report of the Ministry of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.2.4 - Construction of the Hydro-Agricultural Development of Camposa (2000 ha), in Guinea-Bissau, on the Geba River	Area actually irrigated (ha)	80	Ministry of Agriculture - Guinea Bissau and OMVG	2024-2029	Annual report of the Ministry of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.2.5 - Development and expansion of hydro-agricultural schemes in Guinea in the OMVG area	Area actually irrigated (ha)	105,0	Ministry of Agriculture - Guinea	2022-2040	Annual report of the Ministry of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.2.6 - Expansion of irrigated agriculture in The Gambia and Senegal in the OMVG area	Area actually irrigated (ha)	302,4	Ministries of Agriculture of The Gambia and Senegal / OMVG	2022-2040	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.6.1 - Provision of agricultural services (ROOTS)	Agricultural support services available. Emergence of 240 youth-led enterprises	11,7	Ministry of Agriculture - Gambia	2022-2025	Annual report of the Ministry of Agriculture and IFAD	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.6.2 - Operation and organisational management (SODAGRI Strategic Plan)	Project studies to be submitted to technical and financial partners	12,0	SODAGRI	2023-2027	Annual report of SODADRI and the Donors	SODAGRI and donors have mobilised the necessary funds for the project
	Measure 2.1.3 - Gaoual-Koundara-Mali Integrated Rural Development Project (PDRI-GKM)	Number of beneficiary producers including women and youth ; Household income; Post-harvest losses.	15,0	Ministry of Agriculture Guinea	2022 - 2024	Annual report of the Ministry and the Islamic Development Bank	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.1.4 - Development of small areas for market gardening	Average income of farmers	6	Government of Guinea, Senegal, Gambia and Guinea Bissau	2023 - 2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.2.1 - Improving the business environment for the development of commercial agriculture (GIRAV)	Human and material resources of the producer and professional organisations involved. Mechanism for cooperation between different actors in the five targeted value chains. Strengthening the capacity of the Gambia Investment	8	Ministry of Agriculture Gambia	2021 - 2026	Annual report of the Ministry and the World Bank	Member States and Donors have mobilised the necessary funds for the project

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
		and Export Promotion Agency (GIEPA)					
	Measure 2.2.2 - Encourage the development of commercial agriculture (P164184)	Jobs created ; Number of women beneficiaries ; Number of beneficiary farmers or rural households ; Volume of agri-food products marketed by the beneficiaries.	31,7	Ministry of Agriculture Guinea	2022-2033	Annual report of the Ministry and the World Bank	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.2.3 - Institutional support and strengthening of agricultural services project	Human and material resources of the public and private services involved.	1,1	Government of Guinea, Senegal, Gambia and Guinea Bissau	2023 - 2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.1 - Access to markets (ROOTS)	Number of agricultural organisations led by women and young beneficiaries. Number of 4P business plans developed and funded.	13,5	Ministry of Agriculture - Gambia	2022-2025	Annual report of the Ministry of Agriculture and IFAD	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.2 - Development of value chains (SODAGRI Strategic Plan)	Cultivated area Crop yields Productions	1,3	SODAGRI	2023-2027	Annual report of SODAGRI and the Donors	SODAGRI and donors have mobilised the necessary funds for the project
	Measure 2.3.3 - Improving market access (P164184)	Jobs created ; Number of women beneficiaries ; Number of beneficiary farmers or rural households ; Volume of agri-food products marketed by the beneficiaries	150,5	Ministry of Agriculture Guinea	2022-2033	Annual report of the Ministry and the World Bank	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.4 - Supporting private investment (P164184)	Jobs created ; Number of women beneficiaries ; Number of beneficiary farmers or rural households ; Volume of agri-food products marketed by the beneficiaries	79,2	Ministry of Agriculture Guinea	2022-2033	Annual report of the Ministry and the World Bank	Member States and Donors have mobilised the necessary funds for the project
	Measure 3.3.5 - Processing, conservation and marketing of rice (PRO-GB)	Yields of targeted agricultural products (yield in metric tonnes/hectare) Farmers' incomes	3	Ministry of Agriculture Guinea Bissau	2022-2024	Annual report of the Ministry of Agriculture and the EU	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.6 - Fruit and Vegetable Enhancement Programme	Added value organic production label Extension of the scheme to fruit and vegetables	13,660	Ministry of Agriculture - Guinea Bissau	2023-2030	Annual report of the Ministry of Agriculture and the EU	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.9 Project for the diversification of family agriculture,	Farmers' incomes Yields of targeted agricultural products (yield in	0,6	Ministry of Agriculture - Guinea Bissau	2020-2025	Annual report of the Ministry of Agriculture and IFAD	Member States and Donors have mobilised the

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
Action Plan 2 (Decision 2) Livestock	integrated markets and nutrition in the face of climate change in Guinea Bissau (REDE)	metric tonnes/hectare) Number of women and young beneficiaries ; Rehabilitated infrastructure rural microenterprises (REM) beneficiaries					necessary funds for the project
	Measure 2.3.10 - Promotion of agricultural and agro-industrial sectors	Farmers' incomes Yields of targeted agricultural products (yield in metric tonnes/hectare) Number of women and young beneficiaries	17,085	Ministries of Agriculture of Member States / OMVG	2023-2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.11 - Support project for the tree sector	Farmers' incomes Yields of targeted agricultural products (yield in metric tonnes/hectare) Number of women and young beneficiaries	17	Ministries of Agriculture of Member States / OMVG	2023 - 2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 4.1.1 - Elaboration and/or revision of the regulatory and legal framework of water users' cooperatives and associations	Definition of the legal status of water users' associations	5	Ministries of Agriculture of Member States / OMVG	2023-2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 4.1.2 - Development and/or revision of the legislative framework in terms of agricultural water pricing policy	Financial resources for the operation and maintenance of hydro-agricultural facilities	5	Ministries of Agriculture of Member States / OMVG	2023-2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 4.1.3 - Development and/or revision of the legal framework for public-private partnerships (PPPs) in agriculture	Number of PPPs in the agricultural sector	3	Ministries of Agriculture of Member States / OMVG	2026-2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.3.1 - Health protection of livestock in the OMVG area	Mortality of cattle, sheep, goats and poultry reduced	13,750	Ministries of Agriculture of Member States / OMVG	2023-2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.3.2 - Selection and dissemination of Ndama breed improvers	Productivity of the Ndama breed	12	Ministries of Agriculture of Member States / OMVG	2024-2028	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.3.3 - Special artificial insemination programme to	Milk produced (litres/cow) National milk production	15	Ministries of Agriculture of Member	2024-2028	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
	improve national milk production			States / OMVG			
	Measure 1.3.4 - Programme for the development of pastoral hydraulics (development) and management of agro-sylvo-pastoral spaces and resources and improvement of cross-border transhumance	Available pastoral resources	20	Ministries of Agriculture of Member States / OMVG	2024-2028	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.3.5 - Diversification of livestock forms by promoting poultry farming, small ruminant farming, beekeeping, etc.	Income from livestock activities	15	Ministries of Agriculture of Member States / OMVG	2023-2027	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.3.6 - Intensified livestock systems (improvement of management methods through intensification in peri-urban areas)	Beef and milk production Reduction of meat and milk imports Income from livestock activities	10	Ministries of Agriculture of Member States / OMVG	2023-2028	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.12 - Programme to facilitate market access and promote the livestock/meat and milk sectors in the OMVG area	Beef and milk production Income from livestock activities	13,5	Ministries of Agriculture of Member States / OMVG	2024-2028	Annual report of the Ministries of Agriculture and Donors	Member States and Donors have mobilised the necessary funds for the project
Action Plan 3 (Decision 3) Forests	Measure 1.4.1 - Programme for the improvement of collection techniques and valorisation of non-timber forest products (NTFP)	Quantities extracted from NFPLAdoption of a quality label.	0,34	Ministries in charge of forests in the Member States / OMVG	2024-2028	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.4.2 - Programme to strengthen the technical, managerial and organisational capacities of Non Timber Forest Products (NTFP) institutions and actors	Human and material resources	0,51	Ministries in charge of forests in the Member States / OMVG	2024-2016	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.4.3 - Project to increase forest resources in the three OMVG watersheds	Quantities extracted from NFPLAdoption of a quality label	2,185	Ministries in charge of forests in the Member States / OMVG	2023 - 2027	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.6.3 - Capacity building programme for commodity groups and consultation bodies	Human and material resources of the riverine population's groupings and subsidiaries	0,765	Ministries in charge of forests in the Member States / OMVG	2029-2033	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
	Measure 2.1.5 - Non-timber forest products (NTFP) valorisation project in the OMVG watersheds	Income from NTFP activities Landscape structure is maintained The richness and diversity of the selected groups do not show significant changes	2,542	Ministries in charge of forests in the Member States / OMVG	2023 - 2027	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.7- Programme to improve the NTFP distribution and marketing system within the countries	Distribution and marketing of NTFPs	0,453	Ministries in charge of forests in the Member States / OMVG	2024-2028	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 3.2.1 - Monitoring, Control and Surveillance Programme of forestry resources development activities in and around the Gambia, Kayanga/Geba and Koliba/Corubal river basins	Number of participatory monitoring structures	0,595	Ministries in charge of forests in the Member States / OMVG	2026-2030	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 4.1.4 - Elaboration and/or revision of the regulatory and legal framework for the exploitation of forest resources in and around the basins of the Gambia, Kayanga/Geba and Koliba/Corubal rivers	Regulatory and legal framework for the sustainable use and conservation of forest resources	0,425	Ministries in charge of forests in the Member States / OMVG	2024-2028	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 4.1.5 - Training and capacity building of members of forestry groups for a good application of texts regulating and legally framing the sustainable exploitation of forest resources	Qualified research and development staff	0,680	Ministries in charge of forests in the Member States / OMVG	2027-2031	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 5.1.3 - Research programme on NTFP collection, packaging and processing techniques	Qualifications of technicians	1,105	Ministries in charge of forests in the Member States / OMVG	2026-2030	Annual report of the ministries in charge of forests and donors	Member States and Donors have mobilised the necessary funds for the project
Action Plan 4 (Decision)	Measure 1.5.1 - Inland Fisheries and Inland Waterways	An inland fisheries and inland waterways	1,700	Ministries in charge of fisheries in member	2023-2028	Annual report of the ministries in charge of	Member States and Donors have mobilised the

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
4) Fisheries and aquaculture	Management Programme	management programme		states / OMVG		fisheries and donors	necessary funds for the project
	Measure 1.5.2 - Programme to strengthen the technical, managerial and organisational capacities of institutions and actors	Human and material resources	1,360	Ministries in charge of fisheries in member states / OMVG	2023-2028	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.5.3 - Monitoring, Control and Surveillance Programme for Fisheries Activities	Fishery resources	3,655	Ministries in charge of fisheries in member states / OMVG	2023-2040	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.5.4 - Capacity building programme for professional organisations and consultation bodies	Number of professional fisheries organisations. Human and material resources	0,68	Ministries in charge of fisheries in member states / OMVG	2023-2027	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.5.5 - Strengthening cooperation in fisheries and aquaculture	Number of technical cooperations between national and international institutions	0,51	Ministries in charge of fisheries in member states / OMVG	2029-2033	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 1.5.6 - Improvement of the production of continental fisheries resources in the OMVG catchment areas	Fisheries production ; Fishermen's income Food Consumption Score (FCS)	2,676	Ministries in charge of fisheries in the Member States / OMVG	2023 - 2027	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.1.2 - Support for continental fishing in the basins of the Gambia, Kayanga/Geba and Koliba/Corubal rivers	Fisheries production ; Fishermen's income	2,550	Ministries in charge of fisheries in member states / OMVG	2026-2030	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 2.3.8 - Programme to improve the distribution and marketing system of fish within countries	Fish distribution and marketing system	0,177	Ministries in charge of fisheries in member states / OMVG	2022-2027	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 3.2.2 - Fisheries Monitoring, Control and Surveillance Programme	Number of participatory monitoring structures	1,088	Ministries in charge of fisheries in member states / OMVG	2024-2028	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 4.2.1 - Elaboration and/or revision of the regulatory and legal framework for the exploitation of inland fisheries	Regulatory and legal framework for the sustainable exploitation and conservation of fisheries resources	0,425	Ministries in charge of fisheries in member states / OMVG	2023-2027	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
	resources and aquaculture						
	Measure 4.2.2 - Training and capacity building of fisheries managers for a good application of the texts regulating and providing a legal framework for the sustainable exploitation of fisheries resources and aquaculture	Qualifications of technicians	1,36	Ministries in charge of fisheries in member states / OMVG	2023-2027	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 5.1.4 - Inland Fisheries and Aquaculture Research Programme	Qualifications of technicians	3,4	Ministries in charge of fisheries in member states / OMVG	2028-2032	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 5.1.5 - Technical cooperation programme with FAO, Worldfish, Sub-Regional Fisheries Commission, ECOWAS, etc.	Number of cooperation programmes	0,850	Ministries in charge of fisheries in member states / OMVG	2028-2032	Annual report of the ministries in charge of fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
Action Plan 5 (Decision 5) Cross-sectoral	Measure 2.1.1 - Supporting the resilience of poor households to climate shocks (SODAGRI Strategic Plan)	5000 fenced vegetable gardens with a surface area of 100 m2 Number of goats and chickens supplied	9,0	SODAGRI	2023-2027	Annual report of SODAGRI and the Donors	SODAGRI and donors have mobilised the necessary funds for the project
	Measure 3.1.1 - Sustainable soil management programme	Area of land covered by the programme	7	Ministries in charge of agriculture and forestry of member states / OMVG	2024-2028	Annual report of the ministries in charge of agriculture and forestry and the donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 3.1.2 - Support for the development of local authorities and the management of natural resources (SODAGRI's strategic plan)	Land tool package ; Resources of territorial actors ; Number of local authorities funded ; The development of the CDP ; Bushfire number	10,1	SODAGRI	2023-2027	Annual report of SODAGRI and the Donors	SODAGRI and donors have mobilised the necessary funds for the project
	Measure 3.1.3 - Monitoring, Control and Surveillance Programme of the Biodiversity of Protected Areas	Indicators of biodiversity status	2,3	States, Ministries of Agriculture + Livestock + Forestry + Fisheries and OMVG	2023-2040	Annual report of the ministries in charge of agriculture + livestock + forestry + fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 4.1.6 - Project on land tenure security in the Gambia, Kayanga/Geba and	Access to land Common harmonised land policy	8,5	States, Ministries of Agriculture and OMVG	2024-2028	Annual report of the ministries in charge of agriculture and donors	Member States and Donors have mobilised the necessary funds for the project

Agro-sylvo-pastoral and fishing	Description	IOV indicator (Baseline)	Budget (USD million)	Actors	Period	Verification sources	Risks and assumptions
	Koliba/Corubal river basins						
	Measure 5.1.1 - Capacity building programme in the agricultural sector to help the sector to structure itself	Skilled Service Technicians ; Working tools	15,0	States, Ministries of Agriculture + Livestock + Forestry + Fisheries and OMVG	2023-2040	Annual report of the ministries in charge of agriculture + livestock + forestry + fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 5.1.2 - Technical cooperation programme with FAO, CILSS, ECOWAS, etc.	Programme number	0,6	States, Ministries of Agriculture + Livestock + Forestry + Fisheries and OMVG	2023-2027	Annual report of the ministries in charge of agriculture + livestock + forestry + fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 5.1.6 - Administration and Research Capacity Building Programme	Capacities of administrative and research technicians	3,4	States, Ministries of Agriculture + Livestock + Forestry + Fisheries and OMVG	2023-2040	Annual report of the ministries in charge of agriculture + livestock + forestry + fisheries and donors	Member States and Donors have mobilised the necessary funds for the project
	Measure 5.2.1 - Programme to develop agricultural research, training and extension	Qualified human resources ; Infrastructure, equipment, tools and software for analysis and management ; Database ; Extension system	16,1	States, Ministries of Agriculture + Livestock + Forestry + Fisheries and OMVG	2022-2040	Annual report of the ministries in charge of agriculture + livestock + forestry + fisheries and donors	Member States and Donors have mobilised the necessary funds for the project

6 ASSESSMENT OF THE IMPACTS OF THE SECTOR PLAN ON WATER AND THE ENVIRONMENT

6.1 POTENTIAL IMPACTS IDENTIFIED ON WATER RESOURCES AND ECOSYSTEMS

Agriculture, which is essential for food sustenance, has evolved significantly over the last century. Advances in technology combined with new farming methods have allowed for unprecedented levels of production to meet the demands of the growing population. However, this increase in agricultural production through the increased use of fertilisers, pesticides and fossil fuels has had a number of negative impacts on the environment, particularly in terms of ecosystems, greenhouse gas (GHG) emissions, energy consumption and biodiversity. In summary, agricultural activities affect the environment in different ways:

Use of fertilisers and pesticides

The use of fertilisers is a common practice in agriculture. They are used primarily to increase the quantity of nutrients in the soil (nitrogen, phosphorus, potassium, etc.). They come directly from the farm (animal manure or other), from commercial suppliers, or from industrial or municipal activities. Nevertheless, there are various agri-environmental fertiliser management practices carried out on the farm that help to reduce the impact of agricultural activities on the environment.

River and groundwater contamination and threats to biodiversity conservation

The protection of watercourses and the improvement of water quality and aquatic habitats are key issues in agriculture. This is why great attention must be paid to the management of fertilisers and pesticides and to soil conservation in order to avoid contamination of watercourses, and to the protection of riverbanks in order to avoid degradation of the aquatic environment and to ensure the preservation of biodiversity.

Greenhouse gas emissions

The agriculture sector contributes to the emission of greenhouse gases (GHGs) into the atmosphere through, among other things, agricultural soil management, enteric fermentation, manure management and CO₂, notably associated with the application of agricultural lime, urea and other nitrogen fertilisers. It should be noted that the agricultural GHG balance does not consider CO₂ emissions associated with the use of fossil fuels, specifically machinery and transport on the farm, mineral fertiliser production and heating of buildings.

MAIN IMPACTS ASSOCIATED WITH AGRICULTURAL ACTIVITY

The main impacts associated with agricultural activity are the following:

Agricultural activities can have an impact on **the level of water resources or on the quality of environment** receiving wastewater discharges. The application of good agricultural practices contributes to the prevention of these potential impacts, which also justify the existence of specific regulations for agricultural uses.

Water abstraction for agricultural activities contributes to the lowering of water levels in rivers, water bodies and groundwater. In dry periods, these withdrawals can therefore accentuate the natural low water levels of aquatic environments and groundwater and their consequences. This is particularly the case with withdrawals **for irrigation**, which occur when the needs of plants exceed the quantity of water naturally available - especially in the dry season - and generally coincide with the period of natural low water in rivers.

After water use, **agricultural wastewater** - generally referred to as effluent - can pose a risk to the environment: nutrients contained in livestock manure spread on crops can be carried by rainwater into rivers and groundwater.

Other **agricultural effluents** - remains of phytosanitary preparations, equipment washing water - must not be discharged into the environment before specific treatment. In case of insufficient treatment or direct discharge, they are likely to cause pollution of the environment. In addition, phytosanitary substances and fertilisers spread on crops are likely to be washed away by rainfall, thus contaminating aquatic ecosystems and groundwater.

To artificially increase the availability of nitrogen and phosphate in the soil, nitrogen and phosphate fertilisers are also contained in the fertilisers used in agriculture. During rainfall, **some of the nitrates and phosphates they contain reach rivers** through runoff or groundwater through infiltration, leading to an increase in concentration.

The transformation of environments, whether it be **the drainage** of wetlands or the **artificialisation** of watercourses, modifies their natural functioning. This work is likely to have numerous consequences: degradation of the state of the environment, increased flooding and low water levels, etc. Lastly, working the land can weaken certain soils, resulting in less good infiltration and an increase in the phenomenon of erosion.

Cultivated soils that remain bare in winter after ploughing are more exposed. Modifications to water flow in the basin area can also result from the sealing of soils: runoff is favoured at the expense of infiltration, which increases the erosive capacity of water. This increases the erosive capacity of the water. **Soil and environmental erosion** is then favoured downstream.

The modification or further loss of soils due to water erosion can alter various soil characteristics, including structure, stability and texture.

Lower yields due to salinization of soils (due to the use of salt water) and **difficult access to water** in some areas can also be observed.

In addition, **soil compaction** due to the use of agricultural machinery alters soil structure, reduces water and root penetration, root growth and density, affects microbial activity and increases root diseases.

Agriculture also contributes to the **degradation of air quality** by emitting several pollutants, including **ammonia (NH₃)**, **volatile organic compounds (VOCs)**, **nitrogen oxides (NO_x)** and suspended particulate matter. VOCs have important health and environmental consequences. Among other things, they contribute to the formation of particulate matter and tropospheric ozone, leading to the appearance of photochemical smog. In addition to being harmful to the human respiratory system, this excess ozone adds to the greenhouse effect and consequently to global warming. The nitrogen and hydrogen compound is associated with certain respiratory diseases in humans and farm animals. The effects of nitrogen dioxide (NO₂) in its raw state can cause respiratory problems in wildlife and humans, as well as damage to vegetation.

Another source of air pollution is the use of **pesticides**. During field spraying, thousands of pesticide droplets and vapours are airborne outside the target area. Inhalation of pesticides can cause problems to the respiratory tract of humans and can also be toxic to many organisms and alter the integrity of terrestrial and aquatic environments. Declining productivity compounded by lack of awareness of environmental issues and climate change.

The loss and deterioration of habitats and natural environments, due in particular to the intensification of agriculture, are the main causes of the massive disappearance of species and, by the same token, of the erosion of biodiversity. The fragmentation and destruction of several natural environments to the detriment of agriculture has a direct impact on a large number of species. Wetlands and forests are two examples where the expansion of cultivated areas regularly takes place at their expense.

The disappearance of forests for agricultural purposes leads to a loss of refuges for wildlife species and a reduction in the quality of the remaining natural environments. It must be said that the intensive monoculture fields that replace the destroyed wooded areas are not very attractive to wildlife.

Finally, the **dramatic decline in pollinating insect populations** associated with the use of neonicotinoids, a family of broad-spectrum insecticides used to protect crops from insect pests, means that they also unintentionally affect other insect species such as pollinators. Furthermore, the impacts of neonicotinoid use in agriculture do not stop with pollinators. Several groups can be affected by the contamination of water and soil by this pesticide, including small invertebrates with important ecological roles, such as ladybirds and earthworms. Several bird species are also affected by this insecticide.

6.2 AVOIDANCE, MITIGATION OR COMPENSATION MEASURES

Below is a draft list of the most commonly used measures to reduce and/or offset predicted impacts:

- Efforts are being made to **acquire essential knowledge on the current and future availability of water**, to monitor its use, to inform and raise awareness among the population and to promote informed decision-making for the conservation of water resources. In addition, actions are being put forward, notably to better plan land use and better prepare the population for climate change.
- Better **management of water abstraction** and **reduction of drinking water consumption** are part of the conservation and efficient use of the resource to ensure sufficient water for all uses and in particular in the agricultural sector.
- Develop a **water conservation and efficiency programme**. This programme aims to make water abstraction sustainable by considering the protection of ecosystems and water uses, and to reduce and rationalise the use of pesticides and to avoid and mitigate environmental and health damage.
- Conduct studies and research to **identify ecological water needs** in the most rational and scientific way possible, specifying hotspots, seasonal variations, required water characteristics (e.g. salinity levels) and the impact of climate change.
- **Ecological needs** should be detailed for each area concerned and for each period of the year and should be accompanied by information on water quality requirements. These data would allow for clearer environmental policies to be developed by decision-makers at all levels, based on specific trade-offs between different economic sectors and on the most urgent areas for intervention.
- Assess the cumulative and sector-specific effects of different water uses on biodiversity and ecosystem services at the basin scale.
- **Improve the technical performance of agricultural production** by adopting conservative soil management; **using chemicals and irrigation rationally**, taking into account the actual needs of the crop, weather conditions and timing; using **efficient and/or innovative technologies**, such as drip irrigation, smart irrigation software and geothermal greenhouses.
- Adopt varied, adapted and **innovative agricultural practices**, such as **crop diversification** at the plot level, **crop rotation**, grazing and transhumance, **integration of traditional and/or new crops** that are resistant to water and salt stress (e.g. olives, almonds, argan and quinoa), and introduction of hydroponics.
- Adopt **financial assistance programmes** to enable farmers to reduce their GHG emissions.
- Adopt good agri-environmental practices to **rationalise, reduce and replace** the use of pesticides in agriculture are also encouraged in order to reduce the risks of these products to health and the environment.

Thus, the list of **general measures** is as follows:

- Produce indicators on water resources and demand;
- Develop water resource management scenarios for the development of the basin;
- Develop and manage common observation networks in the basin;
- Strengthen and update the common database through the exchange of data and information;
- Integrate ecological needs into the water balance;
- Systematically carry out an environmental and social impact assessment for all new infrastructure (large and small);

- Take effective mitigation measures for the environmental and social risks and impacts identified (as a result of the environmental and social assessment) as part of an environmental and social management plan;
- Promote innovative practices and techniques for sustainable soil and crop management;
- Implement agricultural policies oriented towards sustainable and productive agriculture;
- Develop a strategy to improve agricultural practices by upgrading irrigation and drainage systems and promoting less water-intensive and/or salt-resistant crops;
- Establish specific policies and incentives for wastewater reuse in agriculture and urban areas;
- Develop the wide use of non-conventional water resources through desalination and wastewater and drainage treatment;
- Develop an inventory of crops that can be irrigated with treated wastewater without health consequences, in accordance with national regulations and international export standards;
- Promote the reuse of drainage water for irrigation purposes (combined with sustainable soil management and safe disposal of pollutants);
- Develop a sustainable multi-purpose renewable energy programme and develop sustainable small-scale solar irrigation;
- Encourage the circular economy, including agro-ecological practices, through appropriate economic measures and social schemes;
- Promote local products and strengthen programmes for a more balanced diet while involving youth and women in economic and social development;
- Better coordinate the implementation of projects and policies in the fields of agriculture, energy and water;
- Strengthen cross-border cooperation for sustainable water resources management.

7 CONCLUSIONS AND RECOMMENDATIONS

Optimising the use of scarce natural resources to achieve sustainable development is a challenging task for governments, which becomes even more complex in a cross-border context. It involves maximising mutual benefits, **minimising trade-offs and creating synergies between different sectoral policies, but also between countries**. To this end, this Plan provides a very useful framework for understanding **cross-sectoral linkages** and finding relevant and feasible solutions leading to improved water, energy and food security, while preserving ecosystems and their functions.

The strategic policies of the sectors concerned may differ from one country to another, as they do not respond to the same ambitions, constraints and needs. These factors can have a determining influence on governance structures, but also on the institutional and legal frameworks of reference. On the other hand, all sectors share at least one common objective: **to develop sustainably by using resources (natural, human and economic) optimally and with maximum efficiency**. Each sector must do its part and reflect this common goal in its own strategies and policies, and it is essential that the environment sector actively contributes to these efforts, not only by helping the water, energy and food sectors to address environmental issues, but also by taking the lead in broader environmental measures. As sectoral issues are closely interrelated, a lack of coordination can lead to disappointing results and even unintended consequences in other sectors.

To avoid these problems, future strategies should therefore have a dual objective: **to promote the long-term transformation of food production into sustainable and environmentally friendly resource use, and to mitigate harmful short-term effects**.

The administrative and policy framework within which food production can increase without widespread environmental damage must have at least four main elements:

- initiating **dynamic and participatory land-use planning processes** that identify and mitigate the risks of natural resource degradation and other environmental impacts;
- **Well-designed economic and social policies to improve the capacity of food producers** in poor areas to rationally manage soil fertility and moisture, pests and biodiversity within whole systems. In many cases, it is necessary to address major social or economic issues such as the equitable distribution of productive assets, access to capital or unemployment in order to succeed;
- **Increased investment in human capital and rural infrastructure**, including improved use of information and communication technologies, training of agricultural advisors who must also be empowered to work with farmers to apply environmentally friendly production methods and promote private sector development;
- **Continuous forecasting, monitoring and assessment of environmental impacts** at all stages of the food production chain through information management, decision support systems, sustainability indicators and geographical references.

ANNEXES

Annexe 1. Irrigation water requirements for rice, dry cereals (maize) and vegetable crops

Besoins en eau d'irrigation utiles mensuels y annuels (moyenne des années 1981-2018)															
Sous-bassins	Culture	Saison	Janvier	Février	Mar	Avril	May	June	Juillet	Août	Septembre	Octobre	Novembre	Décembre	Totale
Gambie Amont - Foutah Jallon	Riz	Sèche	461.26	340.07	401.45	173.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1376.40
Gambie Amont - Foutah Jallon	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	207.85	0.00	8.29	133.39	0.00	0.00	349.53
Gambie - PNKP - Vallée intermédiaire	Riz	Sèche	457.56	332.79	402.71	183.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1376.10
Gambie - PNKP - Vallée intermédiaire	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	244.77	5.32	69.68	188.35	0.00	0.00	508.12
Gambie Aval - Estuaire et mangroves	Riz	Sèche	460.02	338.68	413.41	187.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1399.71
Gambie Aval - Estuaire et mangroves	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	253.97	15.91	86.47	206.29	0.00	0.00	562.64
Gambie Aval - Zones humides	Riz	Sèche	455.58	331.26	403.50	184.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1375.18
Gambie Aval - Zones humides	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	271.96	36.42	97.90	205.03	0.00	0.00	611.31
Kayanga Amont	Riz	Sèche	451.02	327.94	395.11	181.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1355.81
Kayanga Amont	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	225.69	0.36	36.87	158.57	0.00	0.00	421.49
Kayanga Aval - Geba	Riz	Sèche	448.46	322.18	388.58	179.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1338.55
Kayanga Aval - Geba	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	205.96	0.00	1.84	92.46	0.00	0.00	300.26
Koliba Amont - Foutah Jallon	Riz	Sèche	458.41	335.08	396.74	166.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1356.53
Koliba Amont - Foutah Jallon	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	198.72	0.00	0.00	43.51	0.00	0.00	242.23
Koliba - Corubal Vallée intermédiaire	Riz	Sèche	453.56	330.18	395.52	177.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1356.95
Koliba - Corubal Vallée intermédiaire	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	204.30	0.00	0.43	73.67	0.00	0.00	278.40
Corubal Aval - Zones humides	Riz	Sèche	448.82	321.91	389.60	177.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1337.75
Corubal Aval - Zones humides	Riz	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	199.88	0.00	0.00	58.42	0.00	0.00	258.30

Calculs effectués avec le modèle IRRICEP en base des données CHIRPS (Climate Hazards Group Infrared Precipitation with Stations) pour la précipitation et des données du CRU (Unité de Recherche sur le Climat) pour la variable évapotranspiration.

Besoins en eau d'irrigation utiles mensuels y annuels (moyenne des années 1981-2018)															
Sous-bassins	Culture	Saison	Janvier	Février	Mar	Avril	May	June	Juillet	Août	Septembre	Octobre	Novembre	Décembre	Totale
Gambie Amont - Foutah Jallon	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gambie Amont - Foutah Jallon	Mais	Sèche	43.79	113.68	196.00	105.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.97
Gambie Amont - Foutah Jallon	Maraichage	Sèche	76.71	143.95	160.08	30.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	410.79
Gambie - PNKP - Vallée intermédiaire	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	5.08	0.00	0.00	0.00	0.00	0.00	0.00	5.08
Gambie - PNKP - Vallée intermédiaire	Mais	Sèche	42.03	109.63	197.05	117.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	466.18
Gambie - PNKP - Vallée intermédiaire	Maraichage	Sèche	74.13	138.84	161.24	34.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	409.03
Gambie Aval - Estuaire et mangroves	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	40.13	6.47	0.16	0.00	0.00	0.00	0.00	46.76
Gambie Aval - Estuaire et mangroves	Mais	Sèche	43.18	113.03	205.13	122.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	483.68
Gambie Aval - Estuaire et mangroves	Maraichage	Sèche	75.82	143.03	167.82	36.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	423.09
Gambie Aval - Zones humides	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	24.53	5.03	0.16	0.00	0.00	0.00	0.00	29.72
Gambie Aval - Zones humides	Mais	Sèche	40.97	108.82	197.50	119.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	466.95
Gambie Aval - Zones humides	Maraichage	Sèche	72.55	138.03	161.63	35.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	407.63
Kayanga Amont	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	2.61
Kayanga Amont	Mais	Sèche	38.61	106.95	191.26	116.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	453.00
Kayanga Amont	Maraichage	Sèche	69.32	135.55	156.50	34.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	395.76
Kayanga Aval - Geba	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.21
Kayanga Aval - Geba	Mais	Sèche	37.16	103.82	186.24	113.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	440.96
Kayanga Aval - Geba	Maraichage	Sèche	67.66	131.45	152.29	33.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	385.16
Koliba Amont - Foutah Jallon	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Koliba Amont - Foutah Jallon	Mais	Sèche	42.45	110.63	192.34	95.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	440.53
Koliba - Corubal Vallée intermédiaire	Maraichage	Sèche	74.61	140.39	157.05	25.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	397.50
Koliba - Corubal Vallée intermédiaire	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Koliba - Corubal Vallée intermédiaire	Mais	Sèche	39.95	108.13	191.55	110.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	450.55
Koliba - Corubal Vallée intermédiaire	Maraichage	Sèche	71.16	137.16	156.71	32.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	397.29
Corubal Aval - Zones humides	Mais	Des pluies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corubal Aval - Zones humides	Mais	Sèche	37.42	103.66	186.95	112.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	440.50
Corubal Aval - Zones humides	Maraichage	Sèche	67.92	131.18	153.05	33.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	385.28

Calculs effectués avec le modèle ISAREG en base des données CHIRPS (Climate Hazards Group Infrared Precipitation with Stations) pour la précipitation et des données du CRU (Unité de Recherche sur le Climat) pour la variable évapotranspiration



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