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Strengthening National Comprehensive
Agricultural Public Expenditure
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REPUBLIC OF SENEGAL

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MINISTRY OF AGRICULTURE

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BASIC AGRICULTURAL PUBLIC EXPENDITURE DIAGNOSTIC REVIEW (AgPER)

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FINAL REPORT

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CONTENTS

ACRONYMS AND ABBREVIATIONS

ACAB	Framework Agreement on Budget Support (*Accord Cadre pour les Appuis Budgétaires*)
AELP	African Emergency Locust Project
AGS	Accelerated growth strategy
ANCAR	National Agency for Agricultural and Rural Advisory Services (*Agence Nationale du Conseil Agricole et Rural*)
ANSD	National Statistics and Demographics Agency (*Agence Nationale de Statistiques et de la Démographie*)
APE	Agricultural Public Expenditure
APER	Agriculture Public Expenditure Review
ARMP	Public Procurement Regulatory Agency (*Agence de Régulation des Marchés Publics*)
ASAP	Agricultural Sector Adjustment Program
ASPOP	Program in support to Agricultural Services and Producer Organizations
CIB	Consolidated Investment Budget
BRLi	BRL Ingénierie (French engineering consulting firm)
CAADP	Comprehensive African Agriculture Development Programme
CFSVA	Comprehensive Vulnerability and Food Security Analysis
COF	Controller of Financial Operations (*Contrôleur des Opérations Financières*)
CUCI	Central Data Collection Center (*Centre Unique de Collecte de l'Information*)
DAGE	Directorates of General Administration and Equipment
DAPS	Directorate of Analysis, Forecasting and Statistics (*Direction de l'Analyse, de la Prévision et des Statistiques*)
DCEF	Directorate of Economic and Financial Cooperation (*Direction de la Coopération Économique et Financière*)
DCMP	Directorate for Public Procurement Inspection (*Direction de Contrôle des Marchés Publics*)
DEA	Data Envelopment Analysis
DP	Development Partner
DSF	Debt sustainability framework
DWP	Drinking water supply
ECOWAS	Economic Community of West African States
EDP	Economic Development Policies
EPR	Effective Protection Rate
FAO	United Nations Food and Agriculture Organization
FNH	National Hydraulics Fund (*Fonds national de l'hydraulique*)
FoMAED	Fund for the Maintenance of Drainage Feeders and Outlets (*Fonds de Maintenance des Adducteurs et Emissaires de Drainage*)
FoMIIG	Fund for the Maintenance of Infrastructure in the General Interest (*Fonds de maintenance des infrastructures d'intérêt général*)
FoMuR	Mutual funds for the renovation of pump stations and hydromechanical equipment
GDP	Gross Domestic Product
GFCF	Gross fixed capital formation
GOANA	Great Agricultural Offensive for Food and Abundance (*Grande Offensive Agricole pour la Nourriture et l'Abondance*)
IFMIS	Integrated Financial Management Information System
LFI	Initial budget act (*Loi de finance initiale*)
LFR	Supplementary budget act (*Loi de finances rectificative*)
LMP	Large motorized pumps
LOASP	Agro-Sylvo-Pastoral Act (*Loi d'Orientation Agro-Sylvo-Pastorale*)
MAH	Ministry of Agriculture and Hydraulics

MAP	Ministry of Agriculture and Aquaculture (*Ministère de l'Agriculture et de la Pisciculture*)
MASAHR	Ministry of Agriculture, Food Security, and Rural Water Supply (*Ministère de l'agriculture, de la sécurité alimentaire, et de l'hydraulique rurale*)
MDGs	Millennium Development Goals
MDRA	Ministry of Rural Development and Agriculture (*Ministère du développement rural et de l'agriculture*)
MEF	Ministry of Economy and Finance
MEL	Ministry of Livestock (*Ministère de l'Élevage*)
MEM	Ministry of Maritime Economy (*Ministère de l'Économie Maritime*)
MEMTMPP	Ministry of the Maritime Economy, Maritime Transportation, Fisheries, and Aquaculture (*Ministère de l'Économie Maritime, du Transport Maritime, de la Pêche et de la Pisciculture*)
MENV	Ministry of the Environment (*Ministère en Charge de l'Environnement*)
MEPN	Ministry of the Environment and Nature Protection (*Ministère de l'environnement et de la protection de la nature*)
MEPNBRLA	Ministry of the Environment, Nature Protection, Reservoirs, and Artificial Lakes (*Ministère de l'environnement, de la protection de la nature, des bassins de Rétention et lacs artificiels*)
MHRH	Ministry of Hydraulics and National Hydrographic Systems (*Ministère de l'hydraulique et du réseau hydrographique national*)
MHRRH	Ministry of Rural Water Supply and National Hydrographical Systems (*Ministère de l'Hydraulique Rurale et du Réseau Hydrographique*)
MUHCH	Ministry of Urban Planning, Housing, Construction, and Water Supply (*Ministère de l'Urbanisme, de l'Habit, de la Construction et de l'Hydraulique*)
NAIP	National Agriculture Investment Program
NAPA	National Action Plan for Adaptation to climate change
NCPI	National Consumer Price Index
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental Organization
OM	Organic matter
OMVS	Organization for the Development of the Senegal River (*Organisation pour la Mise en Valeur du Fleuve Sénégal*)
PADERCA	Support Project for Rural Development in Casamance (*Projet d'Appui au Développement Rural à Casamance*)
PAFS	Forestry Action Plan for Senegal (*Plan d'Action Forestier du Sénégal*)
PAP	Priority Action Plan
PAPIL	Support project for local small-scale irrigation (*Projet d'appui à la petite irrigation locale*)
PDMAS	Program for the Development of Agricultural Markets in Senegal (*Programme de Développement des Marchés Agricoles du Sénégal*)
PDRM	Project for the development of the region of Monts Mandara (*Projet de Développement de la Région des Monts Mandara*)
PEPAM	Water and Sanitation Millennium Program (*Programme d'eau potable et d'assainissement du Millénaire*)
PIP	Private irrigation project
PIV	Village irrigation scheme
PM	Prime Minister
PNAR	National Rice Self-Sufficiency Program (*Programme National d'Autosuffisance en Riz*)
PNDA	National Agricultural Development Program (*Programme National de Développement Agricole*)

PNDE	National Livestock Development Program (*Programme National de Développement de l'Élevage*)
PNDS	National Health Care Development Program (*Programme National de Développement Sanitaire*)
POs	Producers' Organizations
PR	President of the Republic
PRIMOCA	Rural Development Program in the Middle Casamance Region
PRODAM	Agricultural Development Program in Matam (*Projet de Développement Agricole de Matam*)
PROMER	Rural Entrepreneurship Project (*Projet Entreprenariat Rural*)
PRS	National Poverty Reduction Strategy
PRSP	Poverty Reduction Strategy Paper
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
REVA	*Return to Agriculture*
SAED	Delta and Faleme Land Development parastatal company (Société d'Aménagement et d'Exploitation des Terres du Delta et de la Falémé)
SAGE	General Administration and Equipment Services (*Services de l'Administration Générale et de l'Équipement*)
SGG	Government General Secretariat (*Secrétaire Général du Gouvernement*)
SMTEF	Sectoral Medium-Term Expenditure Framework
SODAGRI	*Société de Développement Agricole et Industriel* (parastatal company for the agricultural and industrial development of Senegal)
SODEFITEX	*Société de Développement des Fibres Textiles* (parastatal company for the development of textile fibers)
TPIP	Triennial Public Investment Program
UA/AfDB	African Development Bank unit of account
USA	United States of America
USD	United States Dollar
USDA-APHIS	USDA Animal and Plant Health Inspection Service
USDA-PAPA	USDA Participating Agency Program Agreement
VA	Value Added
VAT	Value Added Tax
VC	Variable costs
WAEMU	West African Economic and Monetary Union

GLOSSARY OF TERMS

Agricultural production index: An index calculated by using the price-weighted sum of the various agricultural outputs after subtracting inputs such as seed and/or animal feed (in statistics, this is the Laspeyres index for quantities of agricultural outputs in a base period). The FAO provides this indicator for many countries, including Senegal.

Cash flow constraints This is when the State does not have sufficient liquidity to pay its creditors and suppliers.

***Chèque d'appel de fonds*:** A *chèque d'appel de fonds* (equivalent to a withdrawal application) represents an application for a sum of money by a ministry or project from the Treasury in order to finance works, supplies, or expenses.

Data envelopment analysis (DEA): A mathematical optimization technique that allows one to identify the production frontier using a set of straight lines. This frontier represents the best yield at a given time, so that all other points located within this frontier are inefficient. The distance of a point from the frontier indicates the degree to which it is inefficient.

Development Partner (DP): An international organization that provides technical and/or financial assistance with the development of a less developed country. The assisting organization may be multilateral (World Bank, European Commission, African Development Bank) or a development agency from a developed country (USAID, Agence française de développement).

Distortion: Distortion refers to the difference in a given economy between the actual price and the price under conditions of market equilibrium and perfect competition. There are two possible reasons for this difference: one is related to the State implementing policies through its protection measures, while the other is related to market imperfections.

Gross fixed capital formation: Gross fixed capital formation (GFCF) is an aggregate index that measures acquisition of production goods by the various resident economic agents. The GFCF of public administrations is made up of fixed assets (capital goods, residential and non-residential buildings) purchased to be used in production processes for at least one year, but also goods and services included in acquired assets, land, and intangible assets.

Index of Spending on Agriculture: This is the share of public investment in the agricultural sector divided by agriculture's share in GDP. It offers an indicator of the extent to which public expenditure on agriculture translates into the sector contributing to the economy. The higher the value of the index, the more the expenditure on agriculture corresponds to agriculture's share in GDP.

Indirectly productive programs: These are programs that aim to improve production capacities but that have a less direct impact (long-term impact). This is the case with programs such as the education and training of farmers, programs for land registration, as well as the operating budgets of ministries.

Malmquist Productivity Index: This is the relationship between the output index and the input index. For example, the relationship between the Laspeyres index of the quantity of agricultural inputs and the Laspeyres index of agricultural output.

Nominal rate of assistance: The nominal rate of assistance (NRA) is a measure of the level of protection obtained by market distortions. It is equal to the relationship between the domestic price received by a producer and the economic parity price of a good, both calculated at the beginning of the agricultural activity. The NRA applies both to export and to import goods. The import (or export) parity price of a product is equal to its border price, plus (or less) the transport costs, which include all expenses incurred between the point of entry and the place of consumption.

Private goods: Unlike public goods, private goods are characterized by the principles of rivalry and excludability. A good is rivalrous when it is not possible for multiple economic agents to use it at the same time. It is exclusive when its use by an individual can always be prevented. State programs produce private goods and services. This is the case when granting

public subsidies for the purchase of agricultural inputs, or the irrigation schemes developed by the State for the benefit of producers.

Production technology: Functional relationship through which inputs are transformed into outputs.

Productive goods: A good is productive when it directly contributes to improving the production capacity of agriculture and/or other economic activities. Included under this category of goods are productive infrastructure, agricultural research, technology transfers, livestock health and food, sanitary systems, rural credit subsidies, agricultural insurance, production subsidies, etc.

Pro-poor or non-targeted programs: A distinction is made between programs that target the poor, small producers, vulnerable populations, and programs that do not target any social group in particular.

Public goods: These are non-excludable, non-rivalrous goods and services, in other words, their consumption by one individual does not affect consumption by others. These kinds of goods may be consumed by multiple individuals at the same time, and include investments such as rural infrastructure, systems for research and training, technology transfer to small producers, conservation of natural resources, environmental programs, and operating budgets of public institutions.

Regionalized added value: The added value per region obtained by breaking down the value added for the country as a whole, value added being the difference between the value of the goods and services produced and that of the goods and services used to produce them in the production process.

Scale Efficiency: Scale Efficiency is achieved when there is an increase in outputs following an increase in inputs.

Social programs: These programs aim to improve the living conditions of the population in general and are not directly aimed at the expansion of production capacity. These include goods such as improvement of social infrastructure, cash transfers not conditional on use for production, education programs, health care programs, social well-being programs, and programs in support of consumption.

Tax expenditures: Tax expenditures (or tax subsidy) is the difference between the amount of taxes due and the taxes effectively paid.

Technical production efficiency: A company or sector is technically efficient if it obtains the highest level of outputs for a given quantity of inputs.

Technological change: A change in production processes.

Trade bias: An indicator that measures the strength and the direction of influence of a State assistance policy in the agricultural sector on trade with the rest of the world. It allows one to determine whether a policy favors or undermines international trade.

EXECUTIVE SUMMARY

1. **This Basic Agricultural Public Expenditure Diagnostic Review (AgPER) analyzes the effectiveness and efficiency of public expenditure in agriculture, livestock production, fishery, rural waterworks, and natural-resource management in Senegal.** Agriculture has benefited from major transfers of public resources in the second half of this decade. Presidential initiatives demonstrate the priority it enjoys on the political agenda in Senegal. This review is a complement to the efforts of the Senegalese government to offer the sector inclusive, strong, and sustainable guidelines, strategies, and policies. It covers the work done by the ministries and other public institutions and by the private sector, nongovernmental organizations (NGOs), and associated agencies.

Effectiveness of Agricultural Public Expenditure and Agricultural Performance

2. **Agricultural growth is weak and fluctuates greatly despite its recent improvement.** Agricultural growth posted a moderate performance at 4.6 percent between 2005 and 2009, whereas it was at 0.6 percent annually between 2000 and 2004. This level is still low in relation to the objective of reaching an annual average rate of growth in the agricultural sector of 7 percent, as set in the CAADP.

3. **Agriculture's contribution to economic growth is weaker than that of other sectors.** Of the main sectors of the national economy, agriculture's contribution to GDP growth is the lowest, not exceeding an average of 0.6 percentage points per year.

4. **While agriculture accounts for barely 15 percent of GDP, more than 53 percent of the population live in rural areas. Agriculture contributes 15.1 percent to added-value creation in the country, yet the total population is more than 53 percent rural.** These two figures give some idea of the scope of the inequalities involved in the distribution of the wealth created. They also show a concentration of poverty in rural areas. In 2011, 35.6 percent of households were poor; and more than two out of every three poor households lived in rural areas.

5. **The competitiveness of Senegalese agriculture, while weak, has improved under the influence of worldwide increases in food prices and a proactive policy to boost food production.** Strictly agricultural products represent a modest share of Senegal's exported goods at an average 14.2 percent. If fishery products are included, this share rises to 24.7 percent. With the trade balance having deteriorated between 2005 and 2009, the trade balance in agricultural and fishery products with the rest of the world is in surplus. However, the overall amounts are low and do not have a significant impact on the balance of goods.

6. **The poorer regions receive less Agriculture Public Expenditure (APE) and contribute more to agriculture's share in GDP.** Of the country's 10 regions, the five poorest receive less than 50 percent of the agricultural public expenditure but provide nearly 70 percent of the agricultural GDP. The high national poverty rate undoubtedly has its root causes in public underinvestment in the poorest regions, which are also home to the largest share of the rural population. A change in where APE is directed would be a strong driver of agricultural growth and poverty reduction.

Trends in Agricultural Expenditure

1. Changes in Total Agricultural Expenditure

7. **Budget-funded public expenditure is experiencing a high implementation rate.** Personnel expenditures are generally 100 percent implemented, and only non-wage operating budgets and investment budgets funded by the government's own resources are worthy of attention, with supplementary budgets now contributing additional resources to the sector. While implemented non-wage and investment expenditures were less than the amounts approved between 2005 and 2006, they were virtually equal to approved expenditure the following two years and diverged in 2009 and 2010, when implemented expenditures were higher and then slightly lower than the approved expenditures, respectively. The implemented budget was around 80 percent of the budget allocated between 2005 and 2010.

8. **Budgeted public expenditure was up slightly between 2005 and 2009.** The agricultural sector experienced a small increase in its share of total public expenditure funded by the government's own resources, rising from 9.8 percent to 10.9 percent between 2005 and 2009. The country thus achieved the Maputo objective, which requires that a minimum of 10 percent of total public expenditure be directed at agriculture.

9. **APEs are poorly distributed geographically.** Recurring non-wage expenditure is concentrated in the central government agencies, with regional departments receiving less than 20 percent on average. This heavy concentration of resources at the central level greatly hampers the ability of regional offices to act on the ground on a daily basis and to do the extension work that rural actors expect from their agents.

2. Tax Expenditure

10. **Tax expenditure on agriculture is relatively high and is often contrary to the sector's interests.** Whether it involves customs duties, VAT, or income tax, the government has said it will no longer collect revenue on expenditures ranging from agricultural water projects to income from agriculture, capital expenditure, and input purchases. In total, more than 20 billion CFAF in tax expenditure was attributable to the agricultural sector, or nearly 38 percent of the VAT collected on rice and wheat imports.

3. NGO Expenditures

11. **NGOs' contribution to financing the sector was up significantly between 2003 and 2007.** From around 10 billion CFAF in 2003, NGO financing reached almost 14 billion CFAF in 2007. These NGOs operate primarily in the area of capacity building and support for productive activities.

Functional and Economic Breakdown of Agricultural Public Expenditure

1. Intra-sectoral Allocation

12. **Agricultural public expenditure is concentrated on crop farming.** The recent change indicates the growing interest that national authorities have in livestock production and in issues relating to natural-resource management.

2. Functional Breakdown of Public Expenditure

13. **For the 2005–2009 period, nearly half of APE was used to fund the procurement and distribution of agricultural inputs.** This amounted to about 46 percent of resources. Physical infrastructure received the second largest part of resources, with 11 percent assigned to it, followed by inspection services (7.5 percent) and rural water developments (6.2 percent). Administrative expenditure is relatively low, both at the central (5.7 percent) and the regional (1.5 percent) level, but this proportion is healthy. By contrast, the resources devoted to agricultural research (3.1 percent) and training (0.5 percent) seem clearly inadequate, even though they are complemented by the financing of extension services (4 percent).

14. **Functional distribution varies greatly from one sector to another.** The very significant proportion made up by input-supply services in total expenditure is due mainly to crops, with nearly 64 percent of total public expenditure going to crop production. For the other subsectors, this percentage is lower, with 23.2 percent for fisheries, 15.6 percent for livestock production, and 3.7 percent for natural-resource management in rural areas. By contrast, the proportion taken up by physical infrastructure is much greater for livestock production, fisheries, and the environment (30.2 percent, 30.3 percent, and 23.4 percent, respectively); the Ministry of Agriculture devotes just 3.9 percent of its total expenditure to them. Operating expenditure is allocated primarily to the administrative and inspection services, whereas investment expenditure is steered towards input supply services and those producing physical infrastructure, and towards agricultural water supply developments.

3. Economic Classification of Agricultural Public Expenditure

15. **Subsidies are the main economic component of expenditure, while research and training receive a negligible portion.** They go for the most part to subsidies and investments in agricultural water supply; agricultural research, training, and advisory services receive small shares.

Efficiency of Agricultural Public Expenditure

1. Characterization of Agricultural Public Expenditure

16. **The agricultural sector in Senegal is characterized by relatively substantial public investment and under-investment by the private sector.** If we exclude project operating costs, public investment in agriculture accounts for an average of 17 percent of gross fixed capital formation (GFCF). Private investment is clearly inadequate, with less than 1 percent of private GFCF.

17. **Even if all the expenditure on agriculture is not taken into account, the sector's contribution to GDP is disproportionately large compared to the public effort on its behalf, showing that public expenditure in this sector is profitable.** Although the public expenditure on agriculture includes allocations for roads, rural electrification, and social services, these are not taken into account when estimating the public effort on behalf of the sector. Referring only to budgets implemented by ministries in the sector, the agricultural sector's share in the national budget averaged 9.6 percent (or 2.8 percent of GDP) for the years 2005–2009. However, the state is struggling to keep up this effort from one year to the next. By contrast, agriculture accounts for an important share of the total GDP (15.1 percent on average), which reveals the relative profitability of APE.

2. Could reallocation of public expenditure among the regions raise the agricultural growth rate?

18. **Less than 20 percent of expenditure in agriculture is implemented at the regional level.** Expenditure made at the central level absorbs more than 80 percent of all of the operating budgets of the ministries in the sector. A devolution of expenditure would make it possible to better exploit the various regions' comparative advantages.

19. **Regional distribution is not optimal. The rate of agricultural growth can therefore be raised by improving the allocative efficiency of the available resources.** Redirecting public resources towards regions with greater growth potential would improve national agricultural growth.

3. Technical Effectiveness

20. **Growth in agricultural production in Senegal is more intensive than extensive.** With the exception of rice, and to a lesser extent groundnuts, the growth in agricultural production is due far more to the contribution of land area than to fluctuations in production. Since extensive growth is not sustainable, Senegal should steer its agriculture primarily towards intensification, in particular through increased consumption of inputs, the use of seed varieties with high yield potential, and improvement in producer capacities.

21. **Weak agricultural growth is attributable to weak changes in the production technology used.** If we break down the overall productivity of inputs, we find that technical efficiency and scale efficiency did not influence production levels between 1999 and 2009; the variation in productivity was attributable solely to technological change.

22. **Investing in agricultural education, extension, and training projects is an effective way to increase agricultural production in Senegal.** A breakdown of agricultural productivity in Senegal shows that, in the 2000s, the underperformance of agricultural production was due mainly to technical inefficiency. These results suggest that in order to increase agricultural sector growth, priority should be given to modernizing production techniques. This cannot be done without capacity building, extension work, and training for the rural actors who are allocated a very small share of public resources.

4. The Agricultural Subsidy System

23. **Since 2003 the government has established a policy of active agricultural subsidies.** The policy has affected all subsectors and attracted increasing amounts of public resources. While it has contributed to boosting agricultural production over the past three years, its sustainability is questionable. The subsidy system is confronted with inefficiencies resulting from the policy choices made and the management approach used, which tended to lead to resources being wasted.

24. **The subsidies have benefited all the subsectors and involved a broad array of inputs.** Subsidies, whether for groundnuts, millet, rice, cassava, corn, fonio, sesame, roselle, or artificial insemination of sheep, have gradually increased for all crops and livestock. The water subsidy for vegetable growers, mainly in the Dakar region, and the fuel subsidy for fishermen should also be mentioned. Subsidized inputs are highly diversified: seed or cuttings for virtually all crops, fertilizers, phytosanitary products, prices paid to producers, fuel, water, and agricultural equipment.

25. **Subsidies have boosted production and productivity.** The price subsidy for fertilizer and quality seed led to improved yields and, consequently, improved production, as illustrated in the positive effect on groundnut, millet, and rice production. In the country's central and eastern regions, where upland rice cultivation predominates, yields increased from 1.6 tons in 2006 to 3 tons in 2010.

26. **The subsidy system includes many sources of inefficiency.** Many sources of waste keep resources from reaching producers. The most important of these is undoubtedly the huge gap between the price at which operators buy inputs on the market and the price at which they sell them to the state. In addition, the operators authorized to purchase and distribute inputs are chosen arbitrarily; since they themselves are responsible for distributing inputs to producers, the system leads to misappropriation. There is a vast difference between the quantities of inputs theoretically distributed and those actually received by the producers. Another source of inefficiency is the late application of inputs. Finally, the subsidies have the perverse effect of discouraging private production using quality seed.

Unit Costs of Hydro-agricultural Projects

27. **Hydro-agricultural infrastructure is concentrated in two areas of the country.** Yields have increased sharply. The main water-control installations, fed by surface run-off, are found in the Senegal River Valley and the Anambé Valley. Public investment in irrigation schemes has greatly expanded the area used for growing rice. Rice yields have been improved, with average yields exceeding 6 tons per hectare in the Senegal River Valley and Delta, thanks to the application of subsidies for fertilizers and easier access to agricultural credit.

28. **Unit costs differ according to whether these are new facilities, rehabilitated ones, or repaired existing ones.** The lower unit costs of the valley facilities compared to the costs of the facilities on the left bank of the Senegal River suggest a reorientation of agricultural investment towards the country's central and southern regions, where

these valley facilities are used. The profitability of rice-growing can be improved by reducing the cost of hydro-agricultural projects, especially through earthworks engineering and improving maintenance.

29. **Development of hydro-agricultural projects must be based on some guidelines.** Useful lessons can be drawn from changes over the past few years. (i) Average rice yields have significant room for improvement, especially in the lowland installations in the country's central and southern regions. Improving rainfed rice yields in the Senegal River Valley and Delta would also lead to a rapid increase in rice production. (ii) Unit costs are very high. While maintaining a high level of quality in these installations, costs must be reduced in order to expand the area cultivated and to make the costs of maintaining the water works more bearable for users. (iii) Maintenance funds have certainly contributed to reducing losses in developed areas, but have not yet led to the expected reduction in state contributions to the upkeep of irrigation infrastructure. A realistic policy of transferring responsibility for maintenance to the beneficiaries needs to be formulated. (iv) Investment should focus on the lowland installations in the country's central and eastern regions, where unit costs are lower (see above). (v) The attractive gross margins of produce like onions and tomatoes suggest that diversifying crops would appreciably increase farm profitability, which would resolve the maintenance issue (see iii).

Analysis of Agricultural Development Policies

1. Institutional Framework

30. **The agricultural sector is characterized by a large number of ministries (five) and independent institutions, and by an instability that makes it difficult to coordinate public actions.** This multiplicity does not allow for consistent efforts on the part of the various state actors and leads to a dispersion of human, material, and financial resources. The weak administration impedes the state's desire to promote strong and inclusive rural development.

2. Official Policies, Presidential Initiatives, and Private Actors

31. **Policy documents show a strong correspondence between the major objectives assigned to the agricultural sector and those pursued by the national economy.** There is a convergence between the major objectives assigned to agriculture and those pursued by the national economy. This consistency should maximize the sector's contribution to the national objectives of economic growth and combating poverty and inequality.

32. **The presidential initiatives pose problems of consistency with projects and programs under way.** The presidential initiatives have led authorities in the agricultural sector to change their priorities. Some projects and programs have received less attention, and services have been disrupted when funds were cut in order to deal with unbudgeted expenditures.

33. **The agricultural policies have other weaknesses that make it difficult to meet the sector's growth and poverty-reduction objectives in the shortest possible times.**

The most important ones have to do with inadequacies of the National Domain Act, the lack of coordination of the various non-state actors in agricultural development (producer organizations, the private sector, NGOs, DPs), the absence of a lasting framework for coordination between the ministerial departments and the producer organizations (POs) in the agricultural sector, the inappropriate policy regarding agricultural subsidies, or the still-low level of involvement of grassroots stakeholders in formulating sectoral medium-term expenditure frameworks (SMTEFs).

3. Increased State Support for the Sector

34. **Despite the unprecedented public support it received in the second half of the 2000s, Senegalese agriculture is still highly taxed.** The state's direct and indirect interventions may create distortions, i.e., changes in the relative agricultural prices substantial enough to change the behaviors of producers and consumers. The magnitude of these distortions can be evaluated using the effective protection rate (EPR) for each agricultural product. Calculated for groundnuts, cotton, sorghum, millet, corn, rice, and cassava, the EPR is negative for each of these products, which means that the producer receives a lower price than he would receive in the absence of public intervention. The main source of this taxation is the administration's setting of producer prices to levels below international prices; public subsidies on farm inputs do not make up for the weakness of producer prices.

35. **State support for imported farm products was greater than that to export products during 2000–2010.** If we calculate the ratio of the subsidy rate for export products (groundnuts, cotton) to the subsidy rate for imported products (rice, sorghum, corn) and normalize it, we get an indicator called "trade bias" which provides the degree and direction of influence of a public subsidy policy on a country's foreign agricultural trade. Between 2000 and 2004, public intervention was only slightly more in favor of export products, but beginning in 2006, official policies showed a much clearer bias in favor of export products, with the indicator showing a significantly negative trend over this period.

4. Alignment of Sector Projects and Programs with Official Objectives

36. **The production of private goods is the main activity of agricultural projects.** Since 1984 one main focus of the New Agricultural Policy (NPA – *Nouvelle Politique Agricole*) has been disengaging the state from the production or marketing of inputs and agricultural products. The policy was supposed to translate into the state concentrating more on goods that the private sector cannot provide (feeder roads, R&D, extension work, etc.). The production of private goods continues to be the main activity of agricultural projects, with 78 percent devoted to the production of private goods and services and 22 percent to public goods. As for expenditures devoted to public goods, 52 percent are allocated to productive goods, compared to 12 percent for indirectly productive goods (R&D, extension work, vocational training, etc.), and 26 percent to social goods.

Budget Process and Performance

1. Process of Selecting and Developing Projects/Programs

37. **One of the conditions for public expenditure being effective is proper budget preparation and implementation.** Even after being promulgated by the government, it often happens that not all of the resources are released, or they cannot be effectively spent. Classifying these projects and programs according to the criterion of urgency leads to the Priority Action Plan (PAP), which is the technical framework for the SMTEF. This phase is often poorly prepared by the technical ministries, which do not allocate enough financial resources to it and do not have a critical mass of skills for carrying out the work.

38. **Preparation of the investment budget still does not receive as much attention as required.** The care needed to develop projects is not well understood by the sector's ministries. In practice, many projects selected are those in which a technical or financial partner has expressed an interest. Within the ministries, project selection is never done after a competition among multiple projects, nor is the final choice ever motivated by economic impact, the expected profitability of the investments chosen, or any other previously defined criterion. In actuality, this process of preparing, developing, and selecting projects and programs in the various subsectors is rarely followed.

39. **Neither the ministries in the agricultural sector nor the Ministry of Economy and Finance (MEF) have a consistent approach to evaluating and selecting the projects included in the SMTEFs.** Public expenditure continues to be evaluated and budgetized as in the past, with new measures for operating expenses being added to the revalued approved services, whereas for capital expenditures the continuation of projects and programs under way and the new presidential initiatives leave little room for new projects funded by internal resources. Application of the SMTEF has not yet made it possible to move from a resource-based budget to result-based budgeting.

2. Budget Preparation

40. **Budget preparation by ministries in the agricultural sector follows a long, multi-step process that includes the involvement of many state and parliamentary actors.** There are seven steps in the process, from the sending of budget guideline letters by the MEF to the disbursing ministries, to publication of the finance act in the Official Journal by the General Secretariat of the Government (GSG).

41. **The ministries' requests are greatly overestimated.** The requests of the technical ministries are submitted to the MEF, which prepares a detailed report for use in the budget conferences, a major step in the process. These requests are always overestimated and are often poorly justified in the case of new measures. It is as if there were no internal negotiation in the technical departments and ministerial offices, which seem to operate in accordance with the belief that they need to request a lot in order to receive a respectable budget allocation.

42. **The ministries' options in terms of priorities are very limited and restricted by the MEF.** There are major discrepancies between the requests of the sector's ministries and the allocations made by the government at the end of the budget negotiations; they cause a downward revision of the objectives of the SMTEFs.

3. Budget Implementation

43. **Budget implementation encounters multiple problems that negatively impact the sector's performance.** The main difficulties encountered in budget implementation are due to the state's financial constraints, which lead to frequent budget readjustments and cuts, the very short period when disbursements can be made, the loose control over public procurement procedures, and noncompliance with current regulations.

44. **Cuts in and even elimination of some provisions and their re-allocation to unbudgeted activities affect the sector's objectives.** Budget readjustments and cuts translate into services for which there is no budget, leading to an accumulation of debt to be paid the following year using appropriations for other projects and administrative services. Finally, the very limited resources that technical ministries end up having prevents them from achieving the expected levels of performance.

45. **Once the project has actually started, other sources of technical inefficiency tend to delay execution of contracts, especially in infrastructure projects.** Even when the resources are available, the following obstacles hinder the diligent implementation of expenditures: (a) the lack of control over fiduciary management procedures (requests for payment) due to delays in preparing the manual of administrative, financial, and accounting procedures; (b) changes in the orientation of certain projects, leading to amendments; (c) the delay in renewing cash advances; (d) slowness in approving withdrawal requests (known as *chèques d'appel de fonds*) submitted to the Treasury.

4. Budget Monitoring

46. **Each ministry in the sector has a structure for monitoring the operating expenses of its departments and another for monitoring technical and financial implementation.** The DAGE (Directorates of General Administration and Equipment) monitors the implementation of operating expenditures, and the DAPS (Directorate of Analysis, Forecasting, and Statistics) is responsible for capital expenditures that require technical and budget monitoring. Each ministry has to provide an annual performance report that reports initial forecasts for the year, activities carried out, achievements, discrepancies between objectives and achievements, the level of implementation of expenditure, the effectiveness and efficiency of expenditures, the accuracy of targeting, and explanations of discrepancies. But these reports seldom contain all this information.

47. **Annual reviews of the PRSP (Poverty Reduction Strategy Paper) are the only opportunities for discussion with the other sectors.** The annual PRSP reviews provide an opportunity for the various ministries to report on their progress in implementing the policies selected in their subsectors by the PRSP. These exercises are not conducted according to a defined methodology and do not occasion any sanctions. It is instead a matter of providing information on recent progress made and the limitations encountered.

Spending Better before Spending More

48. **The analysis shows five major areas in which the government should focus its efforts in order to make its involvement more effective:** (a) the environment in

which agriculture develops needs to be made more favorable to private investment through the establishment of a more stable and consistent institutional framework and a reduction of distortions in agricultural prices; (b) the efficiency with which public resources are allocated must be greatly improved; (c) as many as possible of the technical inefficiencies hindering the operability of investment projects need to be eliminated; (d) budget processes need to be improved. The government must be better equipped with a larger number of well-trained human resources.

49. **Improving the agricultural sector's environment requires an appropriate response to the problems of institutional stability and an overhaul of the rural sector support system.** The instability of the institutions and the high mobility of the managers who run them weaken the government. Added to this are the perverse effects of a subsidy system that has become unsustainable for public finances. Reforms aimed at providing the agricultural sector with strong and stable institutions and at reforming the producer-incentive system are essential for promoting high, self-sustaining agricultural growth. The problem of the fragmentation of the sector's professional organizations must also be resolved for better synergy between the efforts of private and public actors.

50. **The allocation of APE among the regions needs to be reviewed and public expenditure further decentralized in order to significantly increase their returns.** Allocations of public resources must be simultaneously modified in several directions in order to ensure that APE has the maximum impact on growth and poverty reduction. The central and eastern regions should receive more APE, particularly through investment in irrigation so as to reduce their almost complete dependency on the vagaries of the climate. The government should allocate more resources to the regions with the greatest economic profitability (the weakest expenditures when normalized). A decentralization of APE would enhance the resources available for action in the field.

51. **Changing the current economic composition of APE is another way to improve its returns.** The share of recurrent expenses in capital expenditure can be reduced; the weight of the subsidies should gradually be reduced in favor of public goods. Greater importance should be attached to agricultural research, training, and technology transfer. These changes in the composition of APE can only be made gradually. In the short term, budget negotiations will involve only relatively small amounts, given the need to continue activities already started in development projects, or to pay wages.

52. **Improving technical efficiency necessarily means reforming subsidies.** Subsidies are taking up a growing share of the agricultural sector's budget, and lead the ministries, especially the agriculture ministry, into an undesirable cycle of indebtedness to private distributors of inputs. The agricultural subsidies system should be completely overhauled, its objectives redefined, and waste eliminated. The system also needs to be made compatible with a policy aimed at the emergence of private producers and distributors of agricultural inputs working directly with the professional organizations that represent rural producers.

53. **Intensifying production is another way to improve technical efficiency in the agricultural sector.** Growth in agricultural production is brought about by increases in both cultivated land area (extensification) and crop yields (intensification). Since extensive growth is not sustainable, Senegal should focus its crop production primarily

on intensification, in particular through increased consumption of inputs and the use of seed varieties with potential for high yields.

54. **A review of technical inefficiencies shows that many of them are not attributable to the ministries of the agricultural sector, implying that they cannot eliminate them on their own.** The MEF's budget readjustments and cuts, which lead to irregular and inadequate disbursements, and a prolongation of projects' lead times because of administrative slowness in the MEF are one illustration of the inefficiencies that are not under the control of the sector's ministries. One way their managers can work to substantially reduce these inefficiencies is to constantly draw the attention of the MEF, the prime minister's office, and the presidency to the negative impacts of such constraints, and to work with them to seek possible solutions.

55. **Technical efficiency can be improved by eliminating or greatly reducing delays in executing infrastructure contracts. A series of measures can be taken:** (i) establish better control over procedures in the area of fiduciary management; (ii) on-time completion of manuals on administrative, financial, and accounting procedures; (iii) on-time renewal of working capital; (iv) prompt approval of withdrawal applications to be submitted to the Treasury; (v) establish control over procurement procedures as soon as possible; (vi) recruitment of motivated, highly skilled people; (vii) inclusion in the project's budget of provisions for depreciation of the currency in which the donor's contribution is made; (viii) better coordination of the work of development partners; (ix) elimination of the personnel instability often associated with the frequent changes of those occupying positions responsible for ministerial portfolios; (x) a rigorous assessment and budgetization of the cost of works covered by the state's contribution.

56. Budget procedures need to be improved in order to avoid bottlenecks in carrying out activities. The following measures may be considered:

- Cash-flow constraints disrupt government activities and agricultural projects.
- The MEF should provide greater stability in implementing APEs by improving its forecasting methods and putting an end to extra-budgetary commitments.
- The drafting of performance reports in accordance with good practice should be required of all ministries, and they should be systematically used to improve future budget procedures.
- Impact assessments need to be conducted on the main projects.
- Given the practice the sector's ministries requesting far more than they are allocated by the government at budget negotiations, leading to a downward revision of the SMTEFs, the way the budget is prepared should be revised so as to avoid "disappointing" the spending ministries, who should know what allocation they will be getting as soon as the process of preparing their budgets begins.

57. **A databank of results from monitoring and evaluating the APEs would have a positive impact on the budget-preparation process of the sector's ministries.** This databank would bring together all the operating-expenditure monitoring reports and the assessment reports of projects currently under execution by the various ministries in the agricultural sector. These documents should also be prepared for off-budget projects executed directly by the donor or some other organization. An annual summary of all these reports would provide invaluable lessons for correcting any deficiencies found, for better understanding the factors that contribute to the success of

development projects, for improving project-selection criteria, and for improving the ministries' annual budget preparation.

58. **Finally, the government needs to hire more and better human resources.** One major source of weakness in the sector's ministries is the inadequate number of personnel who are highly skilled in the formulation of rural-development projects and policies, in monitoring and evaluating projects, and in other areas like statistics or public procurement. A special program aimed at recruiting, retraining, and retaining highly qualified human resources is essential for the government to be able to make the breakthroughs that would turn agriculture into a powerful engine for growth and for reducing the country's poverty rate.

1. INTRODUCTION

1. **This basic agricultural public expenditure diagnostic review in Senegal is helped by a political context that is favorable to agriculture.** In 2009 Senegal formulated its National Agriculture Investment Program (NAIP) as part of the Comprehensive African Agriculture Development Program (CAADP). In 2010, Senegal adopted an investment plan based on this program. Numerous presidential initiatives have underscored the importance that national authorities attach to agriculture, which in recent years has received record public funding. This position of priority that agriculture now enjoys on the political agenda creates a favorable context for providing authorities with an analysis of how effectively public resources are translated into results in the sector, and of the room left for improvement. This Basic Agricultural Public Expenditure Diagnostic Review (AgPER) complements the government's efforts aimed at acquiring guidelines, strategies, and policies for strong, sustainable growth that benefits the poor. It adopts the comprehensive definition of agriculture to include crops, livestock production, fisheries, forestry, and natural resources in the rural sector.

2. **The review is organized into six sections.** Section 1 examines the effectiveness of APE in the sector from several angles, along with its performances in terms of growth and contribution to reducing poverty. Section 2 analyzes the importance of APE in the national budget and as compared to the GDP. Section 3 provides a functional and economic breakdown of APE. Section 4 evaluates the agricultural sector's capacity to transform public resources into outcomes at the lowest cost. Section 5 analyzes the agricultural sector's environment; it focuses on the institutional framework, official agricultural development policies, as well as the presidential initiatives whose lack of alignment with these policies poses a major challenge. Based on a classification of the goods that agricultural development projects and programs have produced, the extent to which their content is aligned with the official objectives of agricultural development is evaluated, along with the public support given to the sector's producers. Section 6 analyzes budget procedures, focusing on the inefficiencies that may impede the rational allocation and use of public resources. The conclusion draws the main lessons and proposes actions aimed at improving the effectiveness of public resource investment in the sector.

2. EFFECTIVENESS OF AGRICULTURAL PUBLIC EXPENDITURE AND AGRICULTURAL PERFORMANCE

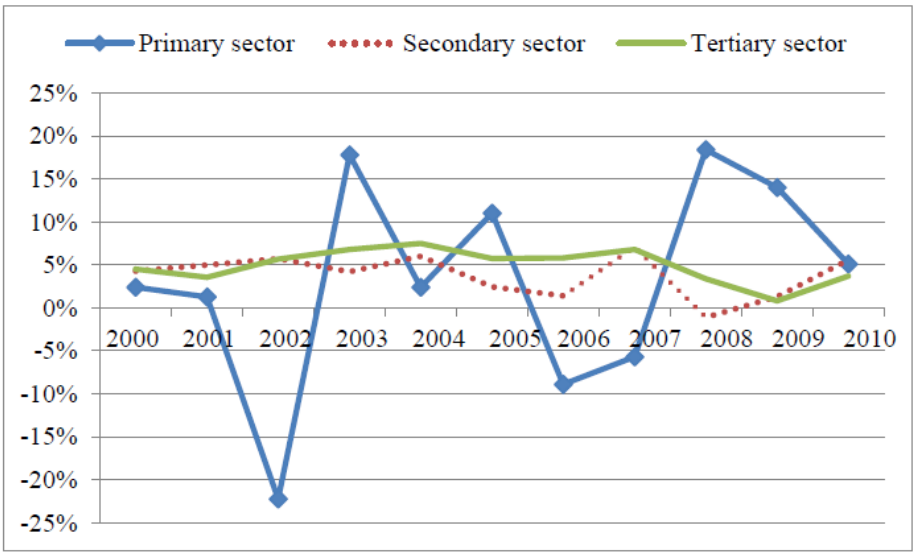
3. **This section examines whether APE has met the official objectives, specifically increasing incomes for rural households and reducing rural and urban poverty. These indicators are directly linked to the performance of the agricultural sector.** In the absence of recent microeconomic data, aggregates of national accounting can be analyzed. Agriculture's potential for relieving poverty in Senegal is in fact well established: 80 percent of the poor are concentrated in rural areas, and the small family farm is almost the only agricultural model found in all regions of the country. Finally, APE is geared almost entirely towards small rural producers. Given the close interrelationships between rural and urban areas, increasing agricultural production causes a drop in the prices of food products, thereby reducing urban poverty. Finally, employment is another channel through which agricultural growth fights poverty by offering a source of employment in both rural and urban areas. Therefore, by focusing on agricultural growth and poverty reduction, we can focus on the two most significant areas of impact for APE in order to appreciate its effectiveness.

A. AGRICULTURAL GROWTH

4. **Agricultural growth is weak and fluctuates greatly, despite recent improvement.** The annual growth rate for agricultural GDP averaged 4.6 percent between 2005 and 2009, or eight times better than for the 2000–2004 period, when it was 0.6 percent. However, this level still falls short of the target of 6 percent[1] set in the CAADP. Furthermore, the year-on-year growth rate is subject to more pronounced fluctuations compared to other sectors such as industry and services. Thus, it reached peaks of more than 17 percent in 2003 and 2008, and underwent a noteworthy collapse of -20 percent in 2002 (Graph 2.1). These extreme and rapid fluctuations from one year to the next (for example, between 2002 and 2003) are generally due to unfavorable climatic conditions.

[1]Senegal: Agricultural Growth, Poverty Reduction and Food Security: Recent Performance and Prospects

Figure 2.1: Economic growth rate in the main sectors between 2000 and 2010



Sources: MEF/National Accounts of Senegal/ANSD, 2000–2010

5. **Agriculture's contribution to the economy's growth is weaker than that of other sectors.** Table 2.2 shows that agriculture's contribution to GDP growth is the smallest of the main economic sectors, and on average does not grow more than 0.6 percentage points between 2005 and 2009, or 15 percent of the total growth rate, taking into account good and bad years together. But in favorable years (2005, 2008, and 2009) this increases to 43 percent. Hence, despite its economic and social importance, agriculture has a limited influence on the evolution of Senegal's level of economic activity.

Table 2.1: The agricultural sector's growth rate and contribution to economic growth, by percentage, 1980–2009

Sector	Periods							
	1980–1994		1995–1996		1997–2004		2005–2009	
	Growth	Contribution	Growth	Contribution	Growth	Contribution	Growth	Contribution
Primary	2.3	0.4	3.1	0.6	2	0.3	4.66	0.56
Secondary	3.1	0.5	4.8	0.9	4.8	1	2.74	0.56
Tertiary	2	1	3.1	1.5	5.3	2.7	4.44	2.36
GDP	2.3	2.3	3.7	3.7	4.5	4.5	3.68	3.68

Source: MEF/National Accounts/ANSD

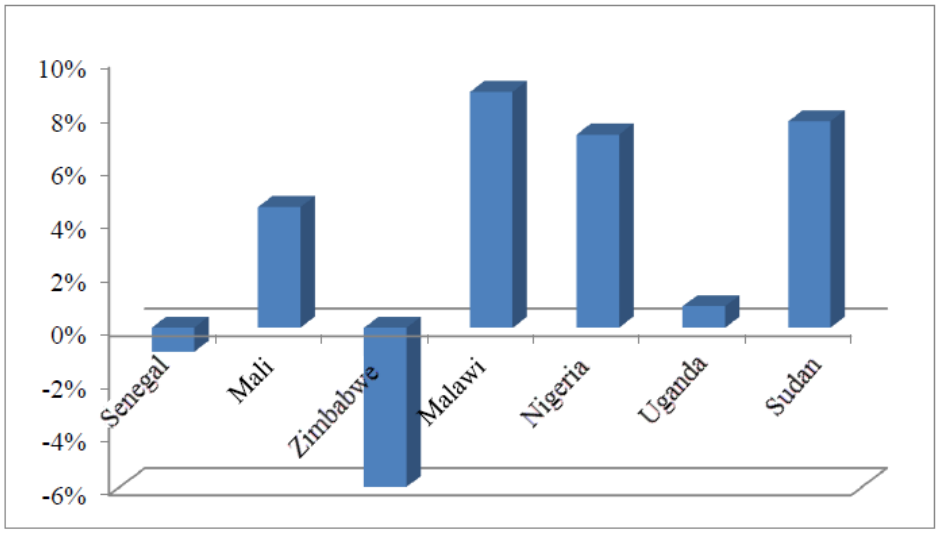
Table 2.2: Growth rate (A) and contribution to economic growth (B) of sectors with breakdown of primary sector, by percentage, 2006–2010

Sector	Year									
	2006		2007		2008		2009		2010	
	A	B	A	B	A	B	A	B	A	B
Primary sector	-8.9	-1.3	-5.7	-0.8	18.4	2.2	14.0	1.9	5.1	0.8
Subsistence agriculture		-0.6	-16.0	-0.7	46.8	1.7	12.9	0.7	-2.7	-0.1
Industrial or export agriculture		-0.6	-17.0	-0.4	26.0	0.4	30.4	0.6	21.7	0.6
Livestock production and hunting		0.3	6.0	0.2	3.4	0.1	2.7	0.1	6.4	0.3
Forestry, logging		0	7.7	0	0	0	3.6	0	6.9	0
Fisheries		-0.2	7.3	0.1	-5.1	-0.1	5.4	0.1	-1.7	0
Mining		-0.2	-5.7	0	3.0	0	58.8	0.4	3.7	0
Secondary sector	1.4	0.3	7.1	1.4	-1.1	-0.2	1.3	0.2	5.6	1.1
Tertiary sector	5.8	3.0	6.8	3.7	3.4	1.9	0.8	0.5	3.7	2.0
GDP	2.5	2.5	4.9	4.9	3.7	3.7	2.1	2.1	4.1	4.1

Source: MEF/National Accounts/ANSD

6. **Agricultural growth in Senegal compares unfavorably to other African countries.** For 2005–2009, Senegal and Zimbabwe were the only countries whose agriculture underwent a downturn (-0.9 percent and -0.6 percent, respectively), and Senegal's performance contrasts sharply with that of Malawi (8.8 percent), Sudan (7.7 percent), Nigeria (7.2 percent), and Mali (4.5 percent) during the same period. It should be pointed out that, unlike Senegal, Zimbabwe was facing political problems (land confiscation and redistribution) that led to a halt in farming activities and hence production on the large farms. Senegal should follow the example of countries like Malawi and Sudan in order to achieve similar performances in its agricultural sector.

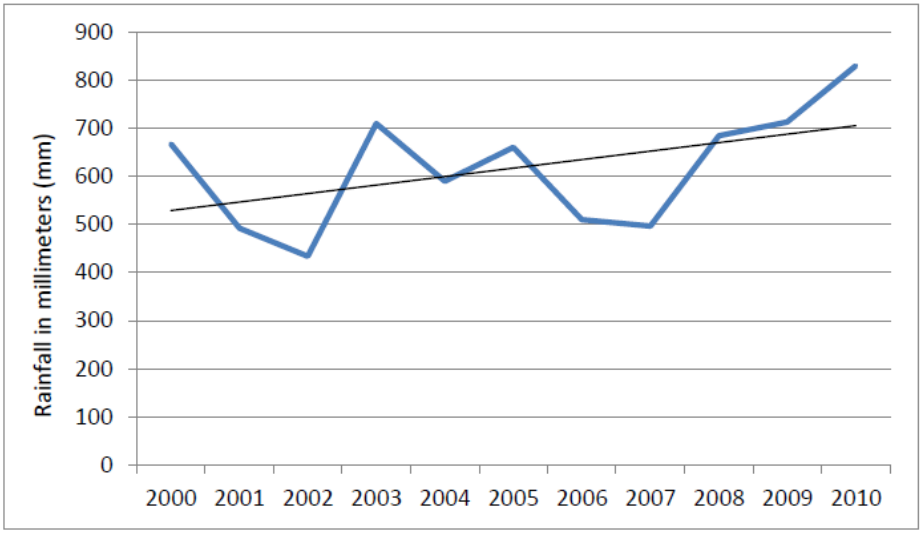
Figure 2.2: Comparison of agricultural growth rates, 2005–2007



Sources: Review of development efforts in the agricultural sector in Mali

7. **Highly variable rainfall poorly distributed over time is the main cause for the weak growth in the agricultural sector.** Rainfall fluctuates greatly over time, reaching cumulative maximums of between 520 mm and 946 mm annually over the 2000–2009 period, with an upward trend (Graph 2.3). The increases and decreases alternate from one year to the next, usually significantly. A maximum decrease was recorded in 2002 (-20 percent) and a maximum increase in 2008 (+40 percent). Rainfall is a crucial factor in agricultural growth, due to the low irrigation rate (less than 1 percent of cultivated area). Its impact was even more appreciable in years like 2002 and 2007, when performances were greatly impacted by two consecutive years of declining rainfall (Graph 2.3).

Figure 2.3: Annual rainfall, 2000–2010



NB: Annual rainfall nationwide is estimated by the average of annual rainfall totals in the regions, weighted by their land area.

Source: Countrystat Senegal

8. **Agriculture's contribution to GDP is less than one-seventh, whereas more than half the population is rural.** Agriculture—all sectors included—represents a relatively modest proportion of Senegal's GDP, or about 14 percent on average over the last five years. By contrast, rural populations account for 53 percent of the total population. The gap between these two percentages explains why this population is the most affected by poverty, with an estimated incidence of 63 percent.

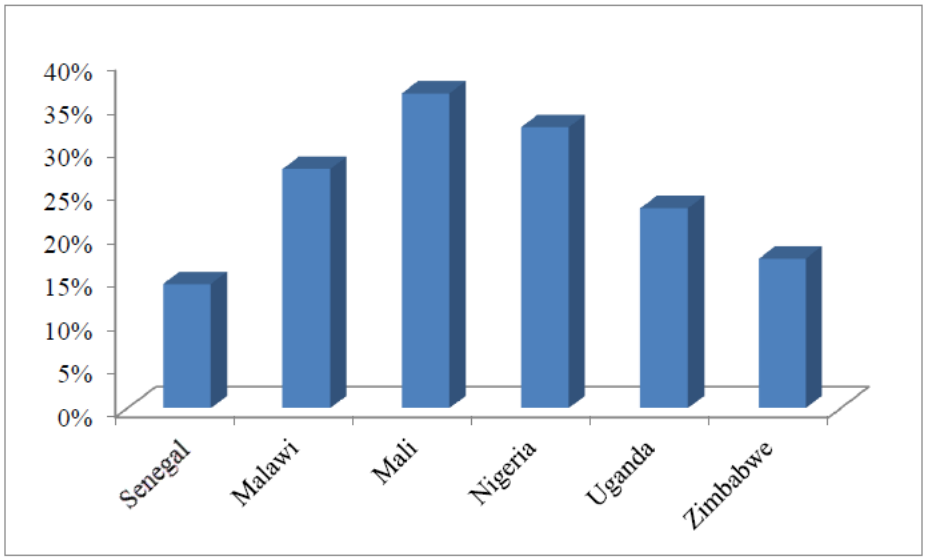
Table 2.3: Rural population and contribution of agricultural GDP, by percentage

	2005	2006	2007	2008	2009	Average
Rural population[2]	53.8	53.6	53.4	53.2	53.0	53.4
Agriculture's share in GDP, by volume	14.9	13.3	11.9	13.5	14.9	13.7

Source: MEF/ANSD

9. **Agriculture's contribution to GDP is lower in Senegal than in most other African countries.** On average, Senegal has the lowest ratio between agricultural GDP and total GDP (14.4 percent) in a group of African countries (Graph 2.4). This ratio is 2.5 times higher in Mali (36.3 percent), revealing the stronger contribution of the agricultural sector to GDP in that country. It is equally significant in Nigeria (32.4 percent), Malawi (27.6 percent), and Uganda (23.1 percent). Zimbabwe does better than Senegal with the sector contributing 17.3 percent to GDP.

Figure 2.4: Agricultural sector's contribution to GDP in some African countries (by percentage)



Sources: Review of development efforts in the agricultural sector in Mali; ASYB 2010

10. **The hike in world food prices and a proactive policy to boost food production contributed to improving agriculture's level of added value, which is still weak.**

[2] ANSD demographic projections

Agricultural products represent a modest share (14.2 percent on average) of total exports. With the trade deficit doubling between 2005 and 2008, the trade balance for agricultural products was positive for four out of the five years. But the total amounts are low and have no impact on the trade balance (Table 2.4).

Table 2.4: Foreign trade in agricultural goods and trade balance, in billions of CFA francs, 2005–2009

	2005	2006	2007	2008	2009
Vegetable imports	122.9	123.5	165.5	192.2	151.9
Fishery imports (fish, canned goods)					
Vegetable imports	139.7	146.0	167.1	146.7	153.8
Fishery exports (fish, canned goods)	166.4	145.6	150.4	91.7	113.5
Vegetable trade balance	16.8	22.5	1.6	-45.5	1.9
Fishery trade balance	166.4	145.6	150.4	91.7	113.5
Overall trade deficit	-691.3	-836.5	-1,193.3	-1,522.5	-1,159.3

Sources: MEF/ANSD, BCEAO

11. **Senegalese agriculture is relatively well integrated into world trade, but its market shares are very low.** In terms of the main exports (Table 2.5), fish and shellfish are in first place in terms of market share, with 0.36 percent of the world's exports. Fruit and vegetable producers have relatively low market shares (under 0.05 percent). Cotton fiber, all exported, presents a similar performance (nearly 0.05 percent). Market shares are negligible for cereal products and other foods (cassava) with the exception of rice, which holds a relatively high share (over 0.18 percent).

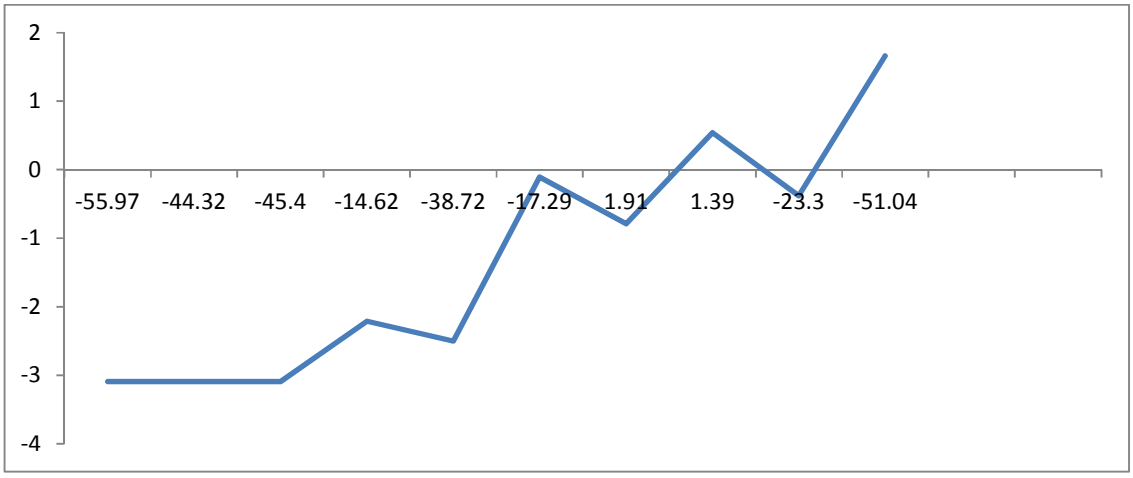
Table 2.5: Senegal's share of world exports of the main products (in millions of US dollars and by percentage, 2008–2009)

Products	World	Sub-Saharan Africa	Senegal	Senegal/World
Groundnuts	2,383	73	0.473	0.0198
Wood	186,750	1,756	4.561	0.0024
Cotton	82,828	1,791	38.542	0.0465
Grains and oil nuts	114,596	1,876	5.488	0.0048
Legumes, plants, and roots	88,408	1,515	42.588	0.0482
Maize	44,129	1,100	0.650	0.0015
Cassava	2,213	6	0.040	0.0018
Fish and shellfish	122,046	3,208	439.843	0.3604
Rice	33,171	152	61.052	0.1841
Sorghum	2,557	36	0.007	0.0003

Source: Comtrade.un.org/db/

12. **Exports of fruits and vegetables rose sharply in the second half of the 2000s, although their overall volume remains modest.** Horticultural production is geared to export. Growth in exports of fruits and vegetables reached 17 percent annually in the 2000s, starting from a low point, of course (around 10,000 tons). This expansion is due to the arrival of four agribusiness companies and to the use of sea transport, which is less expensive than air transport.

Figure 2.5: Senegal's horticultural exports, in millions of CFA francs, 1998–2009



Source: MA/Office of Horticulture

13. **Agriculture's poor performance is due in part to public and private underinvestment in the sector.** There is a structural shortage of investment, as shown by the low level of actual public investment in the agricultural sector (excluding project operating costs), which accounts for just 17 percent of the country's gross fixed capital formation (GFCF). Added to this is a very pronounced shortfall in private investment in the sector, which is less than 1 percent of private GFCF due to the low added value inherent in agriculture. Private investments are actually concentrated in the horticultural (tomatoes, onions, sugar, etc.) and poultry industries, where margins are higher (Table 2.6).

Table 2.6: Public and private investments in agriculture compared with the rest of the economy, by percentage, 2005–2009

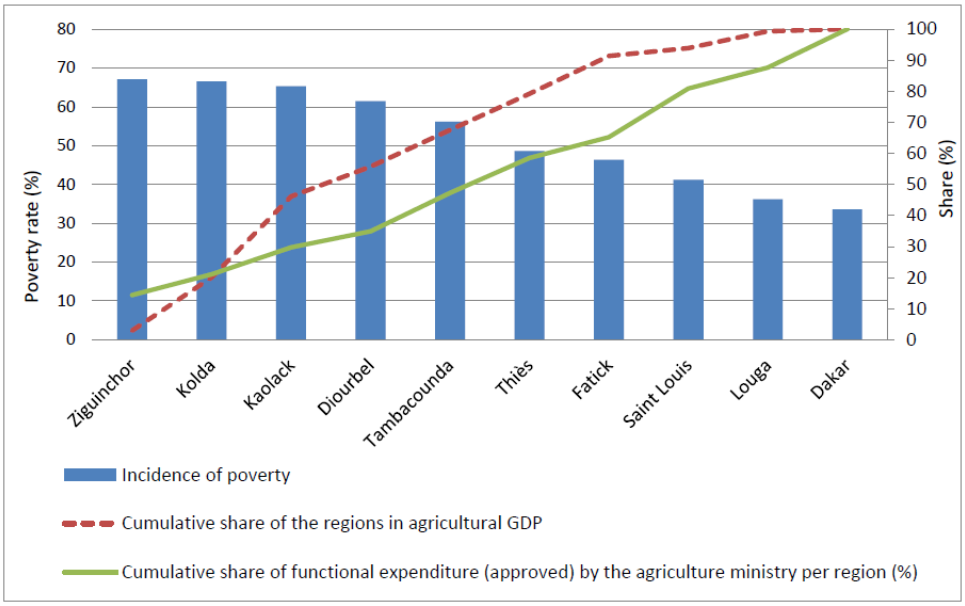
Sector	Invest-ments	2005	2006	2007	2008	2009
Agriculture	Private	1.0	0.2	0.3	0.7	1.1
	Public	16.9	15.0	17.5	14.6	21.2
Other sectors	Private	99.0	99.8	99.7	99.3	98.9
	Public	83.1	85.0	82.5	85.4	78.8

Sources: MEF/ANSD, CUCI

B. RURAL POVERTY AND REGIONAL INEQUALITIES

14. **The poorest regions receive less agricultural public expenditure and contribute more to agricultural GDP.** Graph 2.6 classifies the regions on the abscissa from the poorest to less poor, and on the ordinate the incidence of poverty in the regions (left) and their shares in ordinary APE (right). As shown in this graph by the cumulative shares of the regions in APE on the one hand and the incidence of poverty on the other, APEs increase faster than the contribution to national poverty decreases. This confirms that the allocation of expenditure among the regions is not optimal; the poorer regions should receive a larger share of APE. Changing the distribution of agricultural public expenditure among the regions could be a powerful engine for agricultural growth and could reduce poverty.

Figure 2.6: Poverty, agricultural GDP, and public expenditure by region, 2005–2009 average



NB: The regional incidence of poverty is calculated based on ESAM II data. The GDP per capita for the regions was calculated using their labor force.
Sources: ANSD/MEF 2002, IFMIS/MEF 2005–2009

15. **In the early 2000s, the government became aware of the scope of poverty and its very pronounced rural character.** The first household survey revealed an alarming situation with poverty in Senegal towards the mid-1990s, with a national rate of 61.4 percent. It also confirmed that this phenomenon was more pronounced in rural areas, with an incidence of 65.9 percent (Table 2.7), while a majority of the population (nearly 55 percent) lives there. Once the scale of the problem was known, reducing it became a national priority. Since the early 2000s, fighting poverty has been the unifying framework for all development policies adopted by Senegal with the advent of the PSRP and the creation of the Poverty Reduction Monitoring Unit (*Cellule de Suivi de la Lutte contre la Pauvreté*) at the MEF. This awareness manifested itself in the second half of the 2000s with the adoption of the GOANA in 2008 and the NAIP

in 2010. Hence, the Senegalese government has fully evaluated the issues relating to the place of agriculture and food security in fighting poverty and achieving the MDGs.

16. **Efforts aimed at reducing poverty have reduced the nationwide incidence of poverty but have accentuated inequalities in rural areas.** Initial efforts pushed back poverty in all social strata by place of residence: the national incidence of poverty fell from 61.4 percent in 1994 to 48.5 percent in 2001, according to the second household survey (ESAM II) (Table 2.7). Although this drop was appreciable in urban areas (about one-third in Dakar and in other urban centers), it was more modest in rural areas (only 8.4 percentage points), thereby contributing to increasing inequalities between rural and urban populations. Estimates in 2005 and 2011 show that the incidence of poverty among households at the national level has been over 50 percent since 2005, but the gap between the capital Dakar and rural areas went from 16 percent in 1994 to more than 30 percent in 2005.

Table 2.7: Nationwide incidence of poverty by social stratum: 1994, 2001, 2005, 2011

Source	Social Stratum	Year	Number of poor households	Incidence of poverty (%)
ESAM I	Urban Dakar	1994	91,099	49.7
	Other urban centers	1994	92,160	62.6
	Rural areas	1994	294,692	65.9
	Together	1994	477,952	61.4
ESAM II	Urban Dakar	2001	91,736	33.3
	Other urban centers	2001	89,370	43.3
	Rural areas	2001	334,132	57.5
	Together	2001	515,238	48.5
ESPS I	Urban Dakar	2005	77,530	21.4
	Other urban centers	2005	78,600	32.9
	Rural areas	2005	365,238	52.5
	Together	2005	521,368	40.2
ESPS II	Urban Dakar	2011	74,832	17.3
	Other urban centers	2011	99,037	31.9
	Rural areas	2011	360,455	47.6
	Together	2011	534,324	35.6

Source: Estimates based on ESAM I, ESAM II, ESPS I and ESPS II

17. **At the same time as it boosts agricultural growth to raise income among rural dwellers, the government must tackle other sources of inequalities between rural and urban areas.** Just as important as measuring poverty is understanding the dynamic of its determining factors in urban and rural areas, as well as the factors that explain the poverty gap between the two milieus. Over the 1994–2001 period, and based on the ESAM I and II surveys, this gap was broken down into the effect of household characteristics and the effect of compensation of production factors (capital, labor, and land). Household characteristics involve home occupancy status, types of sanitation facilities, forms of lighting, basic amenities, access to basic services

(transportation, education, potable water, and sanitation). The results point to less severe poverty in urban areas than in rural areas, and the poverty gap between the two even increased from 0.10 to 0.16 (see Table 2.8). In 1995, it was differences in the cost of production factors that best explained the poverty gap, but in 2001 the largest component of the gap lies in the differences in household characteristics between the two groups. This means that, over time, the differences in the remuneration of production factors have tended to decline between rural and urban areas. Hence, greater access in rural areas to social services and basic amenities (electricity, potable water, sanitation, etc.) more rapidly reduces the differences in lifestyle while at the same time acting as a powerful curb on migration to the cities.

Table 2.8: Contribution of household characteristics and behaviors to the poverty gap between urban and rural areas in 1994 and 2001.

Effect	Component of the poverty gap explained by	
	the characteristics of the place of residence	household behavior according to place of residence
ESAM I (1994)		
Aggregate effects	0.0411978	-0.1462826
Sex of head of household	0.001867616	-0.007027553
Head of household's occupation	0.001269863	0.052240105
Head of household's economic sector	0.008735555	-0.006605592
Head of household's level of education	0.0035792	0.000997504
Number of rooms inhabited	-0.000568192	0.001676893
Rent paid by household	-0.018563418	-0.000984927
Fan	0.006153872	0.000850516
Value of voluntary transfers	0.028100015	-0.019346001
Television set	0.001874361	-0.000327645
Automobile	0.002471083	-0.000816635
Lighting	0.015440277	-0.051438218
Radio	0.000513642	-0.007791342
Living room	0.0061466	0.001229409
Poverty gap	-0.1050848	
ESAM II (2001)		
Aggregate effects	-0.1847518	0.0229847
Sex of head of household	-0.01833254	0.006877696
Age of head of household	0.003556055	0.002422855
Type of sanitary facilities	-0.00485594	0.001011829
Time from home to secondary school	-0.013770004	0.013493334
Value of voluntary transfers	-0.045325368	-0.001510156
Difficulty keeping a doctor's appointment	-0.001839226	0.000314014
Number of rooms inhabited	-0.013641481	0.001723833

Refrigerator/freezer	-0.085305514	0.000290179
Use of health services	0.005161025	-0.000710712
Distance from home to health service	-0.01679251	-0.001281787
Household size	0.006393702	0.000353615
Poverty gap	-0.1617671	

Sources: Estimates based on ESAM I and ESAM II.

3. EXPENDITURE TRENDS IN AGRICULTURE

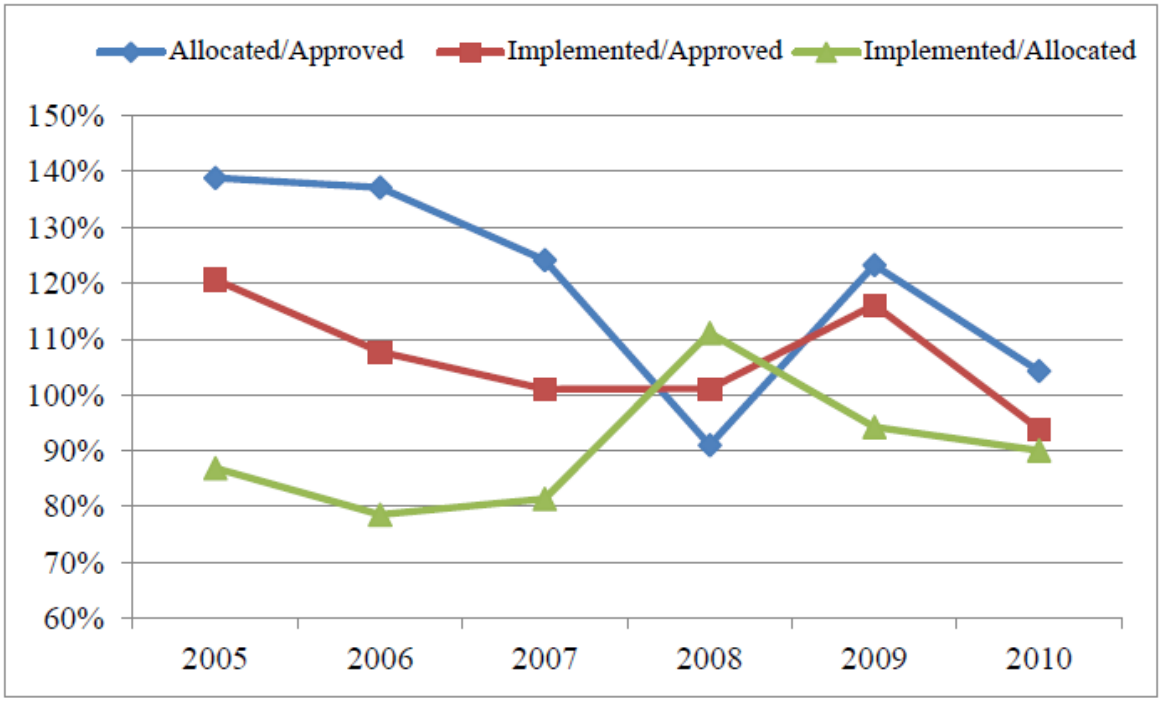
18. **The increasing volumes of public expenditures in agriculture are an expression of the Government's commitment to the sector's development.** This section examines the major trends in agricultural public expenditures (APE) from 2000, as well as the contributions of other actors to financing of agriculture. The level of APE increased when comparing Senegal to groups of countries as well as in reference to commitments by the African heads of state in Maputo in 2003.

3.1 THE EVOLUTION OF TOTAL EXPENDITURE ON AGRICULTURE

19. **The definition of the agricultural sector as used in this AgPER corresponds to the Classification of the Functions of Government (COFOG) of the United Nations.** The United Nations COFOG distinguishes agriculture in the strict sense as referring to crops, livestock, forestry, fishing, and hunting. In addition, expenditure associated with services provided by institutions that do not fall under the ministries of the agricultural sector (rural water supply, feeder roads, etc.) are also imputed to the agricultural sector.

20. **Public expenditure from internal resources has a high rate of implementation.** It is useful to distinguish between: (a) the allocated budget, which corresponds to that of the initial budget act (LFI) adopted by Parliament before the new financial year; (b) the approved budget, which adds to the LFI budget that of the supplementary budget act (LFR); and (c) the implemented budget, which corresponds to authorized expenditures. The source of data was the budget implementation data recorded in the Integrated Finance Management Information System (IFMIS). As staff expenditures are generally 100-percent implemented, only non-wage operating budgets and investments from internal resources deserve attention. Graph 3.1 shows the evolution of three ratios measuring the level of implementation of different types of budgets. The relationship between the allocated budget and the approved budget (diamonds) shows the effect of LFRs, which reduced the Parliament-approved resources allocated to the sector between 2005 and 2007. A change in the trend began from 2008, when LFRs began to allot more resources to the sector. The same changes are observed when comparing implemented expenditure to approved expenditure (squares). Although the implemented expenditure is less than between 2005 and 2006, it is almost at the same level as approved expenditure in the following two years, and diverges in 2009 and 2010, with implemented expenditures first more than, and then slightly less than those approved. The implemented budget was approximately 90 percent of the allocated budget between 2005 and 2010, and this increased in the following years, fluctuating between less than 110 percent and 90 percent.

Figure 3.1: Agriculture budget from internal resources, excluding wages



Sources: Budget acts of Senegal, 2005–2010

21. **The ministries in the agricultural sector have seldom spent exactly the amount of the adopted budget (LFI and LFR).** The variance between the implemented budget and the allocated budget (triangles) is primarily the result of financial pressures that the state had to face in 2007 and 2008 in particular, when there were large reductions in the budgets of almost all ministries after the energy and food security crises that rocked the world during this period.

22. **The implementation rates for current expenditure are greater than for capital expenditure, but the agricultural subsectors do not have the same implementation rates.** In 2005–2010, the operating budget was implemented on average at a rate of 94 percent compared to 89 percent for the investment budget (see appendix 9 and 10). From 2005 to 2010, the crop subsector did better than others with an implementation rate of 94 percent, followed by fisheries (84 percent), the environment (75 percent), and livestock (75 percent).

23. **In terms of value, total agriculture expenditure by the state and donors together experienced an all-time high between 2002 and 2009.** Total public expenditure, as detailed in Table 3.1, saw a net increase in value between 2002 and 2009, from 13 billion CFAF in 2002 to more than 146 billion CFAF in 2009. However, the state's effort was more modest. APE from internal resources has gone from 13.2 to 97.5 billion CFAF during the same period. Table 3.2 shows their distribution by subsector. Some subsectors are characterized by a very high contribution from DPs in the financing of projects, as is the case for livestock, for instance.

Table 33.1: Evolution of agricultural public expenditures by subsector, in millions of CFAF, 2002–2009

Year	Type of expenditure	Crop farming	Fisheries	Livestock	Environment	Waterworks	Total
2002	Staff expenditure	3,690	479		2,346		6,515
	Non-wage operating expenditure	4,333	88		2,186		6,607
	Investment from internal resources	14				1,223	1,237
	Investment from DP resources	22,529	1,119	3,356	11,319	2,405	40,728
2003	Staff expenditure	3,632	499		1,501		5,632
	Non-wage operating expenditure	8,563	605		3,853		13,021
	Investment from internal resources	9,034	909	2,475	1,892	4,088	18,398
	Investment from DP resources	22,413	2,450	2,690	1,279	2,445	31,277
2004	Staff expenditure	3,723	558	204	1,714		6,199
	Non-wage operating expenditure	5,123	114	776	3,041		9,054
	Investment from internal resources	18,903	417	1,494	5,717	3,567	30,098
	Investment from DP resources	4,436	1,088	1,115	661	3,023	10,323
2005	Staff expenditure	1,946	534	774	1,747	68	5,069
	Non-wage operating expenditure	5,072	882	121	1,789	170	8,034
	Investment from internal resources	29,912	934	2,851	3,563	4,527	41,787
	Investment from DP resources	26,382	3,478	3,711	929	10,907	45,407
2006	Staff expenditure	2,275	678	899	3,040	75	6,967
	Non-wage operating expenditure	5,839	868	152	1,796	187	8,842
	Investment from internal resources	24,495	11,649	5,969	3,607	3,679	49,399
	Investment from DP resources	25,285	4,130	2,970	100	12,212	44,697
2007	Staff expenditure	2,738	806	1,189	3,243	31	8,007
	Non-wage operating expenditure	5,705	922	118	2,175	64	8,984
	Investment from internal resources	54,483	4,360	6,000	1,025	5,398	71,266
	Investment from DP resources	26,728	3,218	7,142	11,136	8,080	56,304
2008	Staff expenditure	2,686	857	1,103	3,313	28	7,987
	Non-wage operating expenditure	5,516	882	355	2,509	58	9,320
	Investment from internal resources	34,734	2,574	3,864	570	3,192	44,934
	Investment from DP resources	25,347	6,702	9,121	588	15,686	57,444
2009	Staff expenditure	2,500	866	1,094	3,082	26	7,568
	Non-wage operating expenditure	6,288	1,109	730	4,178	52	12,357
	Investment from internal resources	67,676	4,231	3,431	531	4,387	80,256
	Investment from DP resources	37,668	688	3,575	8,335	19,773	70,039

Sources: MEF, Budget Implementation Reports, 2002–2009

24. **From 2005 to 2009, the share of the agricultural sector in the total implemented budget was just 9.7 percent.** The share of agriculture expenditure in total public expenditure from internal resources was erratic between 2005 and 2009. Between these years, the share of agricultural expenditure out of the total expenditure went from 9.8 percent to 10.9 percent. In trends, there appears to be a small increase in agriculture expenditure compared to other types of public expenditures. Nevertheless,

the projected changes in the approved budgets were more modest since this component decreased from 12.2 percent to 7.6 percent. The strong increase in agriculture expenditure per capita in current CFAF from 2001 to 2009 does not do much to mask its low level (Table 3.3).

Table 3.2: The share of the agriculture budget in the allocated and implemented budgets and in GDP, as a %

Ratio	2005	2006	2007	2008	2009	Average
Allocated budget/ total approved budget	12.2	11.6	7.2	8.2	7.6	9.4
Implemented budget/ total implemented budget	9.8	8.9	10.7	8.0	10.9	9.7
Allocated budget/ GDP	3.5	3.2	2.0	2.3	2.3	2.7
Budget/ GDP	2.2	2.3	2.8	2.1	2.8	2.4

Sources: MEF, Budget Directorate/Directorate-General of Public Accounting and the Treasury, and the ANSD

Table 3.3: Agricultural public expenditure per rural inhabitant, in CFAF, 2001–2009

Year	APE per capita
2001	8,841
2002	9,258
2003	11,252
2004	8,942
2005	15,709
2006	16,787
2007	21,533
2008	17,386
2009	24,117

Source: ANSD

25. **Senegal is moving closer to the commitments made concerning agriculture and food security in Africa by the African heads of state at the African Union Summit in Maputo in July 2003.** The declaration adopted by the African heads of state at the African Union Summit on agriculture and food security in Maputo includes the commitment to urgently implement the Comprehensive African Agriculture Development Programme (CAADP), to adopt sound agricultural development policies, and to increase budgetary resources allotted for their implementation. The Governments committed themselves to allocating at least 10 percent of their national budgets to rural and agriculture development and food security over a period of five years. Senegal is not far from the target contained in the Maputo Declaration since from 2005 to 2009 the share of the implemented agriculture budget in the total budget varied between 8 and 11 percent. In 2007 and 2009, Senegal even slightly surpassed the target, with an agriculture budget of 10.7 percent and 10.9 percent, respectively (Table 3.4). Now the major challenge is to achieve efficient use of public resources allocated to the agricultural sector.

26. **The share of the agriculture budget in the total budget is higher than for health, but lower than for education.** The state's interest in agriculture can be compared to its interest in priority areas such as health and education. Table 3.4 shows that the budget was more favorable to agriculture than to health over the period 2005–2009 as a whole. By contrast, the education sector enjoyed the greatest share of the budget, albeit diminishing over time.

Table 3.4: Share of three sectors (agriculture, health, education) in the total implemented budget, as a %, 2005–2009

Ratio	2005	2006	2007	2008	2009
Agriculture	9.8	8.9	10.7	8.0	10.9
Health	6.0	5.4	4.2	6.6	4.9
Education	18.3	16.6	10.9	13.6	4.4

Sources: ANSD, National Accounts 2005–2009

27. **The agricultural budget made up the equivalent of just 2.8 percent of GDP in 2009, which is low.** Between 2005 and 2009, there was a small increase in this percentage (Appendix 11), from 2.2 percent to 2.8 percent, which still appears very low since close to 54 percent of the population is still rural. In addition, the same assessment emerges from Table 3.5, which compares this ratio to the averages for Africa, Asia, and Latin America. Even though the data for Senegal in Table 3.5 predate the period under study, the average remains significantly lower than for all developing countries and even for Africa. In 2002, for a group of 17 African countries, public expenditure on agriculture represented the equivalent of 6.7 percent of GDP. In the same year, it was 10.5 percent of GDP for all developing countries. An increase in taxes—currently less than 20 percent of GDP—by the MEF would allow more public resources to be allocated to agriculture. This needs to be supported by an increase in the sector's share in the budget so as to ensure a more adequate level of financing.

Table 3.5: Agricultural public expenditures as compared to the GDP, as %, 1980 to 2002

Continent	1980	1990	2000	2002
Africa (17 countries)	7.4	5.4	5.7	6.7
Asia (11)	9.4	8.5	9.5	10.6
Latin America (16)	19.5	6.8	11.1	11.6
All developing countries	10.8	8.0	9.3	10.5

Source: Fan and Saurkar (2006)

28. **In comparison to other countries in the West African Economic and Monetary Union (WAEMU), the level of financing for agriculture does not place Senegal in the top group.** As shown in Appendix 11, between 2005 and 2008, the share of agriculture in the total implemented budget and GDP was lower in Benin, Côte d'Ivoire, and Togo than in Senegal, but, Burkina Faso, Mali, and Niger devoted more budgetary resources to agriculture than Senegal. The same ranking was observed when the APE was related to GDP (Appendix 11).

29. **Agricultural expenditure per rural inhabitant in Senegal was higher than in Mali, Nigeria, and Uganda, but agriculture's contribution to GDP was greater in these countries than in Senegal, which clearly shows the inefficiency of agricultural expenditure in Senegal.** According to Table 3.6, Senegal spent an average of 2,486 US dollars per rural inhabitant per year in 2007–2009. Compared to Mali, Nigeria, and Uganda, Senegal spent much more on its rural population. By contrast, we observe that the share of agriculture in GDP is lower in Senegal than in the countries which spend relatively less. This is also a source of inefficiencies in APE by the Senegalese government.

Table 3.6: Agricultural expenditures per rural inhabitant in US dollars and share of agriculture in the GDP of some African countries

Country	Line item	2003	2004	2005	2006	2007	2008	2009	Average 2007–2009
Mali	Agricultural public expenditure per rural inhabitant	251.3	329.4	467.5	379.3	452.2	541.2		496.7
	Contribution of agriculture to GDP	38.8	36.4	36.6	36.9	36.5			36.5
	Urbanization rate	34.9	34.3	33.6	33.0	32.4	31.7	31.1	30.5
Nigeria	Agricultural public expenditure per rural inhabitant	640.0	938.0	1,331.8	1,703.6	2,132.4	2,628.5	2,112.8	2,291.2
	Contribution of agriculture to GDP	42.7	34.2	32.8	32.0	32.7			32.7
	Urbanization rate	49.6	49.0	48.4	47.7	47.1	46.4	45.8	45.1
Senegal	Agricultural public expenditure per rural inhabitant	900.1	2,056.8	2,446.1	1,859.3	2,363.8	2,731.9	2,365.0	2,486.9
	Contribution of agriculture to GDP	17.6	15.9	9.8	8.9	10.7	15.1	13.7	13.2
	Urbanization rate	42.6	42.3	42.0	41.8	41.6	41.3	41.1	41.0
Uganda	Agricultural public expenditures per rural inhabitant	109.1	99.5	112.4	157.3	182.7	215.3	229.2	209.1
	Contribution of agriculture to GDP	26.2	22.9	26.7	25.6	23.6	22.7	24.7	23.7
	Urbanization rate	15.6	15.2	14.8	14.4	14.0	13.6	13.2	13.0

Sources: Estimates from World Data Indicators data, World Bank (2013), and ReSAKSS (2013)

NB: For Senegal the share of agriculture in the budget for 2005–2009 comes from the Budget Department/Directorate-General of Public Accounting and the Treasury/ANSD

30. **The level of public investment in agriculture is insufficient compared to the importance of the agricultural sector to the country's economy.** The act of devoting a given percentage of the budget to the agricultural sector is a good indicator of the attention that the Government gives to it, but the sector's importance to the economy must also be taken into account. The agricultural orientation index, in which the proportion of public-sector agricultural expenditure is divided by the share of agriculture in GDP, allows one to see the extent to which agricultural public expenditure reflects the importance of this sector to the economy. When the index is less than one, public expenditure on the sector is more than what it brings to the economy. The higher the index, the more public expenditure on agriculture is in line with agriculture's share in GDP. Table 3.7 shows the share that Senegal devotes to agriculture in terms of total public expenditure, and the share of agriculture in the total GDP. The agricultural orientation index is less than 1, since agricultural public expenditure is less than the sector's contribution to GDP. The evolution of the ratio always shows a steady increase of agricultural public expenditure under the influence of the launch of GOANA in 2008. In the other years, with the exception of 2007, for every percentage point contributed by agriculture to GDP, the state transferred around half a point to the sector in return. Although a comparison of this index to that of other African countries puts Senegal in a good position (Table 3.8), this was due to the small contribution by its agriculture to the total value added of the country.

Table 3.7: The share of public agricultural expenditure in the implemented budget and that of agricultural GDP in total GDP

	2005	2006	2007	2008	2009
Implemented agricultural budget/total budget (A)	9.8	8.9	10.7	8.0	10.9
Agricultural GDP/total GDP (B)	16.9	16.3	13.6	15.1	13.7
Agricultural orientation index (A/B)	0.58	0.55	0.79	0.53	0.80

Source: Budget Department/Directorate-General of Public Accounting and of the Treasury/ANSD

Table 33.8: The agricultural orientation index (AOI) of a selection of African countries in 2007

Country	AOI
Senegal	0.79
Benin	0.20
Burkina Faso	0.49
Côte d'Ivoire	0.09
Togo	0.18

Source: Budget Department/Directorate-General of Public Accounting and the Treasury /ANSD, FAOSTAT

31. **More than 80 percent of operating APE is implemented at a central level and the small share of actual expenditure at the regional level stays focused on Dakar.** Given that agriculture is essentially practiced in rural areas, greater efficiency could be achieved through further regionalization of expenditure. Recurring non-wage expenditure is concentrated in Central Government, the services in the regions receiving less than 20 percent on average (Table 3.9). This share is too low to be efficient. In addition, leakages can take place in the financing channels between the

central administration and the beneficiary populations. An analysis of decentralized expenditures will show that a large portion is made up of wages paid to civil servants who live in the urban centers of a region and not in rural areas. The Senegalese Government will gain more efficiency in its expenditure if it implements it at a level that is closer to its beneficiaries. In this way, decentralization (or decongestion) will lead to improved efficiency.

Table 3.9: Non-wage agricultural operating expenditure approved by region, in millions of CFAF, 2005–2010

Region	2005	2006	2007	2008	2009	2010
Dakar	184	204	273	281	278	244
Diourbel	59	82	109	119	140	102
Fatick	81	114	135	153	173	131
Kaolack	107	141	170	185	252	171
Kolda	86	115	134	140	181	131
Louga	86	107	140	144	186	133
Saint-Louis	182	257	302	341	454	307
Tambacounda	120	230	242	249	370	242
Thiès	114	203	236	246	311	222
Ziguinchor	210	255	309	299	340	283
Matam	127	157	166	189	226	173
Total regions (A)	1,356	1,865	2,216	2,346	2,911	2,139
Central	8,198	9,181	9,550	10,098	10,830	9,572
Senegal (B)	98,554	11,046	11,766	12,444	13,741	11,711
A/B (%)	14	17	19	19	21	18

Source: IFMIS/MEF, 2005–2010

3.2 TAX EXPENDITURES

32. **Tax expenditures have become one of the main economic policy tools of the Government.** Tax expenditures are tax dispensations that serve to rectify market shortcomings or to make indirect social transfers. They have become one of the most important instruments of economic and social intervention used by the state. They include a wide variety of techniques, including exemptions (sums excluded from the tax base) for tax credits (sums deducted from the tax due), using various arrangements to calculate the tax, especially deductions (amounts deducted from the reference income to obtain the applicable base) or tax reductions (a reduced tax rate applied to a class of taxpayers) as well as tax deferral (relief in the form of delayed payment).

33. **Tax expenditures as part of GOANA increased to more than 20 billion CFAF in 2008.** In 2008 tax expenditure measures were taken in the form of value-added tax (VAT) suspension on imports so as to curb the strong inflation that seeped into the country in a context of generalized increases in food prices on global markets. These measures were applied both to agriculture products (rice, wheat flour, maize, etc.) and agricultural inputs (Table 3.10). On the whole, they generated more than 20 billion

CFAF in tax expenditures attributable to the agricultural sector, which is close to 38 percent of the VAT collected on rice and wheat imports. (Table 3.11).

Table 3.10: Tax expenditure measures relating to the agricultural sector taken in 2008

Tax expenditures related to indirect taxes under ordinary law	Reference to the General Tax Code
Imports of goods exempted from VAT	Article 289
Shipments of seed, fertilizer, phytosanitary products, feed for livestock, pure-bred breeding animals, hatching eggs, day-old chicks, etc. for direct use in a plant or animal reproduction cycle.	Article 289

Source: MEF

Table 3.11: Tax expenditures, in billions of CFAF, 2008

Type of tax expenditure	Total
VAT exemption for rice and flour	10.9
VAT exemption/local sale of livestock feed, poultry, etc.	9.6
VAT on rice and wheat imports	56.9
Total	77.4

Source: MEF

34. **In the context of implementing GOANA, other fiscal exemptions were made that have not yet been evaluated.** Law number 2008-45 of 9/3/2008 (Table 3.12) is very large in scope. Whether concerning customs duties, VAT, or income tax, the Government has chosen not to collect taxes on expenses ranging from hydro-agriculture developments to income from agriculture activities, and including investment expenditures and the purchase of inputs. An assessment of the cost of these measures will give a more complete estimate of tax expenditure in the agricultural sector.

Table 3.12: Tax expenditure measures relative to dispensation procedures in special privileges as a share of GOANA

Type of exemption	Reference to the law

Exemption from VAT on the purchase of agricultural equipment, seed, fertilizer, phytosanitary products, poultry and livestock feed, pure-bred breeding animals, hatching eggs, and day-old chicks for direct use in a production cycle or destined for use in GOANA activities.	Law number 2008-45 of 3/9/2008 (GOANA)
Exemption from customs duties on the purchase of agricultural equipment, seed, fertilizer, phytosanitary products, poultry and livestock feeds, pure-bred breeding animals, hatching eggs, and day-old chicks for direct use in a production cycle or destined for use in GOANA activities.	Law number 2008-45 of 3/9/2008 (GOANA)
Exemption from payment of tax on income from GOANA for a period of 5 years.	Law number 2008-45 of 3/9/2008 (GOANA)

Source: MEF

3.3 EXPENDITURE BY NGOS

35. **Expenditure by NGOs increased between 2003 and 2007.** NGOs play an important role in support of the development of the agricultural sector, and 112 NGOs are active in the sector. Despite a slowdown in 2005, their expenditures have greatly increased since 2003. NGOs are involved primarily in capacity building and support to productive activities (Table 3.14). NGOs' support to environmental projects as well as equipping stakeholders in the agricultural sector should not be forgotten either, with 53 and 49 percent involved in these two areas, respectively. Technical and financial aid from NGOs is not limited to the areas identified in Table 3.14. Approximately 50 percent of NGOs lent their assistance to the development of other areas in the sector. Table 3.14 indicates that most NGOs diversify their support. For example, of the 112 listed NGOs, 82 and 87 of them contributed to capacity building and the support of productive activities, respectively. Thus it follows that at least 57 of the 112 NGOs are involved both in capacity building and support to productive activities.

Table 3.13: Financing of the agriculture sector mobilized by NGOs, in billions of CFAF, 2003–2007

Year	2003	2004	2005	2006	2007	Annual average
Estimated amounts for the 112 NGOs in the agricultural sector	9.81	15.19	12.39	14.33	17.1	13.76

Source: DAPS, ReSAKSS, Study on the Evolution of the Agricultural Sector and Household Living Conditions (*Étude sur l'évolution du secteur agricole et des conditions de vie des ménages*), 2008

Table 3.14: Targeting of NGOs by area of activity

Action area	Capacity building	Support to productive activities	Infrastructure and equipment	Forestry and the environment	Other*

Number of NGOs	82	87	55	59	56
% of NGOs	73	78	49	53	50

* Health, culture, and handicrafts

Source: DAPS/MA, ReSAKSS 2008. NB: the same NGO can be active in multiple areas at once.

36. **The support from NGOs in the agricultural sector covers all regions in Senegal, but to different degrees.** As seen in Table 3.15 the regional distribution of NGOs' activities favors regions such as Dakar and Saint-Louis. Both of these regions each receive support from more than 50 percent of NGOs, with the Thiès and Kaolack regions following with 49 and 48 percent, respectively. Even though NGOs are present in all regions supporting agricultural development projects, we note that the regional distribution of their activities disadvantages the Matam and Tambacounda regions. With 23 percent and 32 percent of NGOs active there, respectively, these two regions attract the fewest NGOs.

Table 3.15: Regional presence of NGOs

Region*	DK	TH	DL	LG	FK	KL	SL	MT	TC	KD	ZG
Number of NGOs	61	54	45	46	46	53	58	26	35	41	45
% of NGOs	55	49	41	41	41	48	52	23	32	37	41

* DK=Dakar, TH=Thiès, DL=Diourbel, LG=Louga, FK=Fatick, KL=Kaolack, SL=Saint-Louis, MT=Matam, TC=Tambacounda, KD=Kolda, ZG=Ziguinchor
NB: The same NGO may have several regional offices.
Source: DAPS/MA, ReSAKSS 2008

4. FUNCTIONAL AND ECONOMIC COMPOSITION OF AGRICULTURAL PUBLIC EXPENDITURE

37. **Public expenditure's contribution to agricultural development depends not only on its amount, but also its composition.** The composition of APE by subsector provides information that can serve to improve its allocation.

4.1 INTRA-SECTORAL ALLOCATION

38. **The intra-sectoral distribution of public expenditure illustrates a focus on crop production.** The intra-sectoral distribution favors crop production in both recurrent and capital expenditure. Crop production accounted for roughly 60 percent of total expenditure in 2002–2009. This share is essentially due to the importance of subsidies granted nearly exclusively to farming, along with hydro-agricultural developments, which benefit rice and market gardening; this leaves 14 percent for water supply, 9 percent each for the natural resources and livestock subsectors, and 8 percent for fisheries. The priority given to crop production reflects its dominance in the sector (53 percent of added value, on average), as well as efforts to reduce the numerous risks it faces, notably through the development of irrigation. Natural resources, which contribute an average of 5 percent to the sector's economic activity, account for a relatively larger share of APE due to efforts to promote sustainable development. By contrast, despite a relatively higher contribution to the sector's economic activity (10.8 percent and 31 percent, respectively), the fisheries and livestock subsectors receive a smaller share of expenditure (8 percent and 9 percent, respectively), although this share has increased since the beginning of the decade (Table 4.1).

Table 4.1: Distribution of total annual public expenditure by subsector, in %

Service	2002–2004			2005–2009		
	State	Donors	Total	State	Donors	Total
Agriculture	59	59	59	67	51	60
Fisheries	4	6	5	9	7	8
Livestock	5	9	7	8	10	9
Natural resources	23	16	20	10	8	9
Water supply	9	10	9	6	24	14
Total	100	100	100	100	100	100
Average annual expenditure in billions of CFA francs	32.25	27.44	59.70	74.16	54.78	128.93

Source: MEF, Budget Implementation Report, and CIB

39. **The subsectoral distribution of recurrent and capital expenditures also reveals the predominance of crop production.** Tables 4.2 and 4.3 respectively break down recurrent and investment public expenditure by subsector. In each of the two categories, crop production dominates, representing 49 percent of recurrent expenditure in 2005–2009, and 63 percent of investment expenditure.

Table 4.2: Distribution of annual recurrent public expenditure by subsector (%), in billions of CFA francs, 2002–2009

Subsector	2002–2004 average	2002–2004 share	2005–2009 average	2005–2009 share
Agriculture	9.69	62	8.11	49
Fisheries	0.78	5	1.68	10
Livestock	0.33	2	1.31	8
Natural resources	4.88	31	5.37	32
Water supply	0	0	0.15	1
Total	15.68	100	16.63	100

Source: MEF, Budget Implementation Report, and CIB

Table 4.3: Distribution of annual capital public expenditure by subsector (%), in billions of CFA francs, 2002–2004 and 2005–2009

Subsector	2002–2004			2005–2009		
	State	Donors	Total	State	Donors	Total
Agriculture	56	59	58	74	51	63
Fisheries	3	6	5	8	7	7
Livestock	8	9	8	8	10	9
Natural resources	15	16	16	3	8	5
Water supply	18	10	13	7	24	16
Total	100	100	100	100	100	100
Average annual expenditure (in millions of francs)	16.58	27.44	44.02	57.53	54.78	112.31

Source: MEF, Budget Implementation Report, and CIB

40. **The majority of APE is capital expenditure. In 2005–2009, 84 percent of APE from budgetary allocations was capital expenditure.** This proportion increased in comparison to 2002–2004, when it was 49 percent (Table 4.4).

Table 4.4: Distribution of public recurrent and capital expenditure (%), in billions of CFA francs, 2002–2004 and 2005–2009

Period	Budgetary expenditure				Total expenditure (including DPs)			
	Recurrent	Capital	Total (%)	Total (millions of CFA francs)	Recurrent	Capital	Total (%)	Total (millions of francs)
2002	100	0	100	8,037	26	74	100	30,566
2003	57	43	100	21,230	28	72	100	43,643
2004	32	68	100	27,749	27	73	100	32,185
2002–2004	51	49	100	57,016	27	73	100	106,394
2005	19	81	100	36,930	11	89	100	63,311
2006	25	75	100	32,609	14	86	100	57,894
2007	13	87	100	62,926	9	91	100	89,654
2008	19	81	100	42,937	12	88	100	68,284
2009	11	89	100	76,464	8	92	100	114,132
2005–2009	16	84	100	251,866	10	90	100	393,275
2002–2009	23	77	100	308,882	14	86	100	499,669

Source: MEF, Budget Implementation Report, and CIB

41. **A comparison of the trends in 2000–2009 to those of the investment plan in 2011–2015 confirms that more allocations are granted to crops.** With the investment plan, livestock will receive a greater share of agricultural investment (nearly 11 percent) while the share for fisheries will decrease significantly compared to 2000–2004 (4.7 percent of agricultural expenditures in the investment plan). This can doubtless be attributed to the fact that new national policies no longer support an unbridled increase in fish production, but rather the preservation and sustainable management of resources, notably by establishing biological rest periods and reducing the number of vessels in order to reduce catches, as well as creating community areas, and using development plans to manage fisheries. Senegal developed its NAIP for 2011–2015 so it would reflect the priorities to which it adhered within the framework of the Regional Agricultural Policy for West Africa (ECOWAP) and the Comprehensive African Agriculture Development Program (CAADP) on one side, and the guidelines set out in its current and prospective agriculture policy and strategy on the other. The table in Annex 12 presents the planned distribution of investment plan expenditure by subsector. Thus, agriculture should also receive the greatest share of capital expenditure, since 69.2 percent of investment plan expenditure concerns this subsector. Greater attention should be given to livestock compared to the first half of the 2000s, while the projected fisheries expenditure is proportionately lower.

4.2 FUNCTIONAL COMPOSITION OF AGRICULTURAL PUBLIC EXPENDITURE

42. **A breakdown of APE according to the functions that have a decisive influence on growth in agriculture illustrates how APE creates positive externalities for the sector.** Recurrent and capital expenditure are analyzed in this section according to the main functions in agriculture: central or regional administration, hydro-agricultural

development services, agricultural inputs and equipment supply services, agricultural training, physical infrastructure, extension services, agricultural research, etc.

43. **In 2005–2009, more than half of budgetary APE was used to finance the purchase and distribution of agricultural inputs.** The agricultural subsectors' average functional distribution of budgetary APE in 2005–2010 is presented in tables 4.5 (in amounts) and 4.6 (as percentages). One line item stands out in relation to the financing of agricultural activities: agricultural input supply services. With agricultural inputs taking up nearly 50 percent of its APE, the government made access to inputs its main priority for stimulating agricultural production. Physical infrastructure comes in a distant second, receiving just under 11 percent of APE. More agricultural public expenditure is allocated to inspection services (7.6 percent) than to hydro-agricultural developments (4.1 percent). Administrative expenditure on both the central (5.6 percent) and regional (1.4 percent) level is relatively low. By contrast, the amounts dedicated to agricultural research (2.7 percent) and training (0.8 percent) are clearly insufficient, even given that they are supplemented by funding for extension services (2.2 percent).

44. **The subsectors do not favor the same functions in the allocation of public resources.** Table 4.6 shows that the functional distribution differs significantly from one subsector to the next. Thus, the preponderance of input supply services in total expenditure is largely due to agriculture (62.1 percent). For the other subsectors, these services represent a significantly lower proportion of expenditure: 18.6 percent for fisheries, 15.6 percent for livestock, and 3.7 percent for natural resources. However, the share of physical infrastructure is much higher for livestock, fisheries, and natural resources (30.2 percent, 30.2 percent, and 23.4 percent, respectively), yet physical infrastructure only represents 3.9 percent of the MA's total expenditure. Logically, the livestock and natural resources subsectors favor inspection services, which receive 19.8 percent and 38.0 percent of their public resources, respectively. It is important to note the central role this function plays in the protection of animal and forest resources. Furthermore, with nearly 18 percent of the total budget, the "central administration" budget of the Ministry of Maritime Economy's expenditure is relatively higher than in the other subsectors.

Table 4.5: Annual budgetary agriculture public expenditure, by subsector, in millions of CFA francs

(average for 2005–2009)

Service	Agriculture	Fisheries	Livestock	Natural resources	Combined
Central administration	1,682	1,256	384	878	4,200
Regional administration	1,051	4	18	20	1,093
Communication	27	1	1	31	60
Rural development companies	3,815	115	174	158	4,262
Training	284	83	155	43	565
Water supply	3,121	0	0	0	3,121
Physical infrastructure	1,693	1,873	1,847	839	6,252
Crop protection	761	0	0	0	761

Agricultural research	2,039	8	0	0	2,047
Extension services	1,674	5	0	0	1,679
Inspection services	5	380	862	4,458	5,705
Soil conservation	130	0	0	0	130
Statistics	125	6	0	0	131
Monitoring	68	0	0	0	68
Animal husbandry	0	0	249	0	249
Water and sanitation	7	587	0	437	1,031
Input supply services	35,249	921	997	95	37,262
Other	3,074	1,920	1,093	549	6,636
Total	54,805	7,159	5,780	7,508	75,252

Source: MEF, Budget Implementation Report, and CIB

Table 4.6: Share of the various functions in the total budgetary APE, by subsector (%), 2005–2009

Service	Agriculture	Fisheries	Livestock	Natural resources	Combined
Central administration	3.26	17.29	8.81	7.49	5.61
Regional administration	2.04	0.04	0.08	0.07	1.42
Communication	0.05	0.02	0.02	0.05	0.05
Rural development companies	7.47	0.28	2.77	2.05	5.64
Training	0.55	1.13	3.08	0.74	0.78
Water supply	5.94	-	-	-	4.08
Physical infrastructure	3.67	30.17	30.22	23.44	10.89
Crop protection	1.48	-	-	-	1.02
Agricultural research	3.96	0.11	-	-	2.73
Extension services	3.25	0.01	-	-	2.24
Inspection services	0.01	5.23	19.81	38.00	7.62
Soil conservation	0.20	-	-	-	0.14
Statistics	0.22	0.09	-	-	0.18
Monitoring	0.11	-	-	-	0.07
Animal husbandry	-	-	3.72	-	0.22
Water and sanitation	0.01	0.70	-	7.95	1.32
Input supply services	62.16	18.59	15.65	3.73	46.07
Other	5.62	26.34	15.84	16.48	9.92
TOTAL	100.00	100.00	100.00	100.00	100.00

Source: MEF, Budget Implementation Report, and CIB

45. **APE is slightly biased towards rural infrastructure in addition to research and development or extension services, which have a potential impact on agricultural growth.** Table 4.7 confirms that recurrent expenditure dedicated to inspection services and the central administration is the highest (78 percent of wages and 45 percent of other recurrent expenditure). As for non-wage recurrent expenditure, a relatively significant proportion is dedicated to agricultural research (21 percent), extension services (17 percent), and inspection services (20 percent), but these figures are misleading because of the small amounts they represent, which keeps them from having a significant impact on agricultural production. By contrast, capital expenditure

from internal resources is primarily biased towards agricultural inputs and equipment supply services (63 percent). A reorientation of these resources towards rural infrastructure and R&D would encourage stronger and more sustainable agricultural growth. Development partners invest a similar proportion (58 percent of their contribution) in the form of capital transfers. Apart from these transfers, physical infrastructure (around 15 percent of total investments) and hydro-agricultural development services (about 5 percent of investments) are the functions that receive the most investment.

Table 4.7: Functional classification of agricultural public expenditure by type of expenditure (%), 2005–2009

Service	Wages	Non-wage recurrent expenditures	Capital expenditure from internal resources	Capital expenditure from external resources
Central administration	25.64	24.98	-	-
Regional administration	13.11	1.39	-	-
Communication	-	0.37	-	-
Rural development companies	-	3.25	7.17	1.08
Training	3.36	1.56	0.34	0.52
Water supply	0.64	1.12	-	4.56
Physical infrastructure	-	-	14.37	17.88
Crop protection	3.57	5.33	-	-
Agricultural research	0.04	21.48	-	-
Extension services	0.84	17.00	-	-
Inspection services	52.80	20.47	-	-
Soil conservation	-	1.10	-	-
Statistics	-	1.38	-	-
Monitoring	-	0.57	-	-
Animal husbandry	-	-	0.28	0.59
Water and sanitation	-	-	1.69	1.32

Input supply services	-	-	62.90	58.63
Other	-	-	13.25	15.42
Total	100.00	100.00	100.00	100.00

Source: MEF, Budget Implementation Report, and CIB

46. **The functional distribution of capital expenditure differs little from that of agricultural public expenditure as a whole.** The budget allocated to inputs accounts for nearly two-thirds of capital expenditure. Table 4.8 indicates the functional classification of capital expenditure from internal resources. Given that 85 percent of APE was dedicated to capital expenditure in the 2005–2009 period, this classification remains quite similar to that of total agricultural public expenditure.

Table 4.8: Functional classification of capital public expenditure by subsector (%), 2005–2010

Service	Agricul-ture	Fisher-ies	Livestock	Natural resources	Combined
Central administration	-	-	-	-	-
Regional administration	-	-	-	-	-
Communication	-	-	-	-	-
Rural development companies	0.33	0.10	3.50	3.67	1.07
Training	0.01	1.04	2.64	0.94	0.52
Water supply	6.87	-	-	-	4.56
Physical infrastructure	4.99	50.58	37.54	42.73	17.88
Crop protection	-	-	-	-	-
Agricultural research	-	-	-	-	-
Extension services	-	-	-	-	-
Inspection services	-	-	-	-	-
Soil conservation	-	-	-	-	-
Statistics	-	-	-	-	-
Monitoring	-	-	-	-	-
Animal husbandry	-	-	5.32	-	0.59
Water and sanitation	0.01	0.02	-	10.76	1.32
Input supply services	79.58	23.08	19.59	10.00	58.63
Other	8.21	25.18	31.41	31.90	15.42
Total	100.00	100.00	100.00	100.00	100.00

Source: MEF, Budget Implementation Report, and CIB

47. **Development partners (DPs) primarily invested in input supply services for the agriculture subsector, and primarily in physical infrastructure for the other subsectors.** Table 4.9 provides the functional distribution of Senegal's capital expenditure from development partners. For the fisheries, livestock, and natural resources subsectors, DPs allocated roughly 40 percent of their 2005–2010 investments to physical infrastructure. As for crop production, their investments were primarily allocated to input supply services. However, the shares allocated to water

supply and physical infrastructure remain relatively low (7 percent and 5 percent, respectively). Overall, the composition of DP expenditure is similar to that of the Senegalese state.

Table 4.9: Functional Classification of Capital Expenditure Financed by Development Partners by Subsector (%), 2005–2010

Service	Agriculture	Fisheries	Livestock	Natural resources	Combined
Central administration	-	-	-	-	-
Regional administration	-	-	-	-	-
Communication	-	-	-	-	-
Rural development companies	0.34	0.37	3.49	3.17	0.86
Training	0.01	1.15	2.39	1.09	0.4
Water supply	6.75	-	-	-	5.13
Physical infrastructure	4.89	39.41	38.61	40.73	13.21
Crop protection	-	-	-	-	-
Agricultural research	-	-	-	-	-
Extension services	-	-	-	-	-
Inspection services	-	-	-	-	-
Soil conservation	-	-	-	-	-
Statistics	-	-	-	-	-
Monitoring	-	-	-	-	-
Animal husbandry	-	-	5.15	-	0.5
Water and sanitation	0.01	0.95	-	15.45	1.26
Input supply services	80.1	22.69	19.12	11.6	65.1
Other	7.9	35.43	31.24	27.96	13.54
Total	100	100	100	100	100
Total in millions of CFA francs	41.614	3.643	5.304	4.217	54.778

Source: MEF, Budget Implementation Report, and CIB

4.3. ECONOMIC CLASSIFICATION OF AGRICULTURAL PUBLIC EXPENDITURE

48. **The economic breakdown provides another angle from which to examine the allocation of APE.** Recurrent expenditure, like capital expenditure, can be analyzed so as to reveal other types of functions that are essential to agricultural growth, such as payroll, other recurrent expenditures, and capital expenditure. Each category is broken down into subcategories in order to provide a better view of the budget implementation structure. The data were collected directly from the ministerial offices involved, then classified by type (direct subsidies, input subsidies, and agricultural equipment subsidies). These were then divided into capital transfers and current transfers.

49. **Subsidies are the main economic component of expenditure, while research and training receive a negligible share.** Table 4.10 takes the total expenditure per ministry and classifies it according to the categories defined above. The percentages provided were calculated using the average values for expenditure from internal resources in the 2005–2009 period. The economic breakdown of expenditure varies between subsectors, but, on average, payroll represents 10.7 percent of total expenditure for all subsectors. This proportion is greater for natural resources and livestock, at 42.8 percent and 21.5 percent, respectively. Non-wage recurrent

expenditure comprises the recurrent purchase of goods and services, with the exception of fertilizer and seeds for crops. The "purchase of goods and services" represents more than 12 percent of expenditure on average, and amounts to 36.5 percent for fisheries and 29.6 percent for natural resources. Capital transfers account for 60 percent of total APE and are primarily used for the purchase of inputs. They predominate in the MA's expenditure at 64.4 percent. The fisheries subsector allocates them relatively fewer financial resources (11.3 percent), while the other subsectors give them much less (17.3 percent in the case of livestock, and 1.3 percent in the case of natural resources). Subsidies to public institutions account for 4.5 percent of total agricultural expenditure compared to 5.11 percent for investments in hydro-agricultural developments (6.4 percent for crop farming). The purchase of equipment represents 2.6 percent of the total expenditure for all subsectors combined, but the proportion is significantly greater for fisheries (15 percent). It is important to note that the share of training expenditure is very negligible although this function has been shown to have a strong influence on agricultural growth.

Table 4.10: Economic breakdown of total budgetary public expenditure by subsector (%), average for 2005–2009

Category	Agriculture	Fisheries	Livestock	Natural resources	Combined
Payroll	4.97	13.21	21.51	42.78	10.65
Wages	4.92	12.94	20.09	42.19	10.42
Other wage-related components	0.05	0.28	1.42	0.59	0.23
Non-wage recurrent expenditure	10.09	39.91	20.49	36.22	16.03
Care and maintenance	0.99	2.54	2.34	4.21	1.54
Of which maintenance of water supply structures	0.19	0.00	0.00	0.00	0.14
Other purchases of goods and services (recurrent)	7.46	36.46	17.48	29.60	12.91
Hydro-agricultural developments	0.24	0.00	0.00	0.00	0.18
Current transfers	1.25	0.62	0.12	1.61	1.14
Including subsidies	0.00	0.00	0.00	0.00	0.00
Mission expenses	0.15	0.30	0.55	0.81	0.26
Investments	84.94	46.87	58.00	21.00	73.32
Construction and repair of structures	0.23	6.84	10.18	0.90	1.64
Equipment	0.88	14.99	1.60	5.14	2.57
Physical infrastructure	7.06	7.29	13.51	6.54	7.53
Of which water supply infrastructure	5.42	0.00	0.00	0.00	4.00

Hydro-agricultural developments	6.40	0.72	2.43	1.31	5.11
Purebred animals	0.00	0.00	4.34	0.00	0.34
Restoration of fish stocks	0.00	0.00	0.00	0.00	0.00
Training	0.05	1.44	1.72	0.28	0.32
Water and sanitation	0.01	1.83	0.00	3.63	0.52
Other investments	0.35	0.00	6.94	0.01	0.80
Capital transfer	64.36	11.31	17.28	1.31	49.97
Of which subsidies	57.34	0.00	0.00	0.00	42.35
Subsidies to public institutions	5.60	2.46	0.00	1.89	4.53
Subsector total	100	100	100	100	100

Source: MEF, Budget Implementation Report, and CIB

50. **Capital transfers are the main economic component of the APE financed by DPs.** Table 4.11 illustrates that more than 65 percent of the APE financed by development partners is in the form of capital transfers. By subsector, crop production predominantly biases the allocation of DP expenditure towards capital transfers (80 percent of this subsector's expenditure was provided in the form of capital transfers). In the fisheries subsector, the purchase of goods and services and of equipment represents the majority of DP expenditure. Although donor expenditure is recorded in the CIB as investments, in reality, nearly 15 percent is executed as current expenditure. Table 4.11 shows that this is the case for fisheries, where more than 35 percent of the expenditure listed as investments is in fact recurrent expenditure.

Table 4.11: Economic distribution of total DP public expenditure by subsector (%), average for 2005–2009

Category	Agriculture	Fisheries	Livestock	Natural resources	Combined
Payroll	0.69	2.38	6.47	13.96	2.38
Wages	0.61	1.99	3.82	11.08	1.82
Other wage-related elements	0.08	0.39	2.65	2.88	0.57
Non-wage recurrent expenditure	7.24	33.29	25.11	14.01	11.22
Care and maintenance	0.39	1.36	2.74	1.84	0.80
Of which maintenance of water supply structures	0	0	0	0	0
Other purchases of goods and services (recurrent)	6.69	31.46	21.40	11.88	10.16

Hydro-agricultural developments	0	0	0	0	0
Current transfers	0.02	0.24	0.34	0.00	0.07
Of which subsidies	0	0	0	0	0
Mission expenses	0.13	0.23	0.63	0.28	0.20
Investments	92.07	64.33	68.42	72.03	86.39
Construction and repair of structures	0.38	7.67	9.79	5.83	2.19
Equipment	1.30	24.83	1.40	9.50	3.50
Physical infrastructure	9.41	6.90	16.91	25.30	11.19
Of which water supply infrastructure	6.75	0.00	0.00	0.00	5.13
Hydro-agricultural developments	0.34	0.37	3.49	3.17	0.86
Purebred animals	0.00	0.00	5.15	0.00	0.50
Restoration of fish stocks	0.00	0.00	0.00	0.00	0.00
Training	0.01	1.15	2.39	1.09	0.40
Water and sanitation	0.01	0.95	0.00	15.45	1.26
Other investments	0.56	0.00	10.51	0.10	1.45
Capital transfer	80.07	22.46	18.79	11.59	65.03
Of which subsidies	0.00	0.00	0.00	0.00	0.00
Subsidies to public institutions	0.00	0.00	0.00	0.00	0.00
Subsector total	100	100	100	100	100

Source: MEF, Budget Implementation Report, and CIB

51. **The share of total expenditure dedicated to infrastructure developments is modest.** Table 4.12 indicates the percentage of APE allocated to infrastructure developments under the categories: construction and repair of structures, other construction and restoration projects (storage facilities), infrastructure for livestock, hydro-agricultural developments, and other investments. In total, they only represent about 11 percent of total expenditure. The modesty of allocations to infrastructure developments hampers the creation of the positive externalities that are necessary for strong and sustainable agricultural growth.

Table 4.12: Share of infrastructure expenditure in total expenditure by subsector (%), 2005–2009

Subsector	2005	2006	2007	2008	2009
Agriculture	18.79	7.69	5.82	6.38	4.36
Fisheries	1.04	7.13	3.03	7.82	23.74
Livestock	7.21	13.02	15.38	19.24	14.53
Natural resources	24.95	7.82	15.88	28.13	13.90

Combined	17.93	8.05	7.70	12.34	7.56

Source: MEF, Budget Implementation Report, and CIB

5. THE EFFICIENCY OF AGRICULTURAL PUBLIC EXPENDITURE

52. **Efficiency is the concept of a maximum volume of product being drawn from a given quantity of factors or obtained at the lowest possible cost for a given quality.** The concept of efficiency can have two different accepted meanings. The first, called "technical efficiency," was used to examine the various causes of inefficiencies that impede the successful execution of agricultural investment projects, and hence raise costs and reduce their profitability. The second accepted meaning, called "economic efficiency," is used in this section. Applying this concept requires gathering data both on products and on the results associated with the various types of public expenditure made, in order to estimate the unit costs of the various goods and services obtained using these expenditures. A comparison of these costs over time and/or space helps to identify possible room for improvement at the institutions that spend more per unit of product. This may be a physical good (a hectare of developed land, a kilometer of rural roads, etc.) or a service (a visit to a producer by an extension agent, artificial insemination of a cow, etc.). Several types of efficiency indicators are calculated. The first type relates agricultural performance (growth rate, contribution to total GDP) to APE at the national or regional level. A comparison between regions or countries provides a measurement of the degree of inefficiency that a reallocation of public resources might eliminate. The second type of indicator concerns the unit costs of certain goods and services produced by public institutions. Given the difficulty of gathering consistent information on products, results, and expenditure, we will limit ourselves here to an examination of the unit costs of hydro-agricultural projects, which absorb most agricultural public investment, along with subsidies as another category of expenditure that receives a large share of the public resources allocated to the agricultural sector; an examination of the support system for rural producers established during the 2000s helps to identify sources of inefficiency and waste in the distribution of agricultural subsidies.

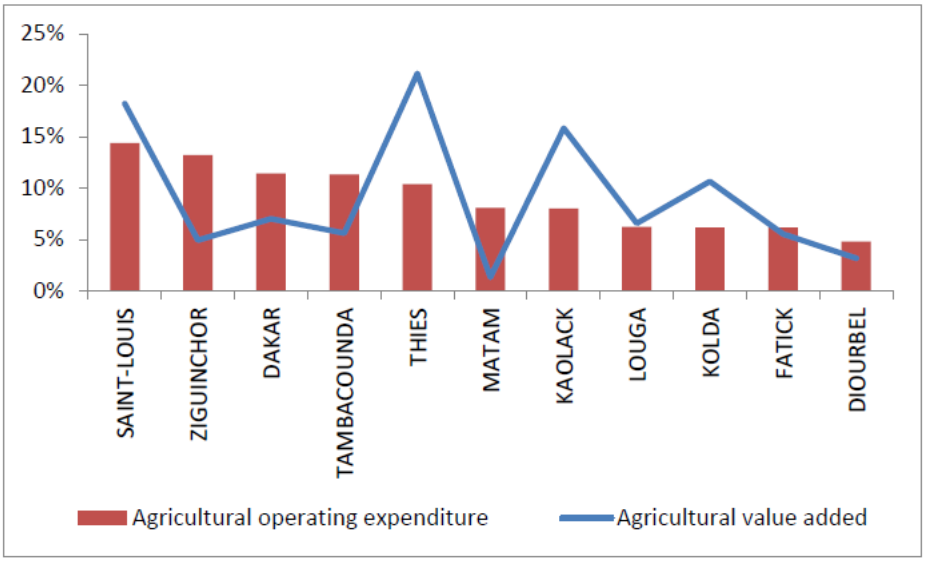
5.1 REGIONAL REALLOCATION OF PUBLIC EXPENDITURE AND BOOSTING AGRICULTURAL GROWTH

53. **Several criteria have to be combined in order to decide on optimal allocation of APE, but the profitability of the public resources invested must be given significant weight.** In order to allocate agricultural public expenditure among the country's various regions, several criteria may be considered: the size of the agricultural population, the poverty rate, the potential for agricultural growth, and the promotion of peace. Although these criteria are important, in the long term the profitability of agricultural public expenditure is undoubtedly the main criterion to be used in their spatial allocation. We will therefore attempt to verify whether a different distribution of agricultural public expenditure might improve efficiency by giving greater priority to regions with higher rates of profitability.

54. **The overall trend indicates a positive—albeit weak—correlation between the regions' share in GDP and their shares in APE.** Figure 5.1 shows that the

distribution of APE and GDP in the regions is poorly correlated; in fact the correlation factor is only 0.34; some regions (Saint-Louis, Ziguinchor, Dakar, Tamba, and, to a lesser extent, Matam) receive high shares relative to their contribution to the national agricultural GDP, while other regions (Thiès, Kaolack, and Kolda) receive shares of APE significantly lower than their weight in the national agricultural GDP. These results suggest that a reallocation of public resources to the second group of regions would promote higher national agricultural growth overall. This conclusion is reinforced by the following figure.

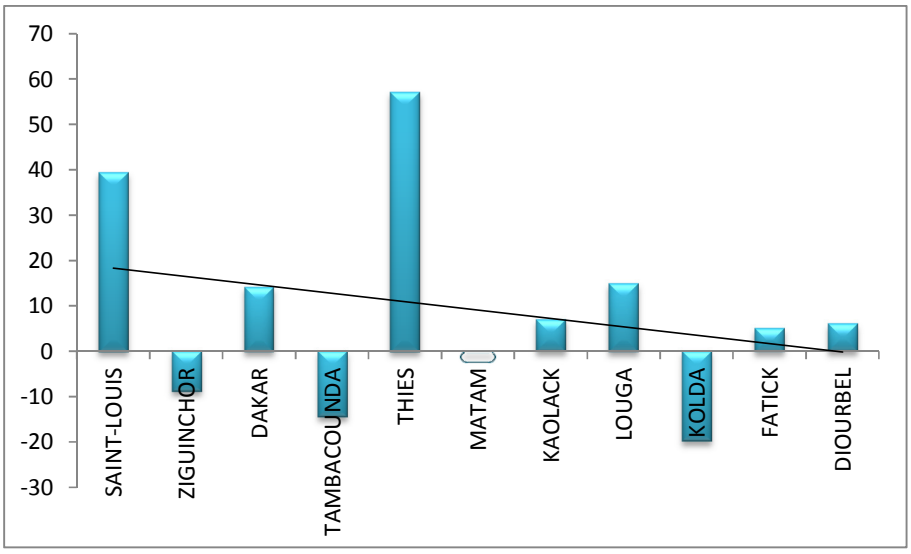
Figure 5.1: Regions' shares (by %) in GDP and APE, 2005–2009; the regions are classified in decreasing order of public operating expenditure from left to right of the axis



Sources: Estimates based on MEF, IFMIS, and ANSD data

55. **The regions that receive the most APE are not the ones that contribute most to national agricultural growth, with the exception of Saint-Louis.** Figure 5.2 shows that the regions that receive the most state resources do not make a greater contribution to agricultural GDP, with the notable exception of Saint-Louis. Thiès is the region that contributed the most to national agricultural growth during 2005–2009, while in terms of the amount of resources received from the Senegalese government, this region is in fifth place. The regions of Ziguinchor, Tambacounda, and Kolda contributed negatively to agricultural growth, whereas the Diourbel region, which received the least resources, contributed positively.

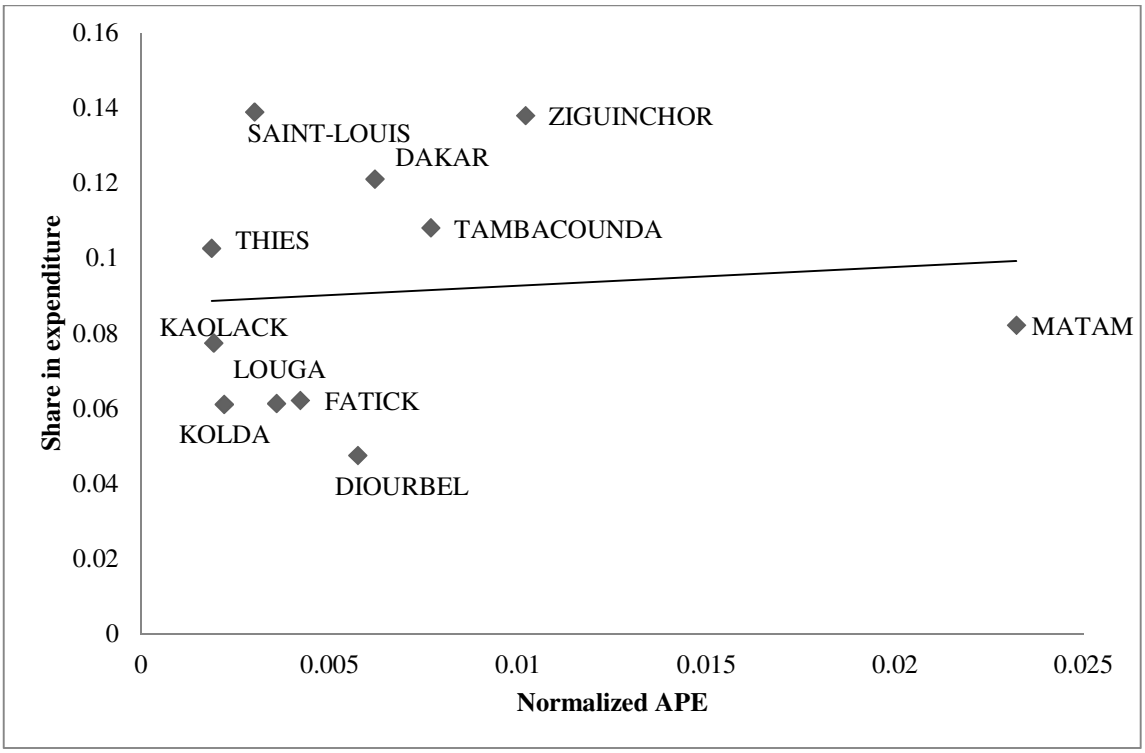
Figure 5.2: Contribution of the regions to national growth, 2005–2009 (regions are listed in decreasing order of operating expenditure on the horizontal axis from left to right)



Note: Trend line in the graph, growth rates on the vertical axis.
Sources: Estimates based on MEF, IFMIS, and ANSD data

56. **As the most profitable regions are not those receiving the most APE, their efficiency can be improved by reallocating resources to them.** If we relate a region's APE to its agricultural GDP, we get the cost necessary to produce a normalized unit of agricultural GDP or APE. The lower it is, the higher the profitability of the public resources allocated to this region. By comparing the regions' normalized APE to their shares in total ordinary agricultural expenditure, we can assess the efficiency of the spatial allocation of public resources: the more profitable regions (lower normalized APE) should receive relatively more public resources. Figure 5.3 shows two groups of regions which differ more by their shares in ordinary APE than by their profitability levels. While Saint-Louis, Ziguinchor, Dakar, and Tambacounda receive relatively more ordinary APE, their profitability rates fall in the same bracket as Louga, Fatick, Diourbel, Kaolack, and Kolda. The situation with Matam is more extreme, as this region has low profitability (undoubtedly because of the high cost of hydro-agricultural infrastructure), but receives a much higher percentage of ordinary APE than any of the regions in this second group. Ziguinchor stands out both for low profitability and a high share; the substantial expenditures granted to make up for the region's low level of development could not be put to use because of a lack of security. Overall, the lack of a strong, positive correlation between the distribution of APE among the regions and their profitability suggests an inefficiency in the spatial allocation of public resources.

Figure 5.3: Relationship between the regions' agricultural profitability and their share of ordinary agricultural public expenditure, 2005–2009

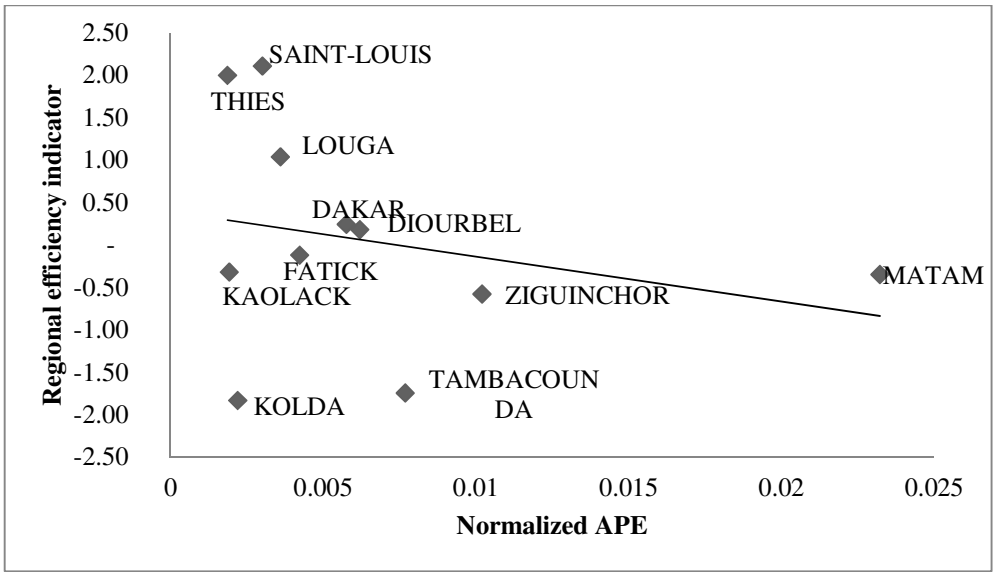


Sources: MEF, IFMIS, and ANSD. Note: the line represents the linear correlation between points

57. **The more efficient regions do not receive more agricultural public expenditure.** The efficiency of the spatial distribution of APE can be assessed from another angle: whether the regions that receive the most public resources contribute more to national agricultural growth. Figure 5.4 shows the relationship between the investment efficiency rate[3] and normalized APE. There are two categories of regions: those with high growth (Thiès, Louga, Saint-Louis, and Dakar) and those with negative growth (Kolda, Ziguinchor, Tambacounda, and Matam). The first category corresponds to the regions with the highest efficiency rates (apart from Kolda) and the second category to the regions with lower efficiency rates. While Tambacounda deals with isolation that is slowing down its development, the conflict in Casamance has prevented the region from making use of the significant public investments going to the southern regions. Nonetheless, improving spatial allocation would also speed up agricultural growth in the first group of regions. At the same time, a return to peace in Casamance and better transportation infrastructure would ease the constraints on agricultural growth in these regions. It also shows little correlation between efficiency levels and the regions' shares of APE in 2005–2009. While taking capital expenditure into account helps draw firmer conclusions, the results below show that a reorientation of public resources towards regions with higher growth potential would improve national agricultural growth.

Figure 5.4: Normalized agricultural public expenditure and efficiency by region, 2005–2009

[3] **APE efficiency indicator:** Increase in VA between 2005 and 2009, divided by the sum of agricultural public expenditure in 2005–2009 for the same region.

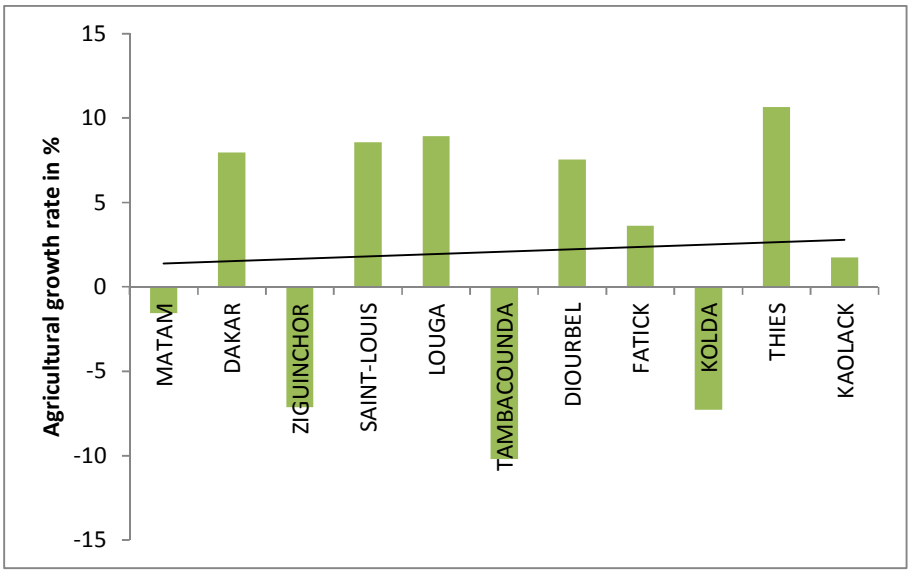


Note: Vertical axis: the efficiency of ordinary APE in the regions; horizontal axis: normalized APE in these same regions.

Sources: MEF, ANSD, and IFMIS

58. **There is virtually no correlation between the regions' agricultural growth rate and their normalized APEs. Reallocating public expenditure in favor of the regions with the lowest normalized APEs could thus be one means of increasing growth in the sector.** According to Figure 5.5, the regions' growth is not correlated to their APE potential. Hence, the regions with competitive normalized APE have not always been those with the best agricultural growth rates. By properly exploiting the comparative advantages of the regions with low normalized APEs, efficiency could be improved at the national level.

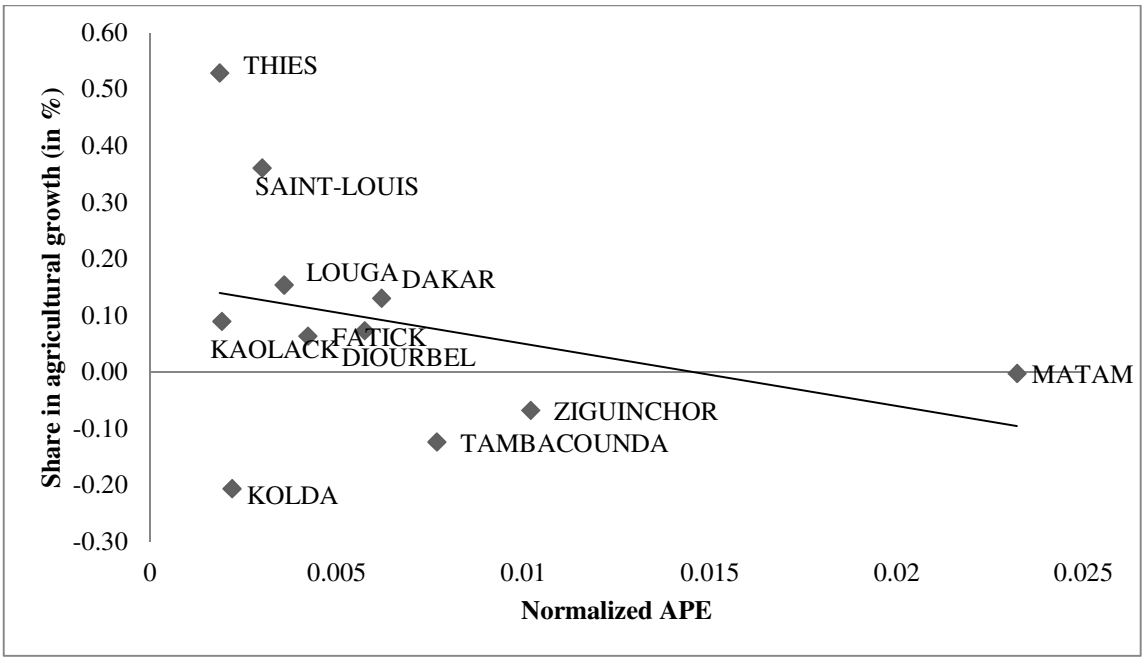
Figure 5.5: Agricultural growth rates of the regions, 2005–2009 (the regions are in increasing order of normalized APEs, from left to right)



Sources: Estimates based on MEF, IFMIS, and ANSD data

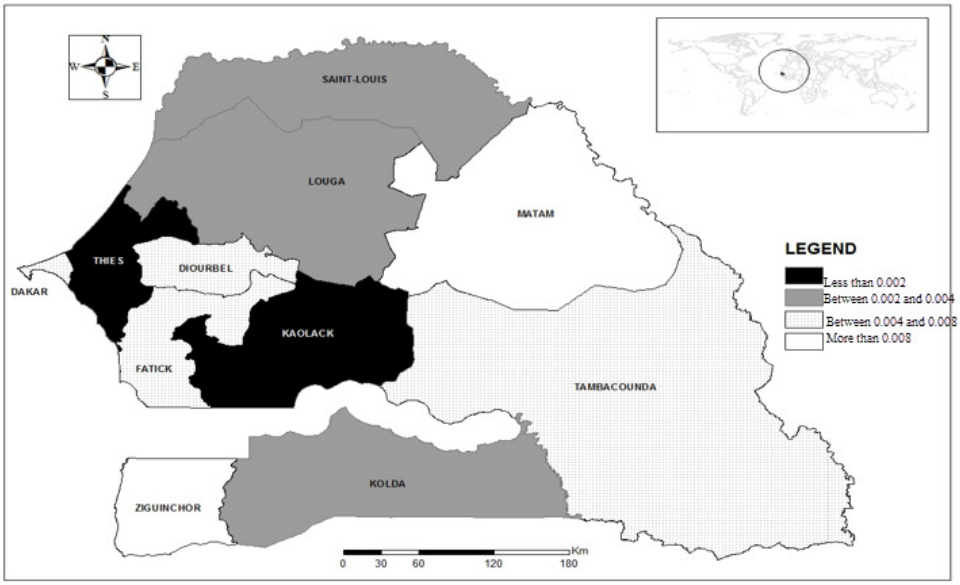
59. **The regions with high profitability contribute relatively more to the growth of agricultural GDP.** Figure 5.6 shows a positive—albeit weak—correlation between the contribution to growth in agricultural GDP and the regions' profitability in 2005–2009. The more profitable regions contributed the most to increasing agricultural value added. The Thiès region, which has the lowest agricultural GDP cost per unit, also has the largest share of points of growth in the national agricultural GDP. The least profitable regions—Matam, Ziguinchor, and Tambacounda—have zero or negative contributions. These results indicate that an improvement in spatial-allocation efficiency, favoring the most profitable regions, would improve growth in the national agricultural GDP. Figure 5.7 is a map showing current APE received by the regions relative to their contribution to the agricultural GDP. It can be seen that the regions receiving the largest proportions of APE are located in the center of the country (Thiès, Kaolack) and in the north (Louga, Saint-Louis).

Figure 5.6: Economic profitability and contribution to growth in national agricultural GDP by region, 2005–2009



Sources: MEF, IFMIS, and ANSD

Figure 5.7: Map showing the relationship between current agricultural public expenditure and the agricultural GDP of the regions of Senegal, 2005–2009 average



Note: Profitability is measured by the inverse of the regions' normalized ordinary agricultural expenditure.
Sources: Estimates based on IFMIS and ANSD data

60. **The negative correlation between current public expenditure and the GDP for crop production is an indication that the efficiency of public resources invested in crops can be improved.** Based on the data in Tables 5.1 and 5.2, Table 5.3 establishes a correlation between recurrent agricultural public expenditures and the agricultural

value added by region and by subsector. An inefficiency in the spatial allocation of resources is apparent for all of the subsectors, with a positive but weak correlation between APE and GDP, with the coefficient not exceeding 50 percent in any given year. Inefficiency is greater in the crop subsector, with a strong negative correlation between the regional value added of crops and regional recurrent public expenditure, which suggests possibilities for reallocation in favor of more productive crops and regions.

Table 5.1: Agricultural value added by region, in millions of CFAF, 2005–2009

Region	2005	2006	2007	2008	2009
Dakar	34,304.97	35,764.50	39,998.66	40,009.64	46,583.94
Diourbel	21,269.34	11,826.95	13,166.33	13,842.95	28,457.20
Fatick	40,108.97	25,404.97	17,775.20	25,626.89	46,247.11
Kaolack	94,347.39	85,643.40	70,301.68	91,988.19	101,091.74
Kolda	78,571.62	61,766.96	41,922.63	58,228.19	58,089.76
Louga	33,843.86	32,054.87	31,746.39	39,002.67	47,652.87
Saint-Louis	83,363.82	89,391.70	110,024.57	111,542.94	115,782.72
Tambacounda	40,207.68	26,218.08	26,844.54	38,092.74	26,150.71
Thiès	98,794.78	117,051.72	105,441.18	123,785.19	148,130.23
Ziguinchor	31,355.73	27,382.68	23,247.47	33,202.06	23,336.70
Matam	9,348.19	4,840.65	6,439.49	7,818.17	8,780.40

Sources: MEF/ANSD

Table 5.2: Current public expenditure in the agricultural sector by region, in millions of CFAF, 2005–2009

All	2005	2006	2007	2008	2009
Dakar	184.01	204.03	273.06	280.63	277.72
Diourbel	59.37	82.02	109.19	118.97	139.80
Fatick	80.81	114.31	134.95	153.07	172.77
Kaolack	106.80	141.25	169.66	184.65	251.94
Kolda	85.67	115.31	134.33	140.24	181.42
Louga	86.42	106.91	139.81	143.86	185.52
Saint-Louis	181.56	256.83	302.00	340.66	453.76
Tambacounda	119.77	230.33	241.60	249.25	369.85
Thiès	113.57	202.92	236.29	245.56	310.52
Ziguinchor	210.05	254.71	309.21	299.28	339.53
Matam	127.05	156.96	165.99	189.02	225.52
Total regions	1,355.08	1,865.59	2,216.09	2,345.20	2,908.36
Central Government	8,198.43	9,181.11	9,550.25	10,098.26	10,830.32
Senegal	9,553.51	11,046.70	11,766.33	12,443.45	13,738.68

Source: MEF, IFMIS, 2005–2009

Table 5.3: Correlation between regional GDP and current agricultural expenditure per capita and by region, 2005–2009

Subsector	2005	2006	2007	2008	2009
Agriculture	-0.18	-0.10	-0.08	-0.03	-0.09
Fisheries	0.34	0.34	0.27	0.31	0.32
Livestock production	0.05	0.03	0.31	0.23	0.18
Forestry	0.11	0.34	0.51	0.43	0.32
All	-0.01	0.29	0.44	0.43	-0.16

Source: MEF/IFMIS, 2005–2009; MEF/ANSD

5.2 TECHNICAL EFFECTIVENESS

5.2.1 TOTAL FACTOR PRODUCTIVITY

61. **The Malmquist Productivity Index combined with data envelopment analysis (DEA) enables us to determine the growth in total factor productivity and its determinants.** The three factors acting on the growth of production are the volume and type of resources applied, the state of the technology, and efficiency in resource utilization. Increase in production is due either to an increase in production factors or improvement in factor productivity. This section analyzes the growth attributable to the increase in total factor productivity by using a combination of the data envelopment analysis method (DEA) and the Malmquist Productivity Index. DEA is a mathematical programming technique that finds an optimal frontier of production efficiency for a given set of production factors. The Malmquist Index of productivity change between two periods measures the change in distance in relation to the frontiers for these periods. This method has the advantage of providing a breakdown of the variation in productivity into three components: technological change, variation in scale efficiency and variation in technical effectiveness. The first term refers to the replacement of the productive technology utilized with another method of production; the second describes a situation in which, with a given quantity of factors, the highest possible level of production is reached; the third term refers to an increase in output following an increase in the quantity of factors used.

Table 5.4: Crop production factors, 1999–2009

Year	Gross agricultural production index* (2004–2006 base)	Rural population (1,000)	Farmed area (1,000 ha)	Fertilizer (tons)	Farm equipment (tractors) in service
2002	65.01	5,950	2,331	35,973	627
2003	97.12	6,098	2,251	32,072	636
2004	96.18	6,248	2,259	37,970	645
2005	112.87	6,400	2,506	30,842	654
2006	90.95	6,552	2,153	6,548	663
2007	80.97	6,705	1,995	6,116	672
2008	133.95	6,858	2,772	8,337	681
2009	146.41	7,011	3,036	19,054	690

*Only crop production is considered.

Sources: FAO, DAPS/Countrystat.sn

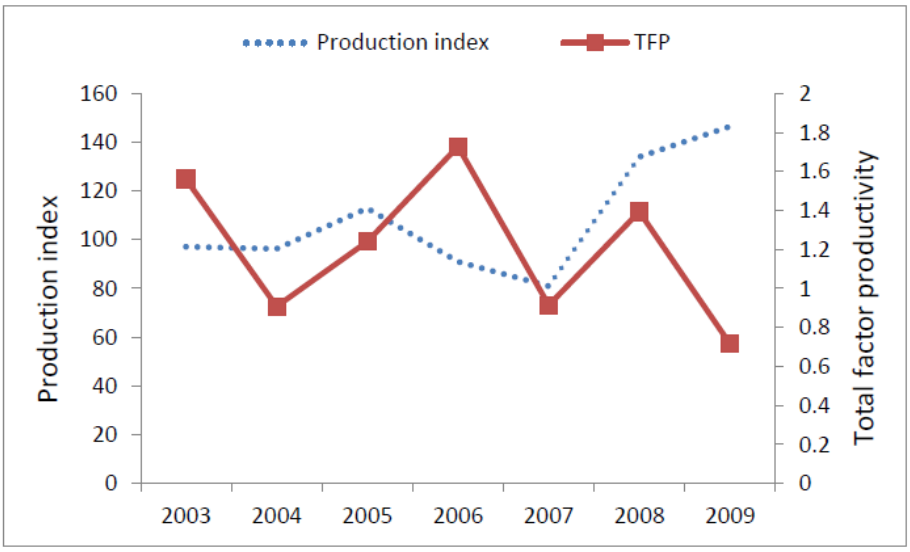
62. **Crop production experienced irregular growth between 2000 and 2009.** Table 5 shows that the level of crop production declined almost steadily from 2001 to 2002 before growing regularly until 2005, followed by a decline until 2007; 2008 marks a resumption of increase that lasted until 2009. The positive correlation (Figure 5.8) between the evolution of the crop production index (CPI) and that of total factor productivity (TFP) confirms the growing influence of productivity in the growth of production. A breakdown of productivity (Table 5.5) shows that neither pure technical efficiency nor efficiency of scale changed from 2005 to 2009. Consequently, total technical efficiency, which is the product of efficiency of scale and pure technical efficiency, has remained constant. Two conclusions can be drawn from these results. On the one hand, agricultural production achieved constant economies of scale during the 2000s; on the other, the level of know-how among rural producers has not improved. In contrast, during the same period there was an improvement in technological efficiency, undoubtedly due to the introduction of modern farm machinery in greater quantities for rice growing.

Table 5.5: Breakdown of total factor productivity in the crop subsector, 2000–2009

Period	Total technical efficiency	Technological change	Pure technical efficiency	Efficiency of scale	Total factor productivity
2003–2004	1	1.23	1	1	1.023
2005–2009	1	1.20	1	1	1.20
2000–2009	1	1.21	1	1	1.21

Note: Total factor productivity is broken down using the Malmquist Index combined with data envelopment analysis (DEA).
Sources: Estimates based on FAO and Countrystat data

Figure 5.8: Evolution of the crop production index and total factor productivity, 1999–2009



Sources: FAO and Countrystat, Senegal

63. **Technical efficiency in production did not change during the 2000s, unlike the 1970–2000 period when it rose 15 percent.** The Malmquist Productivity Index calculated on a sample of eight countries in the WAEMU and CAEMC region for the 1970–2000 period shows that technical efficiency experienced periods of growth in Senegal. From 1970 to 2000, Senegal's productivity rose 15 percent. This rise, attributable to technical efficiency, whereas technological efficiency posted a rather weak increase (Table 5.6), can be explained by an improvement in understanding of production techniques, which enabled producers to use the available resources more efficiently. Tables 5.5 and 5.6 show that the level of technical inefficiency in Senegal from 2000 to 2009 was comparable to that in Burkina Faso and Niger during the 1970–2000 period. This result underscores the lack of progress in efforts to improve the efficiency with which the available resources are utilized.

Table 5.6: Crop production: average rate of growth in total factor productivity and its components in a selection of African countries, 1970–2000

Country	Total technical efficiency	Technological change	Pure technical efficiency	Efficiency of scale	Total factor productivity
Burkina Faso	1	0.931	1	1	0.931
Cameroon	1.001	1	1	1.001	1.001
Congo	1.002	1.002	1.003	0.999	1.004
Côte d'Ivoire	1.014	1.012	1	1.014	1.027
Mali	1.001	0.982	1.002	1	0.983
Niger	1	1.008	1	1	1.008

Senegal	1.01	1.005	1.003	1.007	1.015
DRC (formerly Zaire)	1.009	1.007	1.003	1.006	1.016
Average	1.005	0.993	1.001	1.003	0.998

Source: *Économie Rurale*, No. 279

64. **Investing in agricultural education, extension, and training projects is an effective means of raising agricultural production.** A breakdown of Senegal's productivity showed that in the 2000s the poor performances in agricultural production are attributable in part to the fact that technical efficiency hardly improved at all. This result suggests that modernizing production techniques is a prerequisite for appreciably raising the agricultural sector's level of growth. More than physical investments and equipment, this necessarily means extension work and training for rural actors.

5.2.2 PARTIAL PRODUCTIVITY OF THE LAND FACTOR

65. **The growth in agricultural production is slightly more extensive than intensive.** Table 5.7 shows that average yields for the periods 1997–1999, 2000–2004, and 2005–2009 increased slightly for millet and sharply for cassava. They dropped for rice and sorghum between 2000 and 2004 before starting to rise. In contrast, yields of groundnuts, which receive most of the subsidies (Table 5.9), dropped between the 1997–1999 and 2000–2004 periods before stagnating in the second half of the 2000s. Table 5.8 shows the influence of the yield and area factors on the growth of agricultural production. With the exception of millet and rice, and to a lesser extent sorghum and groundnuts, the contribution of land area proves to be more important in production fluctuations. Given that extensive growth is not sustainable, Senegal should put the emphasis primarily on intensification, in particular through increased consumption of inputs and the use of high-yield seed varieties.

Table 5.7: Average yields of main crops, in tons per hectare, 1997–2009

Period	Average yield/hectare					
	Maize	Rice	Millet	Sorghum	Cassava	Groundnuts
1997–1999	1,03	3,06	0,63	0,88	3,79	1,06
2000–2004	1,81	2,58	0,66	0,79	5,63	0,84
2005–2009	1,74	3,23	0,67	0,88	7,54	0,84

Source: Estimates based on Countrystat Senegal data

Table 5.8: Breakdown of growth in crop production into contribution of land area and contribution of yields, in %, 1997–2009

Harvest	Period	Production growth	Land area contribution	Yield contribution	Combined contribution
Maize	1997–1999 to 2000–2004	2.36	0.91	0.75	0.69
	2000–2004 to 2005–2009	0.34	0.39	-0.04	-0.01
Rice	1997–1999 to 2000–2004	-0.02	0.17	-0.16	-0.03
	2000–2004 to 2005–2009	0.45	0.16	0.25	0.04
Millet	1997–1999 to 2000–2004	-0.05	-0.10	0.05	-0.01
	2000–2004 to 2005–2009	0.19	0.17	0.02	0.00
Sorghum	1997–1999 to 2000–2004	0.12	0.24	-0.10	-0.02
	2000–2004 to 2005–2009	0.17	0.05	0.11	0.01
Cassava	1997–1999 to 2000–2004	1.67	0.80	0.48	0.39
	2000–2004 to 2005–2009	0.97	0.47	0.34	0.16
Groundnuts	1997–1999 to 2000–2004	-0.07	0.17	-0.21	-0.04
	2000–2004 to 2005–2009	-0.02	-0.02	0.00	0.00

Source: Estimates based on Countrystat Senegal data

5.3. THE SUSTAINABILITY OF THE AGRICULTURAL SUBSIDY SYSTEM

66. **The agricultural subsidy system, which has been operating since 2003, is a favorable field for analysis of inefficiencies, waste, and losses that may impede the performance of the agricultural sector.** Since 2003 the Government has implemented an aggressive agricultural subsidy policy that benefits almost all subsectors and, hence, makes use of growing public resources. It recently contributed to a boost in agricultural production (2006–2009). The sustainability of this policy raises a question of principle. Without calling into question the grounds for the decision to boost production in the short term through greater use of inputs, we should nonetheless ask whether it was not possible to distribute the same quantities to producers while spending less. It seems in fact that the answer is affirmative. In fact, the subsidy system established now faces inefficiencies resulting from the policy

choices made and the management system put in place, as well as from losses and waste promoted by the uncontrolled expansion that characterizes this system.

67. **The subsidies went to almost all subsectors and covered a broad array of inputs.** The subsidies were gradually extended to all crops (Table 5.10) and animal production, including groundnuts, millet, rice, cassava, maize, fonio, hibiscus, and livestock production. There is also the water subsidy for vegetable growers, especially in the Dakar region, and the fuel subsidy for fishermen. The subsidized inputs are highly diverse: seed or cuttings for practically all crops, fertilizers, pesticides, price to the groundnut producer, fuel, water, and farm equipment.

Table 5.9: Changes in subsidies by crop, in billions of CFAF, 2000–2010

Harvest	Amount of subsidies per agricultural season										
	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
Maize	0	0	0	0	4.611	0.999	0.988	2.486	4.944	3.634	5.415
Millet	0	0	0	0	0.653	1.668	1.328	3.527	3.463	1.992	5.687
Sorghum	0	0	0	0	0.342	0.462	0.512	1.225	1.996	0.584	1.205
Cowpea	0	0	0	0	0	0.246	0.249	0.643	2.771	1.758	3.742
Rice	0	0	0	0	1.576	0.946	0.744	17.831	2.040	0.984	2.531
Fonio	0	0	0	0	0	0	0	0	0.002	0.043	0.054
Groundnuts	0	0	0	4.375	1.349	15.028	10.432	10.125	16.257	20.655	15.438
Cotton	0.075	0.075	0.075	0.075	0.342	0.751	0.490	0.212	2.575	0.746	0.568
Cassava	0	0	0	0.208	0.311	1.137	0.387	1.841	3.802	1.885	0.968
Sesame	0	0	0	0.036	0	0	0	0	0	0	0
Tomatoes	0	0	0	0	0	0.016	0.006	0.450	0.609	0.398	0.657
Total	0.075	0.075	0.075	4.694	9.184	21.253	15.136	38.341	38.461	32.679	36.263

Source: MA

68. **Subsidies also take the form of exemption from customs duties or VAT on agricultural inputs.** Purchases of agricultural equipment, seed, fertilizers, pesticides, poultry and cattle feed, purebred breeder animals, hatching eggs, day-old chicks going directly into a plant or animal production cycle are exempt from VAT and customs duties if intended for use in agricultural activities conducted as part of GOANA (see section on tax expenditures).

69. **The subsidies have contributed to a boost in production and yields.** Subsidies on the prices of fertilizer and quality seed have led to improved yields and, consequently, improved production. With the exception of groundnuts, the yields of all other crops increased during the 2005–2009 period (Table 5.8). Production followed the same trend (Table 5.10). Cassava and rice increased the most. The increase in input consumption over the last five years contributed to this performance. But the cost paid by the state needs to be considered.

Table 5.10: Evolution in crop production, in tons, 1997–2009

Average annual production	Maize	Rice	Millet	Sorghum	Cassava	Groundnuts
1997–1999	63,584	220,407	514,300	128,438	72,060	714,903
2000–2004	213,375	216,618	487,465	143,451	192,235	662,812
2005–2009	285,687	314,655	582,002	167,181	379,408	651,782

Source: MA

70. **The cost of the subsidies increased greatly but reached their ceiling in 2007.** Table 5.11 summarizes subsidy expenditures by crop. Data were gathered from the financial departments of the sector's ministries and thus take into account extra-budgetary commitments that do not appear in the budget acts. Subsidies quadrupled in six years (Tables 5.11 and 5.12).

Table 5.11: Distribution of subsidies per input, in billions of CFAF, 2000–2010

Type of subsidy	Value of subsidy by type										
	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
Direct subsidy	0	0	0	0	0	9,000	5,840	0,945	5,353	12,162	4,500
Seed	0	0	0	4,619	2,205	5,137	3,200	6,425	21,463	12,938	19,937
Fertilizer	0	0	0	0	6,794	3,877	3,411	7,668	9,987	7,579	8,534
Pesticides	0,075	0,075	0,075	0,075	0,186	0,251	0,188	0,047	1,658	0	0
Farming equipment	0	0	0	0	0	2,988	2,497	23,255	0	0	3,293
Total	0,075	0,075	0,075	4,694	9,184	21,253	15,136	38,341	38,461	32,679	36,263

Source: MA

Table 5.12: Distribution of the fertilizer subsidy by type of fertilizer and crop, in millions of CFAF, 2004–2011

Fertilizer formula	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
6-20-10 (groundnuts)	1,349	530	597	880	2,003	1,781	1,922
15-15-15 (maize)	1,972	469	499	1,272		2,043	1,873
15-10-10 (millet)	311	285	28	229	618	452	828
10-10-20 (horticulture, cassava)	311	342	379	539	167	566	537
9-23-30 (tomatoes)		0		450	609	398	657
Urea	1,709	1,360	1,496	3,134	6,028	2,340	2,717
18-46-0 (rice)	1,142	522	413	1,164	561		
14-23-14 (cotton)		369					
Total fertilizer subsidy	6,794	3,877	3,411	7,668	9,987	7,579	8,534

Source: Estimates based on MA data

71. **Subsidies are taking up an increasing share of the agricultural sector budget and put the ministries, especially the Ministry of Agriculture itself, into a cycle of indebtedness with the private distributors of inputs.** Table 5.13 illustrates the growing weight of subsidy expenditure in the sector's total expenditures, especially in the Ministry of Agriculture. It rose from 20 percent in 2005 to 31 percent in 2007, but it has since declined. This increase in the share of subsidies has potentially destabilizing effects on the normal functioning of the agricultural sector's institutions. Indeed, it is not accompanied by an entry in the initial finance law so that it can be funded. Decisions are made in the middle of the budget year to increase the quantities of subsidized inputs, expand access to subsidies to new crops, lower the selling price of inputs to producers, or increase the unit prices at which the inputs will be purchased from private operators who are at the same time responsible for distributing them to producers. These extra-budgetary commitments become debts that are repaid one or two years later by readjustments to the budget of the ministry in question. These commitments take the form of cuts to non-wage operating expenditures of the administrative departments, and to the expenditures included in the CIB intended for projects, with the MEF refusing to call up additional resources to pay these debts. Consequently, government departments find themselves with such modest budgets that virtually no activity can be carried out with what is left over once the cuts have been made. The MA is then forced to decide between getting the agricultural subsidy system in order and accepting that its services are paralyzed.

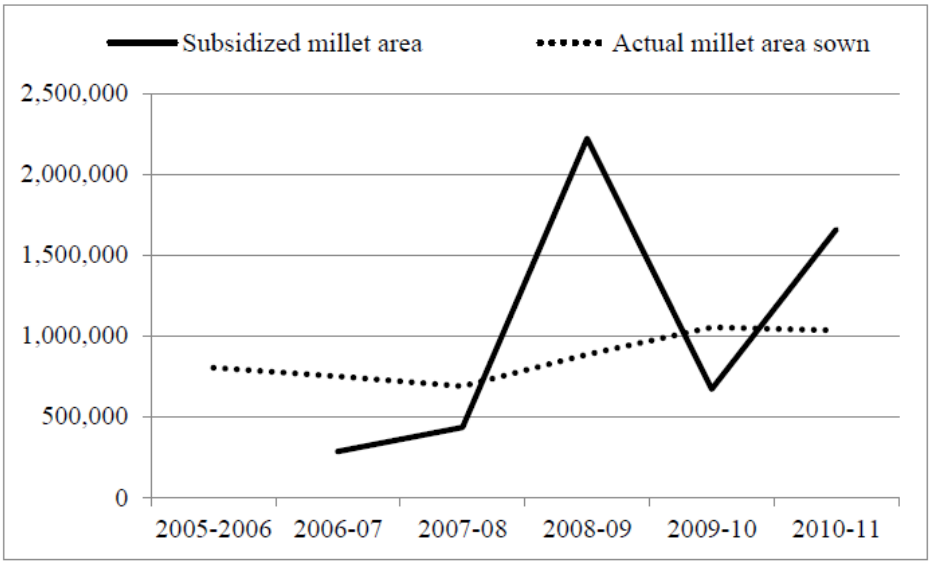
Table 5.13: Weight of agricultural subsidies in total public expenditure, in millions of CFAF, 2005–2009

Expenditures	2005	2006	2007	2008	2009
Subsidies	21,253	15,136	38,341	38,461	32,679
Total public expenditure (in CFAF)	106,194	94,236	122,633	119,637	150,353
Subsidy rate as %	20.0	16.1	31.3	32.1	21.7

Sources: CIB and IFMIS, 2005–2009, and MA

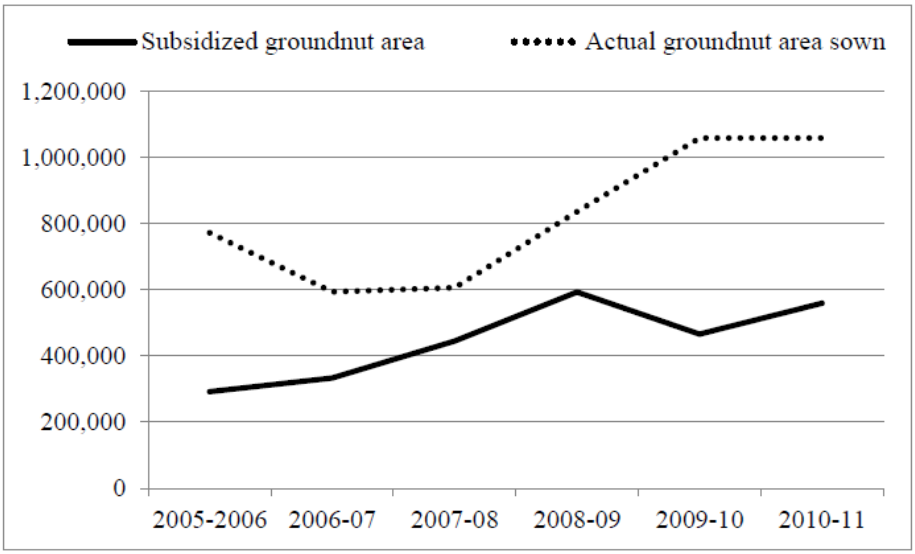
72. **The subsidy system is the source of many inefficiencies.** Many sources of waste keep resources from reaching the producers. The largest of these is the huge gap between the price at which operators buy inputs in the marketplace and the price at which they sell them to the state. The selling prices may be three times higher than the purchase price. Even if the operator has to deal with transaction costs in addition to interest paid on loans from the banking system, these costs do not justify such a large mark-up. In addition, the operators chosen to purchase and distribute inputs are not selected on a transparent basis; there are also potential conflicts of interest, since they are responsible for distributing inputs to the producers, which opens the way to a great deal of misappropriation. Virtually no credible verification is done on the ground to make certain that the quantities distributed actually correspond to those received by the producers. Overall, there is a huge difference between the quantities of inputs theoretically distributed and those received by the producers, as illustrated for groundnuts and millet in Figures 5.9 and 5.10. Between 2007 and 2009, the areas theoretically sown with millet because of subsidies (4 kg of seed is needed to sow one hectare of millet) are greater than those actually sown by producers (Figure 5.9). Given that it takes 120 kg of groundnuts in the shell to sow one hectare, Figure 5.10 shows that the theoretical areas are less than those actually sown; the gaps remained relatively minor between 2006 and 2009. Another source of inefficiency is the late application of the inputs, which greatly reduces the effectiveness of the subsidy. In 2009, for example, millet seed was distributed in August, at a time when the sowing season was basically over, and the seed was ultimately eaten by the producers. Moreover, it turned out that the quantity of seed that was subsidized exceeded the actual needs of producers. Finally, input distribution is concentrated among the big producers, especially the marabouts.

Figure 5.9: Evolution of land area theoretically sown in millet through subsidies, and of areas actually sown, 2005–2009



Source: MA/DAPS

Figure 5.10: Evolution of land area theoretically sown in groundnuts through subsidies, and of areas actually sown, 2005–2009



Source: DAPS/MA

73. **In practice, all crops are subsidized, and all categories of producers are beneficiaries, which raises a targeting problem.** Subsidies affect both high-value-added harvests and subsistence harvests. Distributed to rural producers with the aim of combating food insecurity and poverty, they unfortunately do not reach the real targets, namely the poorest farmers. Moreover, in the subsectors, they are not

concentrated in those segments where support for producers would have the greatest impact on production growth. In the case of groundnuts, the subsidy covers farm equipment, seed, fertilizer, and the price to the producer.

74. **The subsidy system generates significant perverse effects that jeopardize its sustainability.** Four effects are especially striking: (i) By keeping the prices for groundnut seed at an artificially low level, subsidies discourage the private production of quality seed. In fact, the seed distributed is "run-of-the-mill," i.e., ordinary seed that has not been selected and therefore cannot improve yields. The low prices at which it is sold to producers do not encourage producers to invest in the purchase of improved seed at a higher cost. (ii) Furthermore, the low rate of use of selected seed, whose percentage in the national capital is under 14 percent, also does not promote the productivity of crop systems and diminishes the quality of agricultural products. The rather low profitability of seed production, and the poorly organized marketing channels keep producers from making the maximum profit from this activity. (iv) Much of the farm equipment and machinery distributed ends up in the hands of speculators who resell some of it in neighboring countries.

5.4. PUBLIC EXPENDITURE ON HYDRO-AGRICULTURAL PROJECTS

75. **Rising food prices in world markets create an incentive to boost rice production.** The sharp hike in demand for cereals on the world market in the face of a limited supply has pushed food prices upward, and this has been passed on to domestic prices, despite the suspension of customs duties on cereal imports. This has put issues of self-sufficiency and food security back on the agenda. The vicissitudes of the international market, the country's strong dependence on imported rice, and the new opportunities for developing local production have led the Government, out of concern for good governance, to make food security a strategic option for the development of the agricultural sector. Given its place in daily meals in urban and rural households, increasing rice production has become a major objective of agricultural policy. Only hydro-agricultural projects will provide the land area needed to reach self-sufficiency in rice.

76. **Hydro-agricultural projects account for a small share in the agricultural sector's investment expenditure.** Water management with a view to developing, securing, and diversifying agricultural production is a priority focus of the Government's policy. It occupies an important place in the NAIP, which is part of the implementation of the CAADP and of the various programs and strategies aimed at achieving food security and reducing poverty. The agricultural sector's strong dependence on low, erratic rainfall is reason to attach great importance to water management. But, as hydro-agricultural projects receive just 5 percent of public investment expenditure from internal resources, they still do not enjoy the priority they should to ensure greater regularity and stronger growth for agricultural production. The efficient use of hydro-agricultural infrastructure is therefore imperative for achieving the dual objective of food security and poverty reduction.

77. **Hydro-agricultural infrastructure is concentrated in two areas of the country.** Hydro-agricultural infrastructure comes with the installation of hydro-agricultural projects. The main water-management projects, fed by surface irrigation, are naturally found in the Senegal River Valley and the Anambé Basin. There are bottomland

projects in the following regions: Casamance Naturelle, Tambacounda, Fatick, and Kédougou. Horticultural projects are located primarily in Les Niayes, the Senegal River Valley, and, to a lesser extent, the rest of the country. A propitious environment for integrated rural development enables the northern region to play an essential role in meeting the nation's demand for food, a key point in the Government's agricultural development strategy.

78. **Public investment in hydro-agricultural developments has greatly increased the rice-growing area in the Senegal River Delta and Valley.** Rice production has experienced three phases: before 1980, the developed area remained steady at 10,000 ha; from 1980 to 2000, this tripled to 35,000 hectares. The development of these lands has evolved substantially over the past 10 growing seasons. This evolution is attributable to the higher prices for paddy rice and the establishment of the GOANA and the PNAR. These two programs subsidize agricultural inputs and improve access to agricultural credit. Developed areas have doubled and reached more than 60,000 hectares in 2009. There was a less dramatic increase in areas planted with other crops; for instance, the area planted with tomatoes varies between 2,500 and 3,500 ha depending on the year, and the area planted with onions varies between 2,000 and more than 4,000 ha. The areas planted with other crops are relatively stable and contribute little to diversifying producer income.

Table 5.14: Evolution of areas sown in the Senegal River Delta and Valley, in ha

Harvest/Season	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/2010
Winter rice	22,134	22,885	19,446	23,105	28,132	26,304	24,052	25,863	37,419	35,435
Hot-season rice	3,818	2,085	3,751	3,191	5,415	5,861	3,740	13,219	22,764	17,651
Total rice	25,952	24,970	23,197	26,296	33,547	32,165	27,792	39,082	60,183	53,086
Maize	1,071	1,664	2,177	4,129	2,476	2,863	2,346	2,132	2,531	1,588
Sorghum	1,387	1,108	1,154	1,120	865	680	568	659	422	430
Total cereals	28,410	27,742	26,528	31,545	36,888	35,708	30,706	41,873	63,136	55,104
Tomatoes	2,046	2,657	3,039	3,262	3,217	3,569	2,682	3,267	2,510	3,232
Onions	2,052	3,096	3,229	3,046	2,641	2,197	4,144	4,230	3,374	3,485
Cotton	27	65	0	42	30	30	0	0	0	0
Groundnuts	83	225	422	664	605	523	530	725	927	771
Potatoes	4	1,198	748	706	862	1,247	1,411	1,634	1,413	1,535
Okra	433	642	814	1,078	1,021	940	1,232	994	1,320	1,174
Watermelon	0	362	0	115	91	236	531	335	428	556
Eggplant	0	0	0	49	40	153	117	91	92	112
Other market crops	713	2,567	1,385	1,406	2,361	2,864	3,071	2,981	3,318	3,064
Total diversification	5,358	10,812	9,637	10,368	10,868	11,759	13,718	14,257	13,382	13,929
Total area developed	33,768	38,554	36,165	41,913	47,756	47,467	44,424	56,130	76,518	69,033

Source: MA/SAED

79. **Rice cultivation occupies most of the sown areas in the main rice-growing region.** The projects carried out led to a significant increase in sown areas (which doubled during the 2000s) and in production, with rice accounting for a constant 77 percent of developed area (Table 5.14). Diversification is relative with 14,000 ha, or 20 percent of land area, for the last 2009/2010 season, and half this area is concentrated on tomatoes and onions.

80. **Rice yields have improved, with an appreciable difference between irrigated rice and rainfed rice.** The historical data on rice yields in the Senegal River Delta and Valley can be divided into three phases: until 1980, yields fluctuated greatly but did not exceed 2 tons per hectare; from 1980 to 2000, yields increased significantly, going from 2 to 5 tons per hectare; then they continued to rise from 2000 to 2011. Average yields per hectare for the three main irrigated crops were estimated based on a sample of seven perimeters (Table 5.15). These yields correspond to standard technical itineraries and gravity irrigation, which are the most commonly practiced by family farms. They now reach 4.5 tons of paddy rice per hectare as a winter crop and 6 tons in the hot off-season. However, yields are much lower in the country's central and eastern regions, where upland rice-growing predominates. In those areas, yields varied between 2.5 and 3 tons in 2010 but still retain a large margin for increase, since they more than doubled between 2006 and 2010.

Table 5.15: Yields and gross proceeds per hectare for the three main crops in the Senegal River Valley, 2011

Crop	Yield in tons per hectare	Unit price FCFA per kg	Gross proceeds CFAF/ha
Winter rice (paddy)	4.5	125	562,500
Hot off-season rice (paddy)	6.0	125	750,000
Onions	20.0	80	1,600,000
Industrial tomatoes	25.0	51	1,275,000

Source: BRLi-SETICO, 2011

Table 5.16: Trend in upland rice yields in the eastern and central regions, in tons, 2006–2010

Region	2006	2007	2008	2009	2010
Fatick	1.2	1.6	3.1	2.6	3
Kédougou	1.6	2.5	2.9	3.3	3
Kolda	1.2	2.7	3.1	2.9	2.7
Tambacounda	1	1.5	2	2	2.5

Source: PAPIL, 2011

81. **Unit costs differ depending on whether the developments are new, rehabilitated, or repaired existing projects, and according to region.** The cost price for a hectare of hydro-agricultural development differs according to whether the project is rehabilitated, repaired, or new; and they also vary by region. Another characteristic of these projects is their high costs (Table 5.17). In the Senegal River Valley, where this management is necessary, minor repair work on the irrigated lands costs between 300,000 and 600,000 CFAF per hectare; for large-scale works aimed at redeveloping irrigated lands, the unit cost varies between 2 million and 4 million CFAF/ha; new projects cost between 4 million and 8 million CFAF/ha. In the central and eastern regions, unit costs are lower, ranging from 2 million to 3 million CFAF,[4] whereas for the bottomlands, like those in Kédougou, they are around 1 million CFAF/ha. Another advantage of the central regions and the Senegal River Valley is the great potential of available land, especially in the natural region of Casamance. Such potential can also be found in the regions of Tambacounda, Kédougou, and Fatick. Since the operating and maintenance costs for this type of development are lower, these regions offer great

[4] It should be noted, however, that in the case of the PAPIL, unit costs were revised upward after the study done by a consulting firm, which proposed a bracket of between 4,000,000 CFAF/ha and 5,000,000 CFAF/ha.

opportunities for the development of irrigated agriculture and for achieving the Government's objective of rice self-sufficiency. Redirecting investments towards these regions should therefore make it possible to achieve this at lower cost.

Table 5.17: Cost per hectare of hydro-agricultural projects in the Senegal River Delta and Valley by type and project, in thousands of CFAF, 2008–2013

Areas	Delegation	Type	Year	Area (ha)	Earthworks and civil engineering	Equipment	Monitoring	Total cost net of taxes and duties	Cost/ha net of taxes and duties
Kassack Nord (A-D)/new	Dagana	AL	1990	400	995,692,400	134,688,668	90,200,000	1,220,581,068	3,051,453
Aéré Lao/new	Podor	GA	1990	1,270	3,458,739,580	356,004,720	1,037,375,370	4,852,119,670	3,820,567
Ndioum/new	Podor	GA	1990	646	2,434,202,936	274,060,678	331,124,180	3,039,387,794	4,704,935
DAGANA A-B/ restoration	Dagana	GA	1990	2,643	4,069,439,330	345,930,200	277,626,300	4,692,995,830	1,775,632
Boundoum 1st segment/ restoration	Dagana	GA	1991	1,600	3,997,030,117	191,504,830	344,363143	4,532,898,090	2,833,061
Guédé-Mbantou/ expansion	Podor	GA	1991	731	3,356,851,349	1,071,391,200	133,129,296	4,561,371,845	6,239,907
Boundoum 2nd segment/ restoration	Dagana	GA	1997	1,600	5,376,353,759	0	312,575,500	5,688,929,259	3,555,581
Ngallenka Phase I/new	Podor	PLV	1998	593	1,755,802,917	572,580,220	427,785,054	2,756,168,191	4,647,838
PIDAM/ restoration	Matam	PLV	1998	940	2,617,743,581	354,336,430	436,363,117	3,408,443,128	3,626,003
Dagana C/new	Dagana	GA	1999	410	1,996,347,450	220,793,740	89,125,291	2,306,266,481	5,625,040
Ngallenka Phase II/new	Podor	PLV	2001	528	2,339,582,614	644,146,174	249,801,610	3,233,530,398	6,124,111
Madina-Pété/new	Podor	PLV	2001	1,300	8,314,015,140	1,206,589,110	305,500,000	9,826,104,250	7,558,542
Ndierba/ new	Dagana	GA	2002	1,860	12,731,109,064	735,614,180	698,000,000	14,164,723,244	7,615,443
Kassack Nord II (B-C)/new	Dagana	AL	2002	239	1,092,031,746	77,390,320	94,466,750	1,263,888,816	5,288,238
Kassack Nord II(EF)/ restoration	Dagana	AL	2002	172	335,986,904	72,491,544	30,723,969	439,202,417	2,553,502
Cuvette PDRM/new	Matam	AL	2003	725	4,450,495,243	369,026,620	130,300,000	4,949,821,863	6,827,341
PIV PDRM/new	Matam	PIV	2003	258	1,056,463,638	153,065,060	91,325,000	1,300,853,698	5,042,069
Kobilo/new	Matam	GA	2004	788	4,209,791,602	213,270,160	116,880,000	4,539,941,762	5,761,347
Lampsar rive gauche 1/ restoration	Dagana	AL	2006	765	2,191,091,280	262,440,345	153,850,000	2,607,381,625	3,408,342
Bakel	Bakel	GA	2008	1,122	5,430,999,222	586,459,757	182,065,250	6,199,54,229	5,525,423

Basin/new									
	Bakel	PIV	2008	878	3,848,710,764	737,665,477	132,434,750	4,718,810,991	5,374,500

AL: Minor projects; GA: Large projects; PLV: Minor valley development; PIV: Irrigated village land.

Source: MA

Table 5.18: Operating account for irrigated crops in the Senegal River Delta and Valley (amortization included in the waterworks cost), in CFAF/ha

Crops	Yield (kg/ha)	Unit price (CFAF/kg)	Gross proceeds (CFAF/ha)	Variable costs							Total VC (CFAF/ha)	Gross margin (CFAF/ha)
				Inputs (CFAF/ha)	OM (CFAF/ha)	Works (CFAF/ha)	Water-works cost (CFAF/ha)	OMVS (CFAF/ha)	FOMAED (CFAF/ha)	Other costs (CFAF/ha)		
Winter rice	4,500	125	562,500	166,550	86,000	119,250	65,000	3,800	15,000	23,701	479,301	83,199
Hot off-season rice	6,000	125	750,000	159,400	86,000	138,000	65,000	3,800	15,000	24,799	491,999	258,001
Onions	20,000	80	1,600,000	426,850	260,000	79,000	65,000	3,800	15,000	4,025	853,675	746,325
Tomatoes	25,000	51	1,275,000	489,213	240,000	79,000	65,000	3,800	15,000	41,751	933,764	341,236

Source: Audit report on the hydro-agricultural infrastructure maintenance system in the Senegal River Delta and Valley, Maintenance System Organizational, Technical, and Financial Audit Report: Volume 1, Audit Report: "Final Report: September 2011"; BRLi

82. **Rice-growing profitability can be improved by reducing the cost of hydro-agricultural projects, especially civil-engineering earthworks, and by improving maintenance.** A breakdown of the unit cost for projects helps to identify the direct causes of it being so high. The structure of this cost reveals that earthworks and civil-engineering costs account for an average of nearly 80 percent of the project cost per hectare, with pumping equipment accounting for 15 percent, and works supervision nearly 5 percent. In 2010, large projects represented 29 percent of the developed and exploitable area; 23 percent were PIVs (village irrigation projects) and 48 percent PIPs (private irrigation projects). While development standards are generally followed when large projects and PIVs are carried out, the same is not true of PIPs. The embankments of the channels in the latter are not generally compacted, and the large motorized pumps (LMP) are often obsolete. These areas require more maintenance and equipment replacement and generate higher operating costs and risks. While they are the easiest type of hydro-agricultural project to carry out, they are also the first to be abandoned as soon as there is a deterioration in economic conditions. Significantly reducing the unit cost of projects by staggering amortization would improve the gross margin per hectare of these operations. However, such an effort should be accompanied by continued or even improved maintenance of project quality so as to reduce maintenance costs.

83. **The gross margins for diversification crops are higher than that for rice, and the high level of project amortization reduces the profitability of rice growing in the Senegal River Delta and Valley.** Table 5.18 shows the variable costs and gross margins per hectare for the three main crops. These variable costs correspond to average technical itineraries and gravity irrigation, which are the most commonly practiced by family farms. Hot off-season rice yields a gross margin per hectare of

258,000 CFAF, compared to 83,199 CFAF for winter rice.[5] Market gardening (tomatoes and onions) yields greater margins per hectare, with more than 340,000 CFAF for tomatoes and 746,000 CFAF for onions. Rice growing, inputs, labor, and agricultural works are the main costs weighing on the gross margin. The cost of waterworks accounts for slightly more than 13 percent. For market gardening, 50 percent of the costs are represented by the cost of inputs and 30 percent by labor. The cost of waterworks represents only 7 percent of costs. Waterworks constraints relating to access to water and upkeep on irrigation systems, drainage systems, and stations have a significant impact on development. The sizeable differences between gross margins suggest that diversifying the crop portfolio would appreciably increase the profitability of the farms and with it the producers' incomes.

84. **A series of funds has been put in place by the state to ensure adequate financing for the upkeep of agricultural infrastructure.** In irrigated agriculture, upkeep of the hydro-agricultural infrastructure plays an important role. In addition to extending the production period and maintaining yields, it lengthens the useful life of the equipment and ensures secure production. In fact, it reduces breakdowns in the hydraulic machinery and ensures that the irrigation channels are of good quality. Producers using this infrastructure should pay for its maintenance. Because of the significant burden of these costs in the operating account, the Government, which had initially paid almost all of these costs, has sought to transfer them gradually to the users. The experience gained in the Senegal River Valley, where the hydro-agricultural works are concentrated, will help to assess the success of this policy.

85. **The system put in place to ensure the financing of recurrent costs to users is a complex one.** A complex maintenance system has been put in place to ensure the gradual transfer of the recurrent costs of waterworks to the users. In addition to a survey of the works, reference standards and costs for upkeep work have been set, and a memorandum of understanding between the state's representatives and users was signed on November 11, 2001. Under this agreement, four types of maintenance funds were created. For "structuring" hydro-agricultural projects, maintenance funds for drainage feeders and outlets (FoMAED) and a maintenance fund for general-interest infrastructure (FoMIIG) were set up. With regard to so-called "terminal" hydro-agricultural projects, several mutual funds for the renewal of pump stations and hydro-mechanical equipment (FoMuR) and a maintenance fund for irrigated areas (FoMPI) were created. But it was not until 2003 that the ministerial decrees establishing the FoMuR, FoMAED, and user committees were issued. These funds are financed in different ways. For the FoMuR, which targets the large public projects that have been transferred to users and third-generation PIVs, financing was to be assured based on provisions established by the user organizations and the state. These resources were to be managed by the users, organized in economic interest groups (EIG) under the oversight of the SAED. But the FoMuR was not implemented; although the state grants annual credits of 50 million CFAF through the annual grant given to SAED, it was not possible to establish how these resources were spent (SAED-DAM-BRLI

[5] The major difference between the gross margin of hot off-season rice and that of winter rice is explained by the gap between their yields, estimated at 6,000 kg/ha and 4,500 kg/ha, respectively. The low yield of winter rice is attributable to several factors: (i) the crops are more vulnerable to diseases in the rainy season, (ii) the difficult working conditions on the perimeters (weeding, fertilizing, and the arduousness of working the soil), (iii) and the washing-away of much of the fertilizer when the gates are opened to evacuate excess water after a rain.

2011). In fact, monies deposited and managed by the users' union have continued to play the role of provision in order to finance major maintenance and replacement. The FoMIIG, assigned to finance maintenance of rural infrastructure indirectly associated with irrigation (tracks, embankments, natural hydraulic axes, etc.), and normally the responsibility of the rural community, are managed by SAED. Users are involved in the programming; works are not to be started until SAED has consulted the rural communities and the competent authority has issued its approval. Unlike the FoMuR, it is financed by the state alone. The FOMPIs, intended to finance major maintenance and repair of LMPs and PIV networks, are financed and managed by the state. However, since these works are to be gradually transferred to private operators, the state's contribution should decline. The FoMAED are also funded by the state through its subsidies to SAED and by users, who, through their committees, participate in establishing the list of maintenance work to be done. The public contribution, determined as part of the mission statements drafted every three years by SAED, is adjusted according to the available financial resources. The existence of a large number of funds makes them complicated to manage, and leads to redundancies, despite the efforts made when they were established to clearly define their areas of jurisdiction.

86. **Resource mobilization by the maintenance funds is relatively low.** Table 5.19 shows the evolution of public subsidies to maintenance, under the FOMIIG and FOMPIs, for the 2003–2010 period. They amount to 4,870 million CFAF. The budget fell from 1,664 million CFAF in 2005 to 175 million CFAF in 2010, a 90 percent drop. The maintenance budget, under the FOMPIs, fell from 607 million CFAF in 2006 to 100 million CFAF in 2010, an 84 percent drop. The budget execution rate is 79 percent and the financial execution rate 117 percent for the 2003–2010 period. As for the FoMAED, the budget execution rate is 53 percent and the financial execution rate 104 percent for the 2003–2010 period (Table 5.20). The royalties expected from users should have reached 1.8 billion CFAF for the 2005–2010 period, but they did not exceed 0.5 billion CFAF, or an average collection rate of 28 percent. In all, expenditure amounts to 4,076 million CFAF, 87 percent financed by the state and 13 percent by users. These data show the preponderant weight of the state's contribution to the maintenance-funds budget and the low rate of collection from users. Finally, the drop in maintenance expenses is important, since the number of hydro-agricultural works has increased sharply with the expansion of the land area sown. The planned gradual reduction in public contribution is impractical unless the users pick up the slack. The resulting underfinancing of maintenance speeds up the deterioration of the infrastructure and undoubtedly explains, along with the nonexistence of saltwater drainage systems in the small perimeters, the major losses of developed areas.

Table 5.19: Financial execution of FoMIIG and FOMPI

Year	Maintenance fund	Budget	State credits	Expenditures			Execution rate (%)	
				Works	Monitoring	Total	Budget	Financial
2003	FOMIIG	643,000	630,000	0		-		
	FOMPI	340,000	220,000	216,604	-	216,604	64	98
2004	FOMIIG	645,000	645,000	154,528		154,528	24	24
	FOMPI	340,000	220,000	240,442	19,620	260,062	76	118
2005	FOMIIG	1664000	442,000	1366048		1366048	82	309
	FOMPI	499,000	358,000	578,866	133,070	711,936	143	199
2006	FOMIIG	908,982	-	44,486		44,486	5	
	FOMPI	607,034	248,000	410,337	48,852	459,189	76	185
2007	FOMIIG	450,000	-	0		-		
	FOMPI	207,000	391,000	0	4,720	4,720	2	1
2008	FOMIIG	234,000	260,000	232,649		232,649	99	89
	FOMPI	393,000	138,000	138,143	54,870	193,013	49	140
2009	FOMIIG	150,000	295,000	278,605		278,605	186	94
	FOMPI	125,000	75,000	75,108	26,658	101,766	81	136
2010	FOMIIG	175,000	230,000	171,679		171,679	98	75
	FOMPI	100,000	115,000	105,232	16,594	121,826	122	106
Total	FOMIIG	4,869,982	2,502,000	2,247,997	-	2,247,997	46	90 %
	FOMPI	2,611,034	1,765,000	1,764,732	304384	2,069,116	79	117 %

Source: SAED-DAM-BRLi 2011

Table 5.20: FoMAED financial execution situation, in millions of CFAF

Year	Budget			Credits mobilized			Expenditures			
	State	Users	Total	State	Users	Total	Works	Monitoring	Rem DAM	Total
2003	583	256	839	150	106	256	531	-	13	544
2004	649	236	885	535	120	655	311	42	8	361
2005	882	202	1,084	600	57	657	639	59	16	714
2006	1,266	137	1,403	400	28	428	280	-	7	286
2007	612	168	780	263	22	285	335	-	8	343
2008	594	279	873	452	83	535	638	42	16	696
2009	550	309	859	480	61	541	521	21	13	556
2010	500	239	739	505	40	545	534	29	13	576
Total	5,636	1,826	7,462	3,364	517	3,902	3,788	193	95	4,076

Source: SAED-DAM-BRLi 2011

87. **The degree of maintenance on terminal projects affects the land area developed.** Maintenance of waterworks is the main source of problems for the producers' unions. The lack of maintenance on projects gradually leads to a reduction in the development of the irrigated perimeter. In the Dagana B area, for example, three of the five pumps

are no longer operational; the rate of cropping intensity has fallen to 60 percent and led to plots being abandoned. The term deposit (in lieu of amortization) is zero and is no longer being replenished. The same is true for some of the new Ndiaye projects that were abandoned three years after being transferred to users. The longevity of hydro-agricultural investment is directly linked to maintenance.

88. **Other lessons can be drawn from recent experiences with hydro-agricultural projects.** Significant progress has been made in carrying out hydro-agricultural projects to assure food security through water management. Useful lessons can be drawn from trends in recent years: (i) Average rice yields have significant room for improvement, especially in the valley projects in the central and eastern parts of the country. Improving yields of upland rice in the Senegal River Delta and Valley would also be a way to quickly increase rice production. (ii) Unit costs are very high. While maintaining a high level of quality in the projects, costs need to be reduced in order to expand the cultivated land area and make waterworks maintenance costs more sustainable for users. (iii) The maintenance funds have certainly contributed to reducing losses of developed areas but have not yet led to the expected reduction in state contributions to the maintenance of waterworks infrastructure. A realistic policy of transferring responsibility for maintenance to their beneficiaries remains to be formulated. (iv) Investments should assign greater importance to valley projects in the eastern and central parts of the country, where unit costs are lower (see above). (v) The attractive gross margins of commercial crops like onions and tomatoes suggest that crop diversification would appreciably increase farm profitability, which would resolve the maintenance issue (see iii).

6. ASSESSMENT OF AGRICULTURAL DEVELOPMENT POLICIES

89. **High-quality, well-implemented policies are major determinants for successful development of the agricultural sector.** Appropriate agricultural policies are the main lever for creating an environment that fosters a competitive agricultural sector. These policies must of course be of high quality, but in order for them to bring real results they must also be accompanied by an institutional and legislative framework that allows them to be effectively implemented. This section examines the institutional framework: at the delicate balance between Government policies and presidential initiatives in the agricultural sector; at state financing of rural producers; and at how development projects are aligned to policy goals.

6.1 INSTITUTIONAL FRAMEWORK

90. **The large number of institutions involved in the implementation of agricultural policies means these policies are often incoherent in their implementation.** Management of the agricultural sector is shared between a variety of ministries, public agencies, and special programs. In addition to the Ministry of Agriculture (MA), the Ministry of Livestock, the Ministry of Fisheries, and the Ministry of Natural Resources Management all have a role to play, as does the ministry responsible for rural water supply. There are also two national agencies: the national agency for the return to agriculture (ANREVA), which is attached to the Ministry of Agriculture, and the national agency responsible for the Casamance economic development project (ANRAC), which is attached to the Prime Minister's Office, and which covers the southern regions of the country in particular.

In addition to ANCAR, support/advice is also provided by the various regional development organizations (SAED, SODEFITEX, SODAGRI—see list of acronyms and abbreviations). Agricultural research is carried out by the Senegal Agricultural Research Institute (ISRA), the Institute for Food Technology (ITA), and the INP (*Institut national de pédologie*—the national soil research institute). The president has also launched a number of initiatives in the agricultural sector, in parallel with the development projects traditionally implemented by the services of the various ministerial departments. Among these initiatives were (i) the maize and cassava programs launched respectively in 2003 and 2004 but placed on the back burner since 2006; (ii) the Great Agricultural Offensive for Food and Abundance (*Grande offensive pour l'alimentation, la nourriture et l'abondance*/GOANA), launched in 2008 following the increase in international food prices; and (iii) the Great Green Wall (*la Grande muraille verte*), launched in 2008 with the aim of stopping desertification and developing agriculture and livestock farming in the Sahel zone through the reconstruction of ecosystems. Other initiatives have the subject of special investment programs that are part of the Ministry of Agriculture's general agricultural investment program.

91. **The large number of organizations involved in the agricultural sector, and the fact that there is no central coordination of what they do, means that the work of the various national bodies is often incoherent, in turn leading to a poor use of human, material, and financial resources.** In certain cases, important functions of a particular subsector are not actually carried out by the ministry responsible for that

subsector. This is the case for agricultural water supply, for example, which is managed by a ministry other than the Ministry of Agriculture, which therefore has no way of developing a water management policy that complements its own agricultural production and food security goals. But the ministry responsible for agricultural water supply has no possibility of developing and implementing such a policy either, as its sphere of influence is limited strictly to policies and programs relating to crop production. This institutional incoherence can also be seen in the case of the various pilot initiatives that have been launched and that focus almost exclusively on increasing production; these have led to cases of overproduction that in turn have pushed down producer prices and led to the suspension of state intervention in the market, because the decision to boost production of certain crops failed to sufficiently take into account the question of whether there was sufficient demand for them. The cassava initiative is a prime example of this particular problem, as is the maize initiative (to a lesser degree). This was also the case for the groundnut initiative, where a major increase in production failed to take into account the limited financial means of the country's oil production sector and the fact that exports have a very strong influence on the global market for groundnut oil.

92. **The institutional framework is highly unstable as well as complex.** The institutional framework is also marked by frequent changes in the division of responsibilities. For example, the only subsector that has remained under the responsibility of the same ministry since 2005 is that of livestock; all the others have had frequent changes in line ministry (Table 6.1). Responsibility for crops and water supply has changed three times during the period, while the natural resources and fisheries subsectors have switched ministries twice (Table 6.1). Furthermore, and once again with the exception of the Ministry of Livestock, the ministerial portfolios have also frequently changed hands, each time with new people in charge of state departments and services.

Table 6.1: Change of line ministry by agricultural subsector 2005–2010

Year	Ministry name				
	Crop farming	Livestock	Fisheries	Natural resources	Water supply
2005	MAH	MEL	MEM	MEPN	MAH
2006	MAH	MEL	MEM	MEPN	MAH
2007	MASAHR	MEL	MEM	MEPN	MASAHR
2008	MDRA	MEL	MEMTMPP	MEPNBRLA	MHRH
2009	MAP then MA	MEL	MEM	MEPNBRLA	MHRRH
2010	MA	MEL	MEM	MEPN	MUHCH

Key:

MAH: Ministry of Agriculture and Hydraulics; MEL: Ministry of Livestock; MEM: Ministry of Maritime Economy; MEPN: Ministry of the Environment and Nature Protection; MASAHR: Ministry of Agriculture, Food Security, and Rural Water Supply; MDRA: Ministry of Rural Development and Agriculture; MEPNBRLA: Ministry of the Environment, Nature Protection, Reservoirs, and Artificial Lakes; MHRH: Ministry of Hydraulics and

National Hydrographic Systems; MA: Ministry of Agriculture; MEMTMPP: Ministry of Maritime Economy, Maritime Transport, Fisheries, and Aquaculture; MHRRH: Ministry of Rural Water Supply and National Hydrographic Systems; MUHCH: Ministry of Urban Planning, Housing, Construction, and Water Supply; MAP: Ministry of Agriculture and Aquaculture.
Sources: Senegal finance laws, 2005–2010

93. **As a result of this institutional instability, there are a number of inconsistencies in agricultural policy implementation that could easily be avoided.** These inconsistencies can lead to (i) delays to activities as a result of the time taken for the new person responsible to take over and understand the case; (ii) changes in approach and priorities by these individuals; and (iii) coordination difficulties both within and between policy areas. Close coordination between policy instruments and strategic goals is only effective if there is a high-quality institutional framework. As far as the agriculture sector is concerned, this is clearly not the case: on the one hand there are too many different lines of responsibility, while on the other there is a chronic lack of stability in the organizations responsible for agricultural policy. As a result, there is a systematic weakness in the coordination of the sector, and thus a suboptimal use of human and financial resources.

94. **This administrative weakness undermines the Government's policy goal of having strong and inclusive rural development.** A lack of human resources—both in terms of quality and in numbers—is one of the defining features of the public sector administration in the agricultural sector. There appears to be a link between this lack of resources and the instability at ministerial level and difficulties in retaining high-quality staff. It is vital that the work of the technical services responsible for rural development be improved through new recruitment, training, and staff mobility. Another way of modernizing the public administration in the agricultural sector would be to ensure better working conditions for staff in these technical services (better equipment, better logistical support, better financial support, etc.). This would allow them to respond more effectively to the challenges of rural development, where the policies and programs need the highest quality input in terms of design, implementation, and evaluation. A plan for boosting administrative capacities should be implemented alongside the investment plan.

6.2 OFFICIAL POLICIES, PRESIDENTIAL INITIATIVES, AND PRIVATE ACTIONS

95. **Policy documents show a clear match between the principal policy objectives of the agricultural sector and the objectives of the national economy as a whole.** Institutional reforms since the 1980s have resulted in a number of privatizations, restructurings, and changes to the role of state-owned enterprises that have allowed the state to reduce its involvement in the production and marketing of the main agricultural products, in favor of producer organizations and private companies. Rural development policies have been designed in line with national economic and social policy objectives. An analysis of policy documents shows that there is considerable convergence between the main agricultural policy objectives and those of the national

economy as a whole. The box in Annex 1 shows that the projects and programs of the 2011–2015 investment plan, which implement the policy objectives of the NAIP, also help meet the objectives of the poverty reduction strategy paper (PRSP), which in turn is responsible for the agricultural sector's actions under the Agro-Sylvo-Pastoral Act (*Loi d'orientation agro-sylvo-pastorale*/LOASP). The medium-term expenditure framework (MTEF) was also designed to help with the successful implementation of the PRSP and to ensure better management of public finances by involving every ministry, including those responsible for rural development issues. This more coherent approach should make it easier to assess the agricultural sector's contribution to national objectives for growth and for reducing poverty and inequality.

96. **Presidential initiatives in this sector are in response to economic crises that occasionally affect agriculture, sometimes with devastating effects.** The overall aim is to achieve self-sufficiency in terms of food production as quickly as possible, but the various crises that have hit Senegal's economy and society have prompted the president to take specific initiatives in order to reduce their impact. There are three initiatives that are typical of the type of intervention made by the president in agricultural development. The Return to Agriculture plan (REVA) was adopted in 2006 in response to the waves of emigration by young people, clandestinely traveling to Europe in canoes. The Great Agricultural Offensive for Food and Abundance (GOANA) was launched in 2008 in response to the major increases in global prices for cereals, on which Senegal is highly dependent. Its ambitious goal was to make the country completely self-sufficient in terms of food production. More recently, a special program called the National Rice Self-Sufficiency Program (*Programme national d'autosuffisance en riz*/PNAR) was designed to reduce the level of state intervention in the rice market and to step up efforts to achieve a production goal of 1.5 million tons of paddy rice in 2015. There were also similar initiatives focusing on maize and cassava in 2003 and 2004/5, respectively. Support and security measures were also developed to protect organizations working in the various agricultural sectors from climate-, harvest- and market-related risks: the National Agricultural Insurance Agency (*Caisse nationale d'assurance agricole*/CNASS), an Interest Subsidy Fund (*Fonds de bonification d'intérêt,* 2003), a Guarantee Fund (*Fonds de garantie*, 2005) and a Crisis Fund (*Fonds de calamités*, 2007).

97. **Presidential initiatives have raised the profile of agriculture among national priorities overall.** They have helped agricultural policy implementation to become more reactive, adapting policies to tackle the long-term impacts of crises with a rapid and proportionate response. They serve as a reminder that agriculture plays a central role in generating economic growth, creating jobs, tackling macro-economic imbalances, and rapidly reducing and fighting poverty at the national level, as the NAIP documents clearly show.

98. **Presidential initiatives can cause coordination problems with ongoing programs and continuity problems for the various services working in the rural development sector.** Presidential initiatives are generally coherent with rural and national development objectives in that that are primarily aimed at increasing agricultural production in order to achieve self-sufficiency in terms of food production, and at ensuring greater protection against risks for individuals and organizations working in rural development. However, implementing these initiatives very often means that existing projects and programs are relegated to the background.

In short, presidential initiatives have led to a change in the order of priorities for the sector. Projects and programs find their funding reduced so that initiatives that have not been budgeted for can be funded. Presidential initiatives are rarely launched with any clear indication of the institutional framework in which they are situated. Before an appropriate framework is put in place, there is generally a period of confusion that prevents administrative services from working normally. Finally, although the objectives of the initiatives are clearly stated, they are not given sufficient strategic direction or support to ensure their success.

99. **The livestock component of the GOANA initiative is a prime example of the results of launching presidential initiatives without the necessary framework.** The GOANA initiative, launched in 2008, set the objective of self-sufficiency in milk and meat production by 2012. In order to meet this target, a national development program for the milk sector (*Prodelait*) was set up, covering the period 2008–2012. Its long-term aim was to produce 400 million liters of milk, 43,500 tons of meat, and 120,000 pieces of leather. At the mid-point of the initiative, just 16 percent of the projected 500,000 cows had actually been inseminated, and milk production had increased by just 12 percent. There were numerous reasons for these disappointing results. The financing that was mobilized was in fact just 18.8 percent of the proposed 59 billion CFAF—the state's ability to mobilize the necessary capital seems to have been overestimated. And although there were three different components to the program, only the one concerning the purchase and artificial insemination of animals was prioritized by program managers, to the detriment of the others (which included production, fodder, milk collection and processing, and training and capacity building for livestock breeders). No efficient management team was put in charge of the program, as the numerous technical errors clearly show: the period chosen for implementing the program—April–May—is a very hot time of the year when grazing is difficult; the failure to properly carry out two technical processes ("selection and synchronization" and "insemination and gestation diagnosis") led to lengthy delays, and the cattle being kept in stalls for long periods, at a cost that was prohibitive to most breeders. When animals were screened for disease—an important part of the artificial insemination process—they were treated with the simplest possible drug (ivermectin), ignoring the prevalence in the region of certain diseases such as domestic trypanosomiasis. Finally, there is still no reliable database of the livestock sector, and annual milk production statistics are still just forecasts.

100. **Agricultural policies contain weaknesses that delay the objectives of growth and poverty reduction set for the sector.** The most significant of these weakness concern: (i) the inadequacy of the law at the national level; (ii) the lack of coordination between the various non-governmental organizations working on agricultural development (such as producers' organizations, the private sector, NGOs, DPs, etc.); (iii) the lack of any permanent structure to encourage dialog between ministerial departments and producers' organizations in the agricultural sector; and (iv) the low level of involvement in the development of SMTEFs by organizations working in the field. The implementation of the investment plan should be accompanied by reforms in these areas in order to create an environment that is more favorable to the production, commercialization, and processing of agricultural products and to restoring ecosystems.

101. **The LOASP adopted in 2004 has hardly been implemented at all.** In eight years, just seven regulations relating to the LOASP have been adopted, concerning the social security system for the agro-sylvo sector, the organization and work of the national system for agro-sylvo-pastoral research (*Système national de recherches agro-sylvo-pastorale*/SNRASP), the organization and work of the stabling support fund (*Fonds d'Appui à la Stabulation*/FAS), etc. But no regulations have been passed concerning such important matters as land reform, agricultural trade, water management for agriculture, etc. The regulations that have been adopted are about creating new institutions to cover the rural sector, but without scrapping or restructuring any of the previous system, and without any explicit link between the new structure and the old. One fundamental reform that must undergird the implementation of the LOASP is grouping all the various ministerial departments into a single ministry for rural development, as stipulated in the institutional development policy bill in 1998 and repeated in the 2010 investment plan. The fact that there is no single supervisory authority to ensure that the law is correctly applied has weakened the Government's ability to implement reforms foreseen in the LOASP. Furthermore, ministries are not obliged to account for the extent to which they have implemented the provisions of the LOASP that fall under their responsibilities, although the MA is frequently criticized by Parliament for the delay in implementing the most important components of the law. There has been no attempt to develop the operating programs set out in the LOASP or to include them in the SMTEF, as this would have required the previous adoption of the national agricultural development program (PNDA), which has since been replaced by the 10-year strategic framework. Finally, the technical capacity required to implement the law has also not been established.

102. **One of the strong points of the agricultural sector is the large number of producers' organizations (POs).** Rural producers have a well-developed strategy of joining together to share their resources, means of production, and ideas in order to boost incomes and improve their living conditions. Through their organizations, they aim to: (i) better manage their resources; (ii) improve their access, and better define their access rights, to natural resources such as land, water, and pasture; (iii) improve access to services, loans, and markets; and (iv) more effectively influence the decision-making process on issues such as the allocation of resources and public goods, and on the policies that impact the way they produce, process, market, export, and import the inputs that they need. Joining forces gives them greater weight and thus more influence on the political environment. It allows them to correct certain imbalances in the market and to plug the gap created by the gradual winding down of state involvement in the market as part of the strategy of transferring more responsibility to producers. Because there are many and varied POs, they have been grouped under umbrella organizations that represent and defend the interests of producers. They are becoming increasingly involved in lobbying government institutions on behalf of their members. For its part, the state depends on the pyramid structure of these organizations to act as an information channel for institutions and programs.

103. **The effectiveness of POs is undermined by structural weaknesses.** There is little in the way of training given to these umbrella organizations, many of which are newly created; they also tend to overlap in geographic and sectoral terms, and it is difficult to tell just how representative of producers they actually are. This means that neither the private sector (exporters, banks) nor the public (Government, donors, programs) yet

consider them as reliable partners for major contracts. The situation has not been helped by rivalry between many of the farmers' groups over which of them are the preferred partners of the state and its various development partners. A clear example of this particular issue can be seen in the PO element of the Agricultural Services and Producer Organizations Program for Senegal (*Programme de soutien et d'appui aux organisations de producteurs*/PSAOP), where there have been numerous disputes between farmers' groups over which should receive funding from the program. These weaknesses undermine POs' efforts to tackle competition from lobby groups that claim to represent other sectors of the rural community. However, management failures have not stopped POs from being appointed as the official representatives of the beneficiaries of a number of publicly-funded programs.

104. **A new producers' umbrella organization would help to overcome the weaknesses in the current system.** The Farmers' Union (*Syndicat des paysans*), created recently on the initiative of the Government, is well-placed to have a major influence on agricultural policy decision making. It currently acts as the distributor of government-subsidized inputs to producers, and also represents POs in consultations with the Government on the development of new agricultural policies. Continuing state efforts to improve autonomy and professionalism among producers would help umbrella organizations to be seen as more legitimate by their members and improve their negotiating, technical, and management skills. It would also help them to contribute more effectively to the development of new agricultural policies at local, national, and subregional levels using stronger arguments. They would also be able to find better ways of coordinating between stakeholders in order to act more effectively, particularly in their relations with other professional associations. However, it seems unlikely that the union is capable of playing all these roles, even in the medium term. Its principal role at the moment is to legitimize Government decisions. In addition, the umbrella organizations disagree as to the way in which the union was set up and about its links with the government, which further undermine the union's role.

6.3 INCREASED GOVERNMENT SUPPORT FOR THE SECTOR

105. **Agricultural policies can create an environment that hinders the development of other sectors.** Direct and indirect support from the Government in the agricultural sector can lead to market distortions that in turn can result in changes in the price of agricultural products. Sometimes these can be so large that they to lead to changes in both production and consumption patterns for these products. Identifying which market distortions have been created by incentives granted to the agricultural sector requires an analysis of every policy, agricultural and non-agricultural, focusing in particular on import and export taxes, production subsidies and quotas, subsidies on agricultural products or inputs for producers, and subsidies on basic goods for consumers.

106. **One way of measuring distortions is to compare the net international price for agricultural goods (excluding margin) to the producer prices.** The impact of government intervention in the market for a particular agricultural product can be measured by the nominal rate of protection, i.e., the relative difference between the price received by the local producer and the free-market price, in other words without any Government intervention. There are two different sources of nominal protection. The first stems from the various political and economic measures that have a direct

impact on the domestic price of agricultural products; in this case, the nominal protection is said to be direct and is measured by the nominal rate of direct protection (NRDP). The second stems from under- or over-valuing the national currency on exchange markets. The difference between the active exchange rate and its equilibrium level has an effect on domestic prices and is measured by the nominal rate of indirect protection (NRIP). Adding together these two rates gives a third indicator, the total nominal rate of protection (TNRP). Since there is only limited room for divergence between the active exchange rate and the equilibrium level of the CFAF within the WAEMU, only the NRDP will be used to assess the size of the market distortions caused by Government intervention in the crop subsector. The methodology for calculating distortions developed by Kym Anderson, Marianne Kurzweil, Will Martin, Damiano Sandri, and Ernesto Valenzuela (2008) has been used to estimate the NRDP for 2000–2010 for the seven most important crops in Senegal in terms of production.

107. **Producer prices are always set at levels significantly lower than international prices, with the effect that rural products are heavily taxed.** Table 6.2 shows that the nominal protection for agricultural products is generally negative. Producer prices for exported agricultural goods remained 17 percent below the corresponding international market price in the first half of the decade, while the difference increased further in the second half. For imported products, the level of taxation was greater (-23.3 percent) than for exports, but it declined more rapidly (-10.3 percent) as rising consumer prices for agricultural products from 2008 onwards forced the Government to scrap many of the customs duties and other taxes on cereals.

Table 6.2: Nominal direct protection rates by crop, 2000–2010 (%)

Product	2000–2004	2005–2007	2008–2010	2005–2010
GROUNDNUTS	-0.2	-28.2	6.4	-10.9
COTTON	-54.1	-49.4	-47.5	-48.5
Exported products	-17.0	-32.7	-9.3	-21.0
RICE	-3.9	-2.0	-6.5	-4.2
MAIZE	17.5	0.8	7.4	4.1
SORGHUM	-91.0	-38.2	-59.1	-48.6
Imported products	-22.3	-7.8	-12.7	-10.3
CASSAVA	0.0	0.0	0.0	0.0
MILLET	0.0	0.0	0.0	0.0
Untraded products	0.0	0.0	0.0	0.0

Source: Estimates based on data from the MA and MEF

108. **The effective rate of protection provides a clearer picture of the level of taxation or of Government support.** The ERP is an incomplete means of protecting producers as it does not take into account political decisions that might affect agricultural inputs. Protection measures for agricultural products sometimes fail to have the desired effect because of the price of inputs into the production process. One way to correct this imbalance is to calculate the relative difference between the value added of a protected agricultural product and the value added of one sold at market price. The indicator

obtained in this way is called the effective rate of protection (ERP) and has the advantage of taking into account both the nominal protection on a product and the nominal protection on its inputs.

109. **Taking account of subsidized agricultural inputs does not reduce the taxation on rural producers.** Although Government subsidies for agricultural inputs have increased considerably (see Section 5.2), rural producers' incomes are still lower than they would have been if intermediate consumer prices and agricultural product prices had been determined by market forces. The relative difference between the value added for local producers and the value added calculated according to international prices is greater than the difference in producer prices. Table 6.3 shows that the effective taxation of crops is greater than their nominal taxation. In 2000–2004, producers' incomes for the two biggest export crops (groundnuts and cotton) were 27.65 percent lower than they would have been had international market forces been applied to the domestic agricultural market. There was little change to the relative size of this tax throughout the second half of the decade (27.13 percent), although there was a significant decline between 2008 and 2010, when taxation was 11.55 percent. A similar pattern can be seen for imported agricultural products. Local producers' incomes were 40 percent lower than what they would have been at international market prices. These products also saw a sharp drop in the rate of taxation in the second half of the 2000s, notably in the last three years when it fell to -21.53 percent.

Table 6.3: Effective rate of protection for main crops (%), 2000–2010

Product	2000–2004	2005–2007	2008–2010	2005–2010
Groundnuts	-12.36	-41.41	4.38	-18.52
Cotton	-59.24	-54.95	-46.96	-50.96
Exported products (A)	-27.65	-42.70	-11.55	-27.13
Rice	-23.76	-16.22	-21.71	-18.97
Maize	7.29	-4.64	4.53	-0.05
Sorghum	-113.82	-51.92	-73.78	-62.85
Imported products (B)	-40.08	-18.03	-24.32	-21.18
Cassava	-2.87	-1.13	0.61	-0.26
Millet	-10.71	-7.81	-7.54	-7.67
Untraded products	-8.02	-5.23	-5.13	-5.18
Trade bias indicator (C)= (1+A)/(1+(B))-1	-0.27	-7.18	-4.51	-5.85

Source: Estimates based on data from the MA and MEF

110. **Taxation rates for producers of imported agricultural products were slightly higher than those for exported products for 2000–2010, with a widening of the gap from 2006 onwards.** Comparing the standard rate of subsidy for exported products with the standard rate of subsidy for imported products gives an indicator known as the trade bias. It measures the strength and direction of influence of Government subsidy policy on a country's agricultural trade with the rest of the world. Between 2000 and 2004, taxation rates on producers of imported goods were similar to those on producers of exported products during the same period. The situation changed slightly in the second half of the 2000s, when exported goods were taxed at a relatively lower rate, and so the indicator shows a slight negative trend over this period. There is no significant difference in the intervention for both exported and imported agricultural products. From 2006 onwards, the official policy shows a clear bias towards exported agricultural products.

111. **The right conditions are not yet in place in Senegal to ensure efficient APE.** The Government's price intervention policies mean that as yet the right conditions are not in place to ensure that resources are focused on the most profitable agricultural crops. Thus far there has been no attempt to adjust these policies to eliminate agricultural price distortions. Prices that reflect the real opportunity cost of resources (i.e., that are set at levels comparable to the relevant border price) are an essential part of creating the right conditions for the type of agricultural development where additional Government spending can make a real difference.

6.4 CORRESPONDANCE BETWEEN SECTOR PROJECTS AND OFFICIAL AGRICULTURAL DEVELOPMENT OBJECTIVES

112. **Are the Government's agricultural development objectives being met by projects on the ground?** Projects and programs are the principal means by which Government policies are implemented. It is therefore pertinent to ask whether their content is in line with the official objectives of agricultural policy. To what extent do the projects in place contribute to creating the public goods needed to produce the conditions favorable to the production, marketing, and processing of agricultural products? This section provides the answers to this question using the projects launched under the consolidated investment budget (CIB) for the years 2007 through 2009. An assessment of the main features of these projects is followed by an analysis of their content based on a classified list of the goods they produce.

6.4.1 The Main Characteristics of Rural Development Projects

113. **The Triennial Public Investment Program (TPIP) and the Consolidated Investment Budget (CIB) are the main budget programming and implementation tools for development projects.** Development projects in every sector are included in the three-year TPIP. The CIB puts the provisions of the TPIP into practice, adding any funds budgeted but unspent in the previous year to the investments planned for the current year. However, not all of the agriculture-related projects currently underway are included in these two documents. Some projects are funded and implemented directly by individual donors, and these are not covered by the TPIP or the CIB.

Annex 3 shows that USAID funded and implemented non-budgeted rural projects to the value of US$24.6 million for 2008–2011.

114. **The CIB includes projects that officially ended more than five years ago but which still continue to be financed.** For example, the Pan-African Programme for the Control of Epizootics (PACE) that ended in 2005 received 232 billion CFAF from the CIB from 2007 to 2009. See table 6.4 for other examples. Using the same code for slightly different projects also means that the number of projects covered by the CIB is artificially inflated.

Table 6.4: Projects closed for five years or more and which still receive money from the budget, 2007–2009 (millions of CFAF)

TPIP code *	Projects	Loans	Subsidies	Internal resources
11 001	Development of the Baila Valley (*Aménagement de la Vallée BAILA*)	-	-	100
11 835	Hydro-agricultural Development of the Bakel Zone (*Aménagements hydro agricoles de la zone de Bakel*)	22.37	-	-
11 878	Pan-African Programme for the Control of Epizootics (PACE)	-	232.322	-
11 884	Milk Development Program (*Programme du development du lait*)	-	-	2.945
11 885	Village Management and Development Project (PADV) (*Aménagement développement villageois*)	-	-	27.184
12 002	P. PAM PH. Transit forestry component	-	23.339	-
12 053	Hann Fishing Port (*quai de pêche de HANN*)	-	29.057	-
13 005	Construction of Fisheries Inspection and Surveillance Posts (*Construction des postes de contrôle et surveillance pêche*)	-	14.242	-

*TPIP: Triennial public investment program

Source: MEF, CIB for 2007, 2008, and 2009

Table 6.5: Projects with different names registered under the same code

CODE	PROJECT
11006	Reconstitution of Seed Assets and Soil Restoration Program (*Programme reconstitution capital semencier restauration sol*)
11006	Agricultural Program, Groundnut Seed Component (*Programme agricole/volet semences arachide)*
11020	National Self-Sufficiency in Rice Program (Repair of Hydro-agricultural Network) (*Programme national d'autosuffisance en riz [refection aménagements hydro agricoles]*)

11020	Special program on the Repair of Hydro-agricultural Networks (*Programme special refection aménagement hydro agricole*)
11878	Africa Emergency Locust Program
11878	Casamance rural development support project
11879	Casamance rural development support project
11879	Senegal micro-garden development project *(Projet de développement filière micro-jardins au Sénégal)*
11880	Senegal micro-garden development project *(Projet de développement filière micro-jardins au Sénégal)*
12009	Improvement of the quality of leather and leather products
12009	Project against the tsetse fly in the Niayes
12011	Pan-African Programme for the Control of Epizootics (PACE)
12011	Improvement of quality of leather and leather products
14119	National maritime training school support program (*Appui École nationale de formation maritime*)
14119	Strengthening the National Council for Technical and Vocational Training
15088	Gorom Lampsar Drinking Water Supply Project
15088	GPROM Lampsar
18009	Deltaic areas studies (*Études des zones deltaïques*)
18009	Water supply master plan for Matam and Tambacounda (*Plan directeur Hydraulique Matam Tambacounda*)
19007	Monitoring/evaluation of the SMTEFs of the Ministries of Rural Development and Agriculture
19007	Monitoring/evaluation of the SMTEF of the Ministry of Agriculture, Food Security, and Rural Water Supply

Source: MEF, CIBs for 2007, 2008, and 2009

115. **The amount of investments is over-estimated in the CIB.** Expenditure by each of the projects covered by the CIB is broken down according to wages and the purchase of goods, and services (i.e., operating costs excluding wages and investments) (Table 6.6). On average, between 2000 and 2006, direct investments in crops and forestry projects covered by the CIB accounted for just 61 percent and 64 percent of expenditure, respectively. By contrast, investments in fisheries and livestock projects reached 90 percent and 96 percent, respectively (Table 6.6).

Table 66.6: Breakdown of investment budget by sector, 2000–2006 averages (%)

Sector	Operating costs	Wages	Investments	Total
Agriculture	36.0	2.7	61.4	100
Livestock and hunting	4.3	0.1	95.6	100
Fisheries	8.5	1.4	90.1	100
Sylviculture and forestry	33.1	3.3	63.6	100
Public administration	51.7	3.1	45.2	100
Other commercial services	46.6	12.2	41.2	100
Other non-commercial services	11.0	3.6	85.5	100
Water, electricity, and gas	8.9	0.1	91.0	100

Trade	2.1	0.4	97.5	100
Education and training, health and social issues	18.1	17.2	64.7	100
Industry	87.9	11.0	1.1	100
Mail and telecommunications	9.9	1.9	88.3	100
Business services	72.4	6.3	21.3	100
Transport	10.0	0	90.0	100
Total	30.9	2.4	66.7	100

Source: Senegal government, investment plan/NAIP, 2010

116. **This blurs the lines between operating budget and investment budget.** In the most extreme cases, funds allocated to some of the projects covered by the CIB are used to cover all the running costs. This is the case for the Ecotoxicology (CERES-LOCUSTOX) project.

117. **There are many projects in the agricultural sector, leading to higher operating costs and problems with coordination, control, and assessment.** There were 171 different projects covered by the BCIs for 2007 to 2009, even after a number of projects were eliminated because: (i) no budget was allocated to them; (ii) they ended prior to 2007 but were still included in the BCI; and (iii) they were never launched but nonetheless remained listed (as was the case with the Soil Fertilization Project, for example). This number also excludes projects listed in the BCI under two similar descriptions with the same code, projects with the same description but listed under two different codes and projects that should in fact be listed under operating budget expenditure (for example projects such as "Étude erosion du quai de Joal" [seafront erosion] and "Valorisation résultats recherche agricole/ferme agricole" [agricultural promotion]).

118. **The distribution across subsectors in terms of the number of projects does not reflect the disproportionate allocation of resources for crop-related projects.** There are just 38 projects related to agriculture in the strictest sense—crops—out of a total of 175 (excluding projects related to studies and research into primary crops). By contrast, there are 45 projects in the subsector of natural resource management. In other words, crop-related projects account for just 22 percent of the total number of projects, but 60 percent of expenditure, compared to projects concerning natural resource management, which account for 26 percent of the total and 6 percent of expenditure. Another indicator of this disproportionate allocation of funds is that 80 percent of the expenditure is made by just 35 projects, most of which are in the crop sector (see Annex 5).

Table 66.7: Number of projects by sector, 2007–2009

Subsector	TPIP code	Percentage
Agriculture	38	22
Livestock	20	12
Natural resources	45	26
Fisheries	18	10

Agricultural water supply	25	14
Primary studies and research	4	2
Primary support and reinforcement	25	14
Total	175	100

Source: MEF, BCI for 2007, 2008, and 2009

Table 6.8 Cumulated public expenditure by subsector, 2005–2009 (%)

Subsector	Operating costs excluding salaries	Investments via own resources	Investments via DPs	Subsector total
Agriculture	60	73	52	63
Fisheries	10	8	7	8
Livestock	3	8	10	8
Environment	26	4	7	6
Agricultural water Supply	1	7	24	15
% total	100	100	100	100
Total in billions of CFAF	47.5	287.6	273.9	609.1

Sources: MEF, BCI, and IFMIS, 2005–2009

6.4.2 COHERENCE BETWEEN PROJECT CONTENT AND AGRICULTURAL DEVELOPMENT OBJECTIVES

119. **It is useful to distinguish between projects based on the type of common goods that they produce.** Projects can be divided between those that produce public goods and those that produce private goods. Public goods are free-of-charge—in other words, it is not possible to charge for their consumption; nor does their consumption by one individual reduce their availability for consumption by others (see glossary). Rural infrastructure, systems for research and training, technology transfer to small producers, sanitation systems, conservation of natural resources, environmental programs, and operating budgets of public institutions are all classified as public goods. By contrast, the consumption of private goods by an individual prevents their consumption by another individual. Projects that produce public or private goods can be divided into productive goods, indirectly productive goods, and social goods. "Productive" projects are those that aim to improve agricultural production capacity. "Indirectly productive" projects are those that also aim to improve production capacity, but with a less direct and less immediate (i.e., long-term) impact. Projects that produce social goods are those that improve the living conditions of the general population and that are not directly focused on improving production capacity.

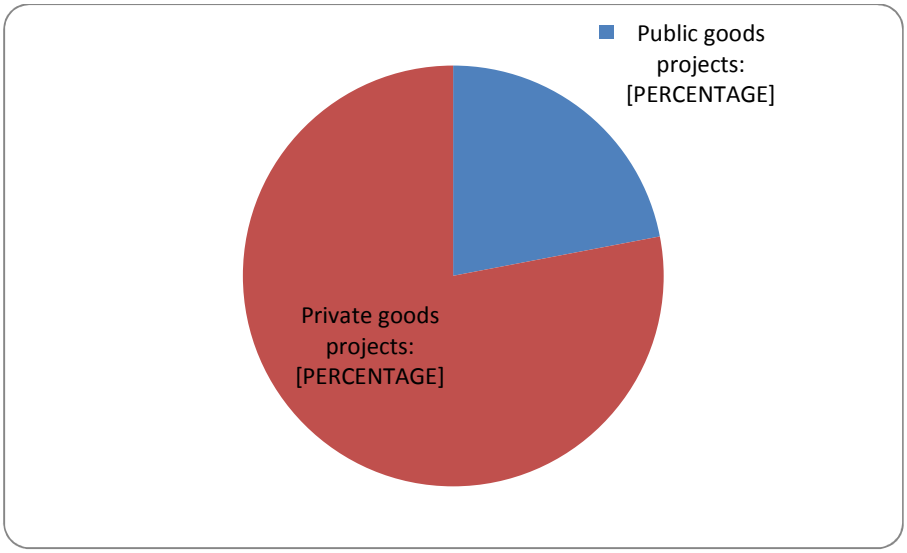
120. **Projects can also be classified according to whether or not they focus on poverty reduction or are decentralized.** Both categories of project can also be classified depending on whether they target poverty reduction and whether they are decentralized. Projects aimed at poverty reduction are those that produce goods to which access is limited according to personal criteria (young people, women, people officially classified as poor by their community, etc.) or geographical criteria (living in a place considered poor). Decentralized projects are classified according to where decisions are made. For example, when a project's work is in a rural region but the decisions are made in Dakar, it is not considered to be decentralized.

121. **Lower risk of classification errors.** In practice, virtually no project produces just one of the types of good described above. It is important to dissect each project in order to see which type of good is produced by each of its constituent parts. While this approach is open to an inevitable amount of subjectivity, this can be reduced by basing the analysis on both the project documents and on the opinion of the expert group from the ministries involved in the sector which took part in the APER.

122. **The allocation of APE between public and private goods has a major impact on agricultural growth.** While public expenditure has a positive impact on agricultural GDP per capita, the nature of that expenditure is also important. Empirical research on China, India, and Latin America shows that the allocation of APE between public goods and private goods has a major impact on agricultural growth. For example, on a constant public expenditure basis, a cut in expenditure on subsidies by 10 percentage points increases per capita agricultural revenues by 2.3 percentage points (World Bank 2009; Valdès 2008; Lopez and Galinato 2007). Investing public resources in private goods can have a multiplier effect. For example, improving producers' access to fertilizers, high-quality seeds, or phytosanitary products can boost short-term production, but excessive and prolonged favoring of private goods can have a negative impact on rural development since, when resources remain the same and are limited, it will always be to the detriment of public goods, which can only be produced by the state. For example, public investment in roads, research and development, the preservation of ecosystems, etc. is a vital part of sustainable agricultural growth and cannot be left to market forces alone. It is therefore important to estimate the share of APE allocated to each category of expenditure in order to improve the quality of agricultural policies.

123. **Most projects in the agriculture sector in Senegal are primarily focused on producing private goods.** Reducing the state's involvement in producing and selling agricultural inputs and products has been the main theme of national agricultural policy since the adoption of the New Agriculture Policy (NPA) in 1984. This reorientation was meant to lead to greater state investment in the production of goods that could not be supplied by the private sector (feeder lines, research and development, etc.). However, from 2002 onwards there was a marked change in policy, with a return to subsidies for inputs and for producers and distributors of agricultural products. Chart 6.1 shows this change; projects covering crop production, livestock, fisheries, and rural water supply are all primarily focused on producing private goods. Just 22 percent of public expenditure was spent on producing public goods and services, while nearly four times as much was spent on producing private goods and services. This is due to the major investments in hydro-agricultural improvements, in subsidies for agricultural inputs, and in price support for groundnut producers.

Figure 6.1: Share of agricultural public expenditure between public and private goods, 2007–2009



Source: MEF, BCI for 2007, 2008, and 2009

124. **Senegal is far from unique among developing countries.** A similar analysis was carried out in Latin America (Lopez and Galinato 2007). Although the period covered by the study was less recent (1985–2001) and the concept of APE used was wider, including expenditure on education and health, it is nonetheless useful to make a comparison with the countries in this region. This clearly shows that Senegal ranks alongside those Latin American countries with the greatest bias in their APEs towards private goods (87 percent for Brazil, 80 percent for the Dominican Republic, 69 percent for Guatemala). At the other end of the scale are Honduras (9 percent) and Uruguay (19 percent).

125. **Agricultural public expenditure is focused mainly on productive projects.** Projects producing productive goods account for 51 percent of public expenditure, while indirectly productive projects account for just 12 percent (Table 6.9). The limited expenditure on the latter category highlights the failure to allocate resources to key parts of the agricultural sector, such as research and development, extension services, training for producers, etc. The main objective of agricultural development policies—poverty reduction—is only partially reflected in the allocation of expenditure, with some 36 percent focused on projects that produce social goods.

Table 6.9: Share of expenditure according to productive, indirectly productive, and social goods, all projects, 2007–2009 (in millions of CFAF)

Type of good	2007	2008	2009	2007–2009	
				Total	%
Productive	21,651	37,919	66,824	126,394	51
Indirectly productive	5,000	14,744	10,553	30,297	12

Social	10,164	31,439	47,381	88,984	36
Total	36,815	84,102	124,758	245,675	100

Source: Estimates based on BCIs, 2007–2009

126. **The majority (53 percent) of public goods projects are producing productive goods.** Among public investment in public goods projects, those producing productive goods are the most popular, followed by indirectly productive goods (37 percent). Somewhat unexpectedly, projects producing social goods account for just 10 percent of public expenditure on public goods projects (Table 6.10).

Table 6.10: Share of expenditure on public goods projects between productive goods, indirectly productive goods, and social goods, 2007–2009 (in millions of CFAF)

Type of public goods	2007	2008	2009	2007–2009	
				Total	%
Productive	3,050	10,431	14,849	28,330	53
Indirectly productive	3,218	12,210	4,820	20,248	37
Social	1,314	2,319	1,827	5,460	10
Total	7,582	24,960	21,496	54,038	100

Source: Estimates based on BCIs, 2007–2009

127. **Private goods projects are split almost equally between productive and social goods (Table 6.11).** The predominance of productive goods and social goods is the most striking feature of expenditure on private goods projects. This is due to significant investments in hydro-agricultural improvements and subsidies for the purchase of agricultural inputs on the one hand and the strong poverty reduction focus of many projects on the other.

Table 6.11: Share of expenditure on private goods projects between productive goods, indirectly productive goods, and social goods, 2007–2009 (in millions of CFAF)

Type of private goods	2007	2008	2008	2007–2009	
				Total	%
Productive	18,601	27,488	51,975	98,064	51
Indirectly productive	1,783	2,534	5,732	10,050	5
Social	8,850	29,120	45,554	83,524	44
Total	29,234	59,142	103,261	191,638	100

Source: Estimates based on BCIs, 2007–2009

7. BUDGET PROCESS AND PERFORMANCE

128. **The efficacy of public spending is predicated on proper budget preparation and execution.** A lack of adequate budget preparation means that projects that have the greatest impact are not necessarily selected, nor are populations and areas to receive funds properly targeted. Even if funds are formally approved by the Government, they are sometimes not all available or cannot be used in practice. Uncertainty as to the availability of funds, or funds disbursed only at the end of the fiscal year make it difficult to implement all the planned activities or to acquire goods and services at the best price. Poor budget preparation or execution prevents the Government from achieving its objectives, even if funds are allocated efficiently among priorities. This section analyzes the process of planning, executing, and monitoring budgets by ministries in the agricultural sector. It provides recommendations on how to improve each step in the budget process.

7.1 PROGRAM/PROJECT SELECTION AND DEVELOPMENT PROCESS

129. Preparation of an investment budget does not yet receive the necessary attention. The selection and preparation of investment projects and programs in the sector fall under the responsibility of the line ministries. In compliance with agricultural policy, and consistent with the national poverty reduction strategy (PRS), project and program ideas are first developed, leading to draft outlines for projects and programs. There then follows a multi-year phase for developing and preparing a multi-annual strategic programming framework (e.g., the National Agricultural Development Program [PNDA]: 5 years; Forestry Action Plan for Senegal [*Plan d'Action Forestier du Sénégal*]: 10 years; DSF: 10 years), or alternatively, a sector policy letter. Policy letters define the main directions, which can be developed through multiple programs or projects, some of which are classified as priority programs. The Priority Action Plan (PAP) ranks projects and programs according to a criterion of urgency, which provides the technical structure of the Sectoral Medium-Term Expenditure Framework (SMTEF).[6] This phase is often poorly planned by the line ministries, which fail to allocate it sufficient resources, and lack the critical mass of skills needed to successfully complete the work. As a result, many projects that are selected are simply those in which a development partner has shown interest. In fact, many donors come with their own project ideas, which are generally approved. Donors then conduct the studies necessary for project development. Projects that are fully financed using internal funds are justified on a fairly general basis, such as their contribution to food self-sufficiency, poverty reduction, reducing emigration, job creation, etc.

130. **Maturation of investment projects and programs.** The second phase is project maturation, during which the necessary preliminary assessments and reports

[6] This is when the phase of project development to feasibility studies begins. This is done based on the problems in the sector that need to be addressed, and to improve certain baseline scenarios. The initiative pertains to the technical structures that may be supported by development partners (DP) during their missions to search for and identify projects. This outline project phase offers an opportunity to raise awareness about the project, examine its purpose, and ensure that implementation is relevant and coherent with national strategy. The necessary documents (terms of reference, detailed project outline) are drafted. This phase should be carried out with great care, since it will determine the quality of the project or program—a fact that is not always well understood.

(technical, financial, socio-economic, environmental, etc.) are drafted. All investment projects, programs, and studies must be included in the database that informs the investment program of the SMTEF. Selection of these projects and programs for inclusion in the SMTEF is based on cost, as well as consistency with both agricultural policy and the poverty reduction strategy, which takes into account the accelerated growth strategy (AGS). This selection, which is made internally within the ministries, in practice is never made based on a competition between various projects with the final choice based on the economic impact or the projected profitability of the investment, or for that matter on any other pre-defined criteria. The rather reasonable process of preparing, maturing, and selecting projects and programs in the various subsectors is poorly adhered to. Project proposals are rarely submitted by direct beneficiaries. After a project proposal has been selected, rigorous research detailing the implementation period, the expected outcomes, etc. is not always conducted. The lack of a database on the results, outcomes, and lessons from completed or ongoing projects means that new projects cannot be developed based on experience gained with similar projects. In the end, the political dimension often prevails over the intrinsic quality of the projects. Given the difficulties of sector ministries to retain over the long term the skills required to conduct feasibility reports, applying the principles of outsourcing would help to improve the quality of preparation for projects and programs in the sector.

131. **The results of the Investment Plan/National Agriculture Investment Program Senegal are not used in planning the SMTEF.** Under the Investment Plan/National Agriculture Investment Program (NAIP), a performance framework was developed (see Volume 2, statistical annex). The framework defines performance indicators and target values for the sector as a whole, each subsector, cross-cutting programs, as well as the system for monitoring and evaluating objectives. However, the SMTEFs of subsector ministries are never developed in reference to this framework, which is a remarkable waste. Given that the Investment Plan/NAIP is currently the operational document for the Government's rural development policies, the performance framework should be used to draft the SMTEFs, provided that the reference values are defined and target values updated.

7.2 BUDGET PREPARATION

132. Developing the budgets of agricultural sector ministries, as of other sectors, involves a long multi-step process and a host of government and parliamentary actors. In total, there are seven steps between the Ministry of Economy and Finance (MEF) sending budget guidelines to the spending ministries and publishing the budget act in the Official Journal by the Government General Secretariat (SGG). Numerous Government and parliamentary actors are also involved in drafting the budgets of sector ministries (See annex 6).

Box 2: Standard content of a budget framework letter for a draft budget act

The budget framework letter starts by contextualizing the preparation of the next budget. Based on the context of the global economy and its implications for the national economy, projections for GDP growth are given, as well as the estimated revenue received during the first quarter of the current year compared to projections. In addition, the spending ministries who are subject to the SMTEF are informed of the date on which they will be notified of their approximate sectoral allocations for the next budget period. The prime minister concludes by asking the members of the Government to take into account the state's priorities during the upcoming budget preparation, and lists these priorities. In the case of the 2010 budget (see Budget Framework Letter no. 0006/MEF/DGF/DB/DB.1 of April 30, 2009), these were the following:

- ✓ Confirm the implementation of the poverty reduction strategy;
- ✓ Continue to follow the course set for implementing the AGS;
- ✓ Orient actions towards achieving the MDGs;
- ✓ Pursue the GOANA;
- ✓ Intensify programs for rural electrification and diversification of energy sources;
- ✓ Accelerate school and sanitation infrastructure programs;
- ✓ Pursue the PNDS (National Health Care Development Plan);
- ✓ Strengthen programs for addressing youth unemployment;
- ✓ Extend the use of the results-based budgeting method;
- ✓ Accelerate the modernization of the tax services;
- ✓ Strengthen cooperation with donors, notably through the consolidation of the ACAB (Framework Agreement on Budget Support);
- ✓ Payment of all domestic debt in order to renew the country's productive fabric.

133. **Ministries' requests are considerably overestimated.** The line ministries submit their requests to the MEF; the MEF drafts an exhaustive summary in anticipation of budget conferences, which are an important step in the budget process. Past experience shows that line ministries overestimate their requests relative to the normal trends for the Government's budget and often make poor justifications for new measures, suggesting a lack of internal review. Yet the priorities and sector envelopes setting caps for allocations are available. The ministries appear to be motivated by the belief that they must ask for more than is necessary in order to obtain sufficient budget allocations. The practice thus places responsibility for review on the MEF.

134. **The sectoral ministries' power to set priorities is highly constrained by that of the MEF.** The budget conferences afford the line ministries' technical and financial departments an opportunity to defend and justify their budget plans to the MEF. The third step, review, is important in the budget process. In terms of investment expenditures, the Directorate of Economic and Financial Cooperation (DCEF) is responsible for selecting from among the requests for funding the proposals for projects and programs to be included in the Triennial Public Investment Program (TPIP), as well as proposed budget allocations, especially for the first year of execution. The DCEF does so without a selection committee specifically tasked with assessing investment projects and programs, and without clear criteria, basing its decision on criteria that would be valid for properly prepared projects—such as compliance with Poverty Reduction Strategy Paper (PRSP) objectives, as well as economic, technical, and financial feasibility—even though most proposals are submitted without sufficiently detailed information on this area. The Budget Directorate (DB) of the MEF must similarly assess proposed operating expenditures in selecting between new proposed measures. The shortcomings in the selection process for projects and new measures to adopt are not, and cannot be, corrected by the MEF, which has neither the human resources nor the information needed to make informed decisions. A preliminary review is therefore made at these two directorates ahead of the MEF's review at the end of budget conferences. In reality, this "preliminary"

review is the most important review concerning allocation of budgetary resources in the entire budget preparation process. Missing this meeting can be costly. Beyond submitting proposals to the MEF, none of the line ministries participates in selecting which investment projects and programs to pursue, nor in establishing the level of funding to set aside relative to their budget and planning concerning capital expenditures, nor in which new measures to accept concerning operating expenditure. However, the ministries under the SMTEF for agriculture are given the option to internally distribute their MEF-allocated funds. Any subsequent reviews, namely those by the MEF and the Prime Minister (PM), are made based on the data obtained during the preliminary review carried out by these two directorates. Given the considerable gaps between the amount requested by sector ministries and the funds allocated by the Government at the end of this process, resulting in SMTEF objectives being scaled back, it is desirable that the budget process be reviewed so as to avoid "disappointing" the spending ministries. One solution could be to provide all ministries with an estimated amount of their upcoming budget in April, based on the results of previously implemented budgets, revenue forecasts, and new priorities. Excluding extraordinary circumstances, an excess of 10 percent of this amount communicated to each ministry in April may be tolerated.

135. **The review carried out by the agricultural sector ministries following the ministerial council concerns only a marginal share of the budget.** Once ministries under the SMTEF are informed of their allocation, they must scale back their objectives relative to the resources allocated, which are always considerably less than the requested amount in their first year of SMTEF. In order to divide this amount between operational and investment expenditures, the ministry carries out an intra-sectoral review. If operational constraints (wages and normal operation of services) and investment constraints (counterparty transactions and continuation of ongoing investment projects and programs), are taken into account, very little remains to fund new projects and programs.

136. **Budget vote by both chambers of Parliament (National Assembly and Senate):** Parliament's budget vote does not alter the draft budget submitted by the Government. Issues relating to sectors may be raised by members of Parliament, but they may not lawfully increase budgetary funds already reviewed by the executive. Parliament's budget vote therefore does not alter the draft budget submitted by the Government.

137. **Recent procedural changes to drafting the budget increase predictability in allocated funds for line ministries but do not restrict the preponderant role played by the MEF in deciding on how expenditure should be allocated.** Since Decree 2009-85 of January 30, 2009, on preparation of the state budget, the procedure for drafting a budget act has been regulated. The 2011 budget act introduced a number of innovations, including: (i) the budget guideline letter is compiled and sent to all ministries and institutions in April to better inform them on circumstances and constraints; (ii) sectoral cap letters are sent to all ministerial departments in June to inform them of estimated sector envelopes and financing constraints, ahead of their submission of planned budgets to the MEF on June 30; (iii) Parliamentary debates concerning the budget are now held every year in June to take into consideration the concerns of the people's representatives when compiling the budget act of that year. Additional changes are desirable, however: sector caps, which are currently set by the MEF alone, should be set following consultation with the entire Government. This

would address the difficult problem of distributing these capped amounts between subsectors and would help the line ministries to resolve this problem.

138. **Introduction of the Sectoral Medium-Term Expenditure Framework (SMTEF) has only partially improved budgetary planning and management.** Before implementation of the Sectoral Medium-Term Expenditure Framework (SMTEF) at the Ministry of Agriculture in 2007, there was hardly any standardized method for planning operational and capital expenditure for all the ministries of the agricultural sector. While capital expenditures were included in the Triennial Public Investment Program (TPIP), their inclusion in budgets was not based on a coherent sector-wide plan with well-defined objectives, a clear strategy, or target indicators. Since 2007, as with other ministries, the SMTEF has assigned the agricultural sector ministries responsibility for drawing up the request for budget resources, justifying it in reference to agricultural policy as implemented. The system has some weaknesses. Application of the SMTEF was not preceded by an analysis that links sector performance to the public funds either already committed or planned for the medium and long term. Different sets of criteria are used to select projects and programs, making it difficult to compare their methodologies for evaluating their costs, along with their economic, environmental, and social impacts. In fact, expenditures continue to be evaluated and budgeted as in the past: for the ordinary expenditure, new measures may modify expenditure rollovers, while for capital expenditures, continued financing of ongoing projects and programs and new investment plans leaves little room for domestically financed new projects. This practice of budgeting to means and not to results has yet to be changed by application of the SMTEF. A significant gap exists between budgets submitted in the SMTEF and the budgets approved through the review process of the MEF and the prime minister, as shown by Table 7.1. Another weakness of the SMTEF is that it is not truly sector-focused, since it involves only operational expenditures and investment projects and programs overseen by a particular ministry. This shortcoming should be corrected in order to respond to sector needs rather than ministerial needs of the SMTEF. The SMTEF is perceived by the spending ministries as being more a means of maximizing the funds disbursed to them by the MEF, when in fact the SMTEF was originally intended as a tool to determine the availability of resources and to allocate them based on clearly outlined government policies and priorities. The SMTEF provides predictability in financing, but by itself does not guarantee rational allocation of resources between subsectors, or between projects and programs. The principles of results-based management should be applied to allocating budgetary resources, especially the principle of assessing performance systematically and objectively.

Table 7.1: Differences between draft budget and budgets allocated to agricultural sector ministries based on internal resources (in millions of CFAF)

Subsector	2006–2008			2007–2009			2008–2010			2009–2011		
	Projected credits in first year of SMTEF	Allotted funds after review process	Differ-ence	Projected credits in first year of SMTEF, as submitted to MEF	Allotted funds after review process	Differ-ence	Projected credits in first year of SMTEF, as submitted to MEF	Allotted funds after review process	Differ-ence	Projected credits in the first year of SMTEF, as submitted to MEF	Allotted credits after review process	Differ-ence
Agriculture		114,640		117,330	94,820	22,510	52,900	80,980	-28,080	237,980	81,960	156,020
Livestock		6,740		24,740	8,360	16,380	25,920	9,900	16,020	11,060	10,690	370
Maritime economy		10,570			8,550		27,900	13,050	14,850	9,140	13,950	-4,810
Natural resources	33,280	24,200	9,070	91,720	24,870	66,850	33,530	32,330	1,200	33,550	27,670	5,880
Total		156,150			136,600		140,250	136,250	3,990	291,730	134,270	157,450

Note: *Revised each year, and covering a period of three years, the SMTEFs are executed on a rolling basis, which results in overlapping periods.*

Sources: Budgets and SMTEF from the following ministries: Ministry of Agriculture, Ministry of Maritime Economy, Ministry of Livestock, and Ministry of the Environment.

139. **The National Agriculture Investment Program (NAIP) and the Investment Plan provide a new framework for coherent public spending in the sector.** The Comprehensive African Agriculture Development Programme (CAADP) adopted in 2002 is the agricultural component of the New Partnership for Africa's Development (NEPAD), the overarching program for development on the continent. In West Africa, the CAADP is implemented through the common agricultural policy of the Economic Community of West African States (ECOWAS). In short, the CAADP seeks to promote agriculture that is modern, sustainable, productive, and competitive on the intra-communal and international markets, focusing on improving the efficiency and effectiveness of family farms and promoting agricultural firms, with the close involvement of the private sector. Breaking with usual practices in programming public funds, development of the National Agriculture Investment Program (NAIP) under the CAADP has helped the agricultural sector to set the twofold objective of 7 percent annual growth, and a 17 percent reduction in national poverty by 2020. The total amount of public spending required to meet these objectives was estimated and divided between operational expenditures and capital expenditures. Since contribution to the objectives of growth and poverty reduction is an essential criterion for allocating funds between subsectors, the objectives assigned to each subsector in terms of production and productivity are consistent with the level of public funds that must be allocated to it. The Investment Plan's goal is to take concrete steps towards planning within the sector by allocating public funds between and within sectors based on defined objectives that are applied to all subsectors. A major challenge is the use of the NAIP and the Investment Plan to define the SMTEP of ministerial departments in the sector, to authorize the NAIP, the Investment Plan, and the Ten-Year Strategic Plan (*Cadre Stratégique Décennal*) as a tool for developing SMTEFs.

140. **The agriculture sector ministries can improve the budget preparation process and their negotiations with the MEF.** The sector ministries can be more persuasive when approaching the MEF and development partners by improving the quality of their SMTEF, and the overall consistency of political strategies implemented. These improvements include standardizing the criteria they use for ranking their priorities, committing to sharing results with both private and public actors, providing detailed descriptions of cost estimates, and identifying the consequences of unmet objectives if the requested material, human, and financial means are not allotted to them. Under the new budget process, it is now possible to establish a closer relationship between planned investments and the credit limits set by the MEF, and to determine how capital expenditures will change if these limits are raised or lowered before or after the budget act is enacted. Another area for improvement is the use of the Investment Plan for developing the SMTEF with a view to establishing a relationship between official policy objectives, priority action programs, investment budget preparation, negotiations, and discussions with members of parliament. The Investment Plan, defined with a medium-term horizon of five years, as is necessary for making investment decisions, identified the investments necessary to help the agricultural sector get on track for 7 percent growth and reduce the national poverty rate to 17 percent by 2020. One possibility would be to improve preparation of the ministries' budgets by developing more realistic SMTEFs that draw upon support from investment projects and programs that have been proven to be economically, financially, and technically feasible.

7.3 BUDGET IMPLEMENTATION

141. **Budget implementation begins after the adoption of the budget act. Promulgating the budget act, issuing the decree for allocation of funds, and disbursement is a process that includes numerous obstacles.** Think tanks that bring together sector ministry experts with broad experience in budget management have helped to identify problems that hinder organized mobilization of public resources and have a negative impact on the sector's performance. The major difficulties encountered in budget implementation occur in several areas: (i) incomplete knowledge of and non-compliance with regulations in force; (ii) financial constraints imposed by the Government resulting in frequent budget readjustments and reductions; (iii) the very short period during which disbursement is possible; and (iv) a lack of knowledge of public procurement procedures. While some of these issues fall under the responsibility of the line ministries, others are the responsibility of the MEF and the president.

142. **A lack of knowledge of and compliance with regulations lengthen the timelines for public procurement and result in extensive correspondence between administrations, projects, and the Directorate for Public Procurement Inspection (*Direction de contrôle des marchés publics*/DCMP).** This issue relates essentially to public procurement regulation (Decree 2007-545 of April 25, 2007). Based on international standards, this text imposes procedural constraints on the management of public funds. However, procedures are sometimes circumvented in order to speed up the process. Thus, so as to avoid the public procurement procedure, the cost of services is often divided so that prudent shopping can be used instead of a call for proposals. This practice does not ensure consistency in services, and very often the inspection services discover the ploy and reject proposed commitments, which freezes service provision. Better knowledge of procedures would help to start the public procurement process (e.g., drafting bidding documents and the public procurement plan) in a timely manner, and to comply with public procurement regulations to avoid time being wasted between the ministries and supervisory bodies (e.g., the DCMP and the Public Procurement Regulatory Agency [*Agence de Régulation des Marchés Publics*/ARMP]).

143. **The Government's financial constraints result in proposals for budgetary commitments being frozen.** Cash flow constraints since the end of 2006 have led to freezes in activities of administrative services and development projects. Since the beginning of that year, GDP growth has slowed, resulting in a reduction in budget revenues. The impact on spending ministries' budgets has, overall, been to slow implementation, as proposals for commitment of expenditure are frequently frozen by MEF through the Integrated Financial Management Information System (IFMIS).

144. **Numerous budget adjustments disrupt the activities of sector ministries.** The allocations in the adopted budget are often modified. To deal with unplanned expenditures—that is, those that are not provided for in the budget act—disbursements are made by debiting allotments from certain budget headings, which are then reallocated to other expenditure headings and/or other projects not yet budgeted in the Consolidated Investment Budget (BCI). These adjustments can be requested by the ministries themselves, or made by the MEF without the ministries' knowledge. The second scenario is more disruptive since ministries discover that funds are missing only at the moment of

making expenditure proposals. Discipline to abide by the budget approved by Parliament would help to reduce the high level of uncertainty surrounding budget execution.

145. **Reclamations can drastically reduce the available resources for sector administrations and projects.** Reclamations are large-scale withdrawals, often made on all sectors, to adjust expenditures to actual revenues when receipts are much lower than forecasted, or to finance other urgent spending. Budget adjustments and reclamations result in commitments of expenditure being unfunded, creating debt that must be repaid in the following year from project funds, reducing overall performance. In 2008, for example, from a BCI totaling 429 billion CFAF, 175 billion CFAF were reclaimed. These reclaimed funds paralyze the administrative services, and block many projects in the sector. While ministries cannot oppose the reclamations, they can still engage in discussions with the MEF to improve its methods of forecasting government revenues and to observe a certain amount of discipline in terms of non-budgeted commitments. The president and the prime minister could be made more aware of the disruptive effect of adjustments and reclamations in the budgets of sector ministries.

146. **The effective disbursement period is reduced, which disrupts the orderly execution of activities.** The budget year starts on January 1 and ends on December 31. However, in practice, it begins in February, or even in March. No commitments are made before this period. Although not bound to do so legally, ministries wait for written notification of their budget by the MEF before beginning to implement their expenditures. New proposals for commitment are generally signed at the beginning of November, or two months before the end of the budget year. In total, there are four months during which no new expenditures are begun. The ministries do not take advantage of these four months to begin the administrative procedures of drafting bidding documents. It follows that contracts for that year are signed four or even six months after the beginning of the fiscal year. The various delays combine to reduce the actual time during which activities can take place normally. The sector ministries could easily extend the effective period of budget execution by taking all the required measures to begin the administrative procedures sufficiently in advance of committing funds and to allow spending departments to submit proposals for commitment and payment orders to the Controller of Financial Operations (COF).

147. **Amendments to the budget act provide additional funds to the sector, but are drafted without active participation of ministries.** From 2005 to 2009, supplementary budget acts (*lois de finances rectificatives*/LFR) were adopted every year. Table 7.2 shows the changes made to initial budgets of ministerial departments in the sector that received additional funds from these budget acts, predominantly for investment expenditure. The LFRs were therefore favorable to the sector. It is notable that their drafting procedure is different from that of the initial budget act (*loi de finances initiale*/LFI). The MEF drafts LFRs without the active participation of sector technical departments. There are neither budget guideline letters nor budget conferences. The LFRs act to fund expenditures, limited by available budget funds, additional sector needs emanating from presidential commitments, and urgent adjustments accounted for and unfunded by LFI funds. The MEF proceeds to reclaim unused credits in order to restore balance.

Table 7.2: Changes to the sector's budget due to supplementary budget acts (LFRs), in billions of CFAF, 2005–2009

Year	Ministry	LFI	LFR	Total	Including	
					Operating expenditures	Investment expenditures
2005	MA	119,555	8,900	128 455		8,900
	MEL	9,055	900	9,955		900
Total		128,610	9,800	138,410	0	9,800
2006	MEM	10,565	750	11,315		750
	MABCA	65,107	11,700	76,807		11,700
	MEL	6,744	1,500	8,244		0
Total		82,417	13,950	96,367	0	12,450
2007	MAHRSA	67,328	3,400	70,728		3,400
	MEL	8,295	250	8,545		250
Total		75,623	3,650	79,273	0	3,650
2008	MEM	4,726	3,352	8 077		3,352
Total		4,726	3,352	8,077		3,352
2009	MEM	17,338	174	17,512	174	0
	MAPB	81,903	57	81,960	57	0
	MENV	27,595	76	27,670	76	0
	MEL	10,635	55	10,690	55	0
Total		137,471	362	137,832	362	0
Total 2005 to 2009		428,847	31,114	459,959	362	29,252

Source: Supplementary budget acts of Senegal, 2005–2009

148. **The procedures for starting a project extend the startup period, increase costs, and generally create an environment unfavorable to execution of agricultural projects.** The following steps must be carried out to effectively start a project, once a financing agreement has been signed with a donor:

a. Consultation: The MEF refers the financing agreement to the Supreme Court for legal consultation to ensure that provisions comply with the constitution;
b. Establishment of a steering agency and management unit: A decree creating a project steering agency and management unit is issued;
c. Recruitment of a coordinator and essential personnel: An order is issued to appoint a project coordinator and put together a project team.
d. Disbursement conditions are lifted;
e. A special account and sub-account are opened, specimen signatures of agents handling accounts are submitted, a startup workshop is held, government space is allocated, etc.

Table 7.3: Duration of various steps in project startup procedure

Project name	Approval of financing by donor	Signing of financing agreement	Entry into force of financing agreement	Elapsed time between signature and entry into force	Date of first disbursement	Time elapsed between entry into force and first disbursement	Time elapsed between signing and first disbursement
PAPIL	10/2003	12/2003	09/2004	9 months	12/2005	15 months	24 months
PADERBA	04/2001	11/2001	07/2002	9 months			
PADERCA	10/2005	11/2005	03/2006	5 months	08/2006	5 months	10 months
PROMER II	08/2005	06/2005	01/2006	7 months			
PRODAM II	04/2003	04/2003	11/2003	8 months			
PAFA		10/2008	02/2010	17 months	11/2010	9 months	36 months

Source: Ministry of Agriculture, DAPS

149. **Table 7.4 shows the average period between the date on which agreements are signed and their entry into force for a sample of projects.** The average period is nine and a half months—long in the life of a project. To these three quarters are added the period for establishing steering bodies and management units, recruiting a project coordinator and essential personnel, and carrying out the first disbursement, meaning that more than two years may elapse between the signing date and the project's actual start. The resulting cost increase can compromise the execution of all planned activities.

Table 7.4: Examples of contracts signed for rural development infrastructure projects

Project name	Project start date	Project end date	Number of contracts signed under the project	Average term of contract	Average amount of contract	Number of no-risk contracts
PAPIL	11/01/2005	12/31/2011	16 construction contracts selected	187 days	1,488,400,412	12
PDMAS	03/06/2007	12/31/2012	22 construction and service contracts in agreements		2,808,290,792	
PADERCA	08/24/2006	12/31/2012	80 disbursements: 76 direct payments and 4 working capital funds	48 days	1,700,000 UA/AfDB	
PRODAM						
PADERBA	07/11/2002	12/31/2010	11 payment requests processed as service contracts in 2009	15 days (required period 60 days)	275,783.35 UA/AfDB	

Source: Ministry of Agriculture, Directorate of Analysis, Forecasting, and Statistics

150. **After startup, other sources of technical inefficiencies delay signing of contracts, especially in infrastructure projects. A task force ("*comité de réflexion*") was appointed to examine the inefficiencies that hinder the normal operation of infrastructure projects.** Multiple factors contribute to delays in executing infrastructure contracts:

a. Lack of knowledge of fiduciary management procedures (payment requests) due to delays in compiling administrative, financial, and accounting procedure manuals;
b. Changes of direction in some projects lead to updates of the contract, which requires time (affecting, for example, the projects ASPOP II, PDMAS, and PAPIL);
c. Delay in renewal of working capital;
d. Tardiness in approving withdrawal application submitted to the Treasury (SAED, SODAGRI);
e. Cumbersome public procurement procedures (Directorate for Public Procurement Inspection/DCMP; Public Procurement Regulatory Agency/ARMP);
f. Lack of enthusiasm from the management team;
g. Depreciation of the donor's currency (PDRM, PIV in Bakel);
h. Absence of direct supervision by the donor;

i. Absence of synergies in actions by development partners;
j. Frequent turnover in project personnel (PADERBA, PDMAS, and PAPIL);
k. Inadequate institutional anchorage (PADERBA); and
l. Inclusion of works with the Government as counterparty (PADERCA).

7.4 BUDGET MONITORING

151. **Each agricultural sector ministry has a body for monitoring the operational expenditures of its departments, and another for monitoring technical and financial execution.** Performance reports are the tools used for budget monitoring. Two bodies are responsible for monitoring technical and financial execution. Monitoring of budget execution distinguishes between monitoring of operational expenditures and monitoring of capital expenditures. Depending on the ministry, operational expenditures are monitored by the Directorates of General Administration and Equipment/DAGE or the General Administration and Equipment Services/SAGE. Monitoring of technical execution and evaluation of ongoing projects and programs falls to the bodies that review and plan the technical and budget components. At the MA, the Directorate of Analysis, Forecasting, and Statistics/DAPS carries out this function in addition to drafting policy, compiling statistics, providing guidance for feasibility reports for new projects and programs, etc. All reports are summarized in a performance report,[7] which is produced once a year. The reports state the projections that were made for the current year, the activities carried out, achievements, discrepancies between stated objectives and achievements, and the level of execution of expenditures, the efficiency and effectiveness of spending and the appropriateness of targets, and provide explanations for differences between expected and obtained results. These reports serve to update projections of the SMTEF and to prepare the draft budget for the following year. The reports are presented to the MEF and Parliament during the examination of the draft budget act to disclose use of allocated funds.

152. **The performance reports are underused.** The performance reports help to answer the following question: Have we implemented the action plans that we created, for which we were allocated funds, within the expected timeframe and to expected quality standards? The reports document management efficiency and effectiveness and help to characterize the performance of agencies carrying out sector programs and projects. In practice, the reports only partially fulfill this objective. They are used neither by the various

[7] Budget monitoring plays an important role in the budget cycle. By providing information regarding expenditure execution for the current year and other documents on the capacity of various services, projects, and programs to absorb the funds allocated to them, budget monitoring helps to raise or lower the first-year forecasts for the following three-year SMTEF in response to actual performances, and to prepare the draft budget for the coming year. For projects and programs receiving external financing, monitoring of technical and financial execution is performed jointly by donors and the Government, which participates only in a small fraction of financing (e.g., exemption of duties and taxes, remuneration for national experts, etc.), with projected disbursements listed in the management plan annexed to the financing agreement. Their main functions are to allocate budgeted resources while taking into account the scores given to the executing agencies, and to assess the underperformance of these agencies in spending public funds. These tasks help to raise questions concerning organizing capacity, the adequacy of human resources in relation to their missions, but above all concerning implementation capacity.

ministries, nor by the MEF when examining draft budgets to acknowledge administrators' good performance or criticize their poor performance. Finally, the publication of performance reports does not lead to requests for explanations when objectives are not achieved.

153. **Ex post evaluation of development projects and programs is not systematic.** While ongoing projects are monitored regularly, they are rarely evaluated for their outcomes, and results are not shared with beneficiaries, nor published. In the rare instances of ex post evaluation, results are rarely taken into account in the development of new projects and programs. Ex post evaluation does not result in capacity building within ministries. Monitoring of operational expenditures varies in quality, depth, and objectiveness, so projects and programs are difficult to compare.

154. **The annual reviews of the Poverty Reduction Strategy Paper (PRSP) are rare opportunities for discussion among sectors.** The annual reviews of the PRSP provide an opportunity for the various ministries to report on their subsectors' progress in implementing policies selected by the PRSP. The purpose of the review is not evaluation, since there are no defined methods, and poor performance is not sanctioned. The review serves more to provide information on recent developments and constraints facing the subsector.

CONCLUSIONS AND RECOMMENDATIONS

1. **This review has taken place in a favorable context.**

First, it comes after the development of the NAIP and the Investment Plan, which define the Government's options up to 2015 and estimate the amount of public resources needed to achieve 7 percent growth in agriculture and a 17 percent decrease in poverty by 2020. These two documents also identified the shortcomings of the current policies, which will have to be addressed in order to achieve these two major objectives. They introduce significant overhauls in the agricultural sector including:

(i) The participative approach used in their development, which allowed all actors to contribute to their implementation through the signing of a pact in January 2010;
(ii) The cross-cutting nature of the objectives and programs;
(iii) The identification of the projects of each program related to one of these objectives;
(iv) The determining of the amount of public resources and their subsectoral and spatial allocation in order to ensure more balanced agricultural growth; and
(v) The estimation of the added value of each productive project.

Second, the Government's commitment to agriculture at the highest level, resulting in record public funding, constitutes another dimension of this favorable context to boosting the sector's development.

Third, the rise in global food prices since 2008, which, according to projections, seems set to continue, as well as the relatively strong agricultural growth of the past three years, provide reason to be optimistic about the sector's outlook.

Fourth, the establishment of a national framework for consultation among NAIP signatories, ECOWAS's organizing of regular meetings to monitor the implementation of national investment plans, and the mobilization of resources for these plans by West African governments and DPs will lead to a regular review of the progress made in the sector and will help to uphold the Government's priorities.

2. **The assessments in the preceding sections have highlighted the challenges that the successful management of APE must address.**

Some major trends emerge from the APE assessments:

- A significant, albeit still insufficient, fiscal effort, even though public investment has proven to be more profitable in agriculture than in other sectors;
- A lack of agricultural public goods in development projects;
- An unsustainable subsidy policy;
- A concentration of APE in certain regions to the detriment of those where the majority of the 20 percent rural populations live;

- Distortions in support to rural producers, which favors the least profitable crops;
- A high number of rural development projects carried out without any coordination at the central or local level;
- A limited capacity to plan, program, and develop projects;
- Limited capacity building in monitoring and evaluation of projects and programs;
- Significant technical inefficiencies in the operations of public administrations and development projects;
- Agricultural growth only weakly based on intensification.

THE MAIN CHARACTERISTICS OF SENEGAL'S A.P.E.

3. **The resources allocated to the agricultural sector have been relatively significant in recent years, but still fall below the level of effort required by the CAADP.** Public funding of the sector has increased in recent years, resulting in an increase in its share in total public expenditure. However, this share has not yet reached the threshold set by the Maputo Declaration endorsed by African Heads of State and Government, nor the level defined by the NAIP and the Investment Plan. Senegal is not among the African countries credited with spending the most on agriculture. The critical challenge is thus to increase the public resources allocated to the sector.

4. **A greater increase in APE can be expected.** The NAIP outlines a budget based on an estimate of the need for public expenditure, and puts forward an amount of 2,015 billion CFAF, 81 percent of which are investments to be made from 2011 to 2015. Injecting such a large amount of public resources into agriculture will be unprecedented and should place the sector on a trajectory of strong and sustainable growth.

5. **Agricultural public goods are underfunded.** The irreplaceable role of public goods in agricultural development was documented in Section 2.4. To make agriculture highly competitive, the production of quality public goods should be the primary area of focus for APE. Only 22 percent of public expenditure is currently allocated to projects producing this category of goods, with 78 percent dedicated to the production of private goods and services. APE must be reoriented by reducing the share of resources allotted to hydro-agricultural developments and subsidies.

6. **Some policies are contradictory with regards to the objectives they aim to achieve.** For example, the program aimed at reducing the capacity of artisan fishing by eliminating more than a thousand fishing vessels is inconsistent with the subsidies for fuel and fishing equipment. Similarly, the objective of divestiture from the production and marketing of high-quality seed is not compatible with a subsidy policy that discourages private initiative. An effort should be made to achieve better coherence between the various components of agricultural policy.

7. **The characteristics of APE show that Senegal is facing a quadruple challenge.** The major trends in APE indicate that, to be more efficient, policies should focus on four

areas: (i) the environment in which agriculture is evolving must be made to be more favorable to private investment by establishing a more stable and coherent institutional framework and by reducing distortion in agricultural prices; (ii) the efficiency with which public resources are allocated must be greatly improved; (iii) the majority of the technical inefficiencies preventing the smooth functioning of investment projects must be eliminated; and (iv) the budgeting processes must be improved.

AREAS OF REFORM TO OPTIMIZE THE IMPACT OF A.P.E.

- *The Context of the Agricultural Sector*

8. **The institutional framework is highly complex and profoundly unstable.** The fragmentation of sectoral responsibilities between several ministerial departments is detrimental to coherent policy implementation and favors the dispersion of resources. The profound lack of continuity, both in the institutions and those who direct them, adds to the weakness of the institutional framework and stands in the way of defining and implementing quality agricultural policies. Presidential initiatives create problems of coherence with ongoing projects and programs. There should be structural reforms in sector management, acquisition and conservation of a high degree of expertise in public administration, land tenure reform, improvement of farmers' technical skills through functional literacy, and the establishment of a functional framework for consultation between the state and sector actors. Two major reforms are needed to improve the management of the sector.

- A single ministerial department responsible for coordinating the work of government actors would bring more coherence to the public policies and programs for rural development. It would be in charge of planning and would provide staff with the tools they need to design, implement, monitor, evaluate, and manage projects and programs.
- A capacity building plan is needed for the rural development engineering departments, involving recruitment in new areas of expertise, training, and the retraining of its human resources. Such a plan should coincide with the implementation of the Investment Plan.
- Improving the service conditions of the technical staff (material, logistic, financial, and other) is another key focus for modernizing the public administration of the agricultural sector, and is needed in order to meet the challenges of a rural development that requires the right skills to design, implement, and evaluate policies and programs.
- In order for the agricultural sector to achieve the growth and poverty reduction objectives set for it, the National Domain Act must be revised, a permanent framework for consultation between the ministerial departments and the sector's producers' organizations (PO) must be created, and the grassroots actors must be involved in the development of the SMTEFs. The implementation of the Investment Plan should coincide with reforms in these various areas so as to create an environment that fosters the production, marketing, and processing of agricultural products, as well as the restoration of ecosystems.
- The illiteracy level among small-scale farmers must be reduced, and the management skills of entrepreneurs strengthened. This would help with modernization, adoption of new technologies, adherence to precise crop management processes, farmers'

ability to establish farmers' organizations to defend their interests, with access to and management of credit, and with formalization of farmers' relationships with the supply chain (with both their suppliers and customers).

- Presidential initiatives serve as a reminder of the invaluable role agriculture plays in revitalizing the economy, creating jobs, restoring macroeconomic balance, and rapidly reducing the incidence of poverty, as shown by NAIP documents. Integrating presidential initiatives into the regular activities of the sector's ministries would mitigate their destabilizing effect on regular government activities and development projects.

9. **Rural farmers are receiving an unprecedented level of support.** Farmers receive varying amounts of public support: that given to exported agricultural products is considerably higher, while imported goods, which help to ensure food self-sufficiency, receive much less support from the Government. Overall, however, producer prices are now close to prices at the border. A more balanced distribution of public support between exportable and importable goods would reduce distortions of market prices for inputs and agricultural goods.

- *Allocation of Public Expenditure*

10. **The Government's reports show a predominance of capital expenditure, yet a review of this expenditure indicates that the share of capital is much lower than stated.** Although nearly 85 percent of expenditure from internal resources is allotted to capital expenditure (Table 4.4), a substantial portion of these resources is actually earmarked for wage payments and the purchase of goods and services. The review of this same expenditure from internal resources indicates that investments in fact represent 73 percent. It can thus be deduced that up to 12 percent of APE was incorrectly identified as capital expenditure. An increase in the share of APE allotted to capital expenditure is a prerequisite for major investment in agriculture. The 81 percent objective set by the Investment Plan must be reached in the projects of the agriculture subsector.

11. **The share of APE dedicated to subsidies is excessively high.** If farmers' access to competitive prices for agricultural inputs is a prerequisite for growth in agricultural productivity, the current seed financing and distribution system has reached its limits, first because the subsidy levels are unsustainable from a budgetary standpoint, and second because the quantities of inputs theoretically acquired, especially for seeds, greatly exceed the amounts required to satisfy the needs of poor farmers, leading to wastage. Moreover, the system benefits large-scale farmers or those who do not perform any agricultural activity, while impeding the development of private seed producers. Irregularities and waste in the input distribution circuit ultimately make the subsidy system unfair to both farmers and taxpayers.

12. **Central administrations receive an exorbitant share of recurrent expenditure.** The distribution of recurrent expenditure shows a strong bias towards the central level of government. Expenses related to wages and the purchase of goods and services are highly concentrated in the central administrations of the capital (nearly 80 percent of recurrent expenditure). This concentration explains the low number of government employees present in the regions, the difficulty they experience with traveling, and their inability to

pay regular visits to farmers due to a lack of vehicles, fuel, and the other means needed to carry out their activities in the field. Furthermore, the majority of the employees working in these areas are located in the regional or department capitals. Decentralizing recurrent expenditure towards the regional level would give more means to the technical staff, which is responsible for supervising the farmers, compiling statistics, etc.

13. **Public goods are underfunded.** The distribution of expenditure among the main agricultural functions reveals large imbalances; functions that could have a significant influence on pro-poor growth, namely agricultural research, advisory services, and agricultural training, receive just 5.2 percent of APE. More than half of APE is allocated to agricultural input supply (53 percent), and, to a lesser extent, to rural development corporations for hydro-agricultural developments (4.2 percent). Although these functions play an important role in improving input consumption and reducing the strong climatic dependency of agricultural production, the share left for the other functions is so minimal that it keeps them from achieving the maximum impact. Given that the Government is, in fact, the leading producer of this type of public good, their underfunding acts as a brake on private investment in the agricultural sector.

14. **The ranking of investment projects by the type of goods produced confirms the underfunding of essential agricultural functions.** A distinction between projects producing public goods and those producing private goods indicates a high prevalence of the latter (78 percent). Agricultural research and training, technology transfers to small-scale farmers, the conservation of natural resources, and rural infrastructures are not prioritized for investment expenditure.

15. **The northern and southern regions, where less than 20 percent of the rural population lives, are the primary destinations of agricultural public investment.** APE is mainly concentrated in the northern and southern parts of the country, while more than 80 percent of the population lives in the Groundnut Basin in the center of the country. As a result, its impact on poverty is strongly reduced.

16. **Ways to improve the efficiency with which APE is allocated:** The allocation of resources must be changed in various directions simultaneously if APE is to maximize its impact on growth and poverty reduction. The preponderance of recurrent expenditure in capital expenditure must be reduced, and the burden of subsidies must gradually decrease in favor of public goods, notably by reforming the input distribution system. Decentralizing APE would strengthen capacities to act in the field, and greater emphasis should be placed on the functions of agricultural research, training, and technology transfer. The country's central regions should receive a greater share of APE, primarily through investment in irrigation in order to reduce their dependence on rainfall. These changes to the composition of APE can only be introduced gradually. In the short term, budget reviews will only concern relatively small amounts, due to the necessity of pursuing ongoing development project activities and paying wages. In the medium term such changes are possible, however. Due to their influence on the funding of the sector's capital expenditure (36 percent of total expenditure from 2005 to 2009), DPs can

facilitate the transition by concentrating their involvement on public goods and in regions that have not yet greatly benefited from APE.

- *Technical Efficiency of APE*

17. **There is an urgent need for reform of the agricultural subsidy system.** Subsidies did contribute to boosting production and productivity, but they account for an increasing share of the agricultural sector's budget and are pushing Government ministries, and the Ministry of Agriculture in particular, into a vicious circle of indebtedness to private distributors of inputs. The agricultural subsidy system must be completely overhauled and its objectives redefined. In addition, its existing inefficiencies must be eliminated and the system must be brought into compliance with a policy that targets the development of private producers and agricultural input distributors who work directly with farmers' organizations. One of the major problems of the current subsidy system is that it has given rise to a large group consisting of intermediaries, large-scale producers, civil servants, and politicians who have organized themselves in such a way as to siphon off the resources earmarked for rural development for themselves. Reforms of the subsidy system should exclude this category of actors, which currently represents a veritable obstacle to the sector's development, while freeing up professionals from various agricultural subsectors to carry out their initiatives.

18. **The range of subsidies and the number of subsidized sectors must be substantially reduced.** The generalization of subsidies to all agricultural and livestock sectors is an unsustainable policy, even in the short term. The subsidy system must be substantially simplified by reducing the number of subsidized commodities and granting them just one type of subsidy. Subsidies for the production of millet, fonio, black-eyed peas, and cassava should be eliminated, since there is no proof that they have facilitated access to inputs or helped increase productivity. In the case of groundnuts, the agricultural equipment and seed subsidies should be eliminated. The current size of groundnut farms (more than 60 percent consist of less than one hectare), the erratic rainfall, the low soil fertility, and low world groundnut oil prices make state subsidies for the purchase and use of modern agricultural equipment unjustifiable. Groundnut seed subsidies should also be eliminated, thus allowing the state to pursue and strengthen its support of seed production. To provide better prices for farmers and give them more autonomy, the marketing of groundnuts should be opened to foreign companies. Fertilizer subsidies should be maintained for all commodities, however, in order to increase the very low level of consumption of this input, and thus improve soil fertility and yield. When setting the price of fertilizer, its current price in neighboring countries should be taken into account in order to avoid its resale in the subregion.

19. **Support needs to be offered to decentralized financing systems in order to afford them a major role in financing farmers' access to inputs.** In order to facilitate farmers' access to inputs, decentralized financing systems can play an important role in the marketing of these factors. The presence of these financing systems in nearly all rural communities, and thus their proximity to farmers and intermediaries, allows them to play an important role by granting seasonal loans. Government support for these financial institutions could take the form of strengthening their technical and human capacities in

order to improve their access to the most remote villages and develop their specialized capacities in seasonal financing.

20. **Rice subsidies should be kept, but the role of professional organizations must also be reinforced.** In the case of rice, this commodity should continue to be subsidized due to the country's strong dependence on rice imports, the grain's strategic importance to the country, and the anticipated strong increases in its world market price. However, in order to avoid the perverse effects described above being reproduced, the professional organizations active in the subsector should play a leading role in subsidy allocation and monitoring.

21. **The growth in Senegal's agricultural production is slightly more intensive than extensive.** The growth in agricultural production is influenced by the increase in both cultivated area and yield. However, with the exception of cassava, the contribution of yield has a greater impact on fluctuations in production. Since extensive growth is unsustainable, Senegal should focus its agriculture primarily on intensification, notably through an increase in input consumption and the use of high-yield varieties.

22. **The technical efficiency of agricultural development projects is low.** Improving technical efficiency is an essential step towards producing maximum positive results from the resources used. Many of the inefficiencies cannot be attributed to the sectoral ministries, and thus cannot be eliminated directly. The government ministries involved have no control over such inefficiencies as the MEF's budget adjustments and reductions, which result in irregular and insufficient disbursements, the very short period (8 months) during which disbursements can be made, the bureaucratic procedures that lead to longer project start-up periods (MEF's referral to the Supreme Court for a ruling on the financing agreement's compliance with the constitution), the Government's allocation of project locations, delays in the authorization of *chèques d'appel de fonds* (withdrawal applications) submitted to the Treasury, the fixing of the prices at which companies buy inputs on the market and at which they turn them over to the state, the instability of the Casamance region, which paralyzes the implementation of projects in the south of the country, etc. It can take more than a year to get a project started in Senegal. These inefficiencies extend project schedules and generate additional costs that prevent the acquisition of the specified amount of goods and services needed to carry out project activities. One step that the heads of the sectoral ministries can take if not to eliminate, then at least to substantially reduce these inefficiencies, is to constantly draw the attention of the MEF, the prime minister, and the president to the negative impact of such constraints, and to work with them to find the proper solutions to address them.

23. **The technical inefficiencies over which the sector's authorities have control are just as numerous and must be eliminated.** There are numerous inefficiencies upon which the ministries can act directly. They include:

- A project preparation phase that is improperly executed by the line ministries, because they do not allocate it sufficient financial resources and lack a critical mass of the skills needed to accomplish tasks successfully;

- A tendency to select projects in which a development partner has shown interest;
- The implementation of projects entirely financed by internal resources, without conducting a feasibility study beforehand;
- The implementation of projects financed entirely using internal resources without carrying out a feasibility study ahead of time;
- Project selection is not based on a competition among several projects and the final selection is not based on economic impact, the expected profitability of the investment schemes, or any other pre-defined criteria;
- The lack of a knowledge base of results, impact, and valuable insights from completed or ongoing projects;
- An overestimation of the required resources submitted to the MEF;
- The lack of an internal review of the budgets to be submitted to the MEF for inclusion in the BCI;
- The lack of a sectoral SMTEF, i.e., an SMTEF just for the operating expenditure and the investment projects and programs under the authority of a particular ministry;
- Non-compliance with current regulations and the poor application of public procurement procedures;
- Budget adjustments requested by the ministries themselves that lead to the paralysis of certain administrations and projects;
- The long amount of time it takes to complete all the steps involved in launching a project (establishing an oversight body and management unit, recruiting a coordinator and key staff, opening a special account and subaccount, etc.);
- The absence of a culture of project assessment and capitalization on past results when developing new projects; and
- The absence of any monitoring of operating expenditure, due to considerable variation in development methods, quality, depth, and objectivity.

24. **Ways to improve technical efficiency:**
- The positive impact of agricultural development projects can be significantly improved by paying more attention to the various phases of their planning, programming, and implementation.
- A phase for formulating and preparing a multi-year strategic programming framework must be well established by the sector's ministries, who must allocate it sufficient funds. They must also possess a critical mass of the skills needed to accomplish tasks successfully. Additional financial and human resources should be allocated to this phase. Outsourcing would bring in external expertise and provide a pool of projects from which the projects feeding into the SMTEF could be selected.
- Mastery of and adherence to current regulations, improving command of public procurement procedures, and an extension of the periods during which disbursements are made are necessary in order to improve the efficiency of budget implementation.
- Mastery of and compliance with regulations can be ensured by training the staff responsible for the DAGE and SAGE, as well as those in charge of procurement and disbursement procedures.
- The ministries must select projects and programs internally after subjecting them to a competition process; the final decision must be motivated by economic impact, the expected profitability of the investment schemes, or other predefined criteria.

Furthermore, more emphasis must be placed on project and program preparation, gestation, and selection processes in the various subsectors.

- Given the sectoral ministries' difficulties in retaining the skills needed for feasibility and project impact assessment studies over the long term, outsourcing would help to improve the quality of project and program preparation in the sector.
- Eliminating or significantly reducing delays in implementing infrastructure contracts by: (i) having better command of fiduciary management procedures; (ii) rapidly completing administrative, financial, and accounting procedure manuals; (iii) renewing working capital without delays; (iv) quickly authorizing *chèques d'appel de fonds* (withdrawal applications) submitted to the Treasury; (v) mastering procurement procedures as soon as possible; (vi) recruiting motivated and highly skilled experts; (vii) incorporating provisions for the possible depreciation of the lender's currency into project budgets; (viii) strengthening coordination of development partners' participation; (ix) eliminating causes of instability among project staff, which are often related to the high turnover of those in charge of ministerial portfolios; (x) rigorously assessing and budgeting the costs of works covered by the state's contribution.

- *Alternatives for Improving Budget Processes*

25. **In practice, the MEF monopolizes the process of selecting the projects to be included in the BCI and the new measures to include in operating expenditure.** Since the requests submitted to the MEF far exceed the available budget resources, in practice it is the MEF that selects the projects to be implemented. As regards capital expenditure, it determines the amount of resources needed for the budget and establishes their programming schedule; as for operating expenditure, it determines the new measures to be adopted. Technically, the MEF cannot replace the sector's ministries to carry out these duties correctly. Consequently, these ministries should create the necessary conditions to allow them to make decisions based on detailed information about the costs, results, beneficiaries, and impact of the various projects, and define transparent criteria for project selection.

26. **Applying the SMTEF does not change the sectoral ministries' assessment and budgeting practices.** As in the past, new measures are sometimes added to the reassessed A-base budget for operating expenditure. For capital expenditure, however, the continuation of ongoing projects and programs and new presidential initiatives leave little room for new projects that are consistent with the objectives of their subsector. Furthermore, contrary to the essence of this programming instrument, no sectoral SMTEF yet exists for both operating expenditure and investment projects and programs. This shortcoming needs to be addressed to respond to the sectoral (not ministerial) demands of the SMTEF.

27. **Although they provide an appropriate framework, the NAIP along with the Investment Plan and its performance framework are not yet being used to develop sectoral and subsectoral SMTEFs.** With the Investment Plan, the agricultural sector made significant progress in planning by implementing an inter- and intra-sectoral allocation of public expenditure based on objectives applied to all of the subsectors. However, the NAIP and the Investment Plan have not yet been used to define the SMTEF

of the sector's ministerial departments; the authorization of the NAIP, the Investment Plan, and the ten-year strategic plan have not been used as SMTEF development tools either. Even if these budget planning and programming tools were used to develop the subsectoral MTEF, a strong political commitment would be needed to establish and implement institutional arrangements that define the roles of the sector's various ministries.

28. **Shortcomings in the preparation of sectoral ministries' budgets reduce the ministries' ability to negotiate with the MEF.** Their budget preparation process and negotiations with the MEF can be improved. The sectoral ministries can be more convincing to the MEF and development partners by improving the general coherence of the policy strategies they implement and the quality of their SMTEF by avoiding duplications, synchronizing their efforts, and pooling their resources. They can also rank their priorities, commit themselves to shared outcomes with all of the private and public actors, provide a detailed description of cost estimates, and define the scope of their responsibilities to achieve their objectives if they receive fewer material, human, and financial means than requested. They can also be more convincing by aligning the programmed investments with the credit limits set by the ME, and by determining the way in which capital expenditure will be modified in light of an increase or decrease in these limits before and after the budget act is enacted.

29. **The Government's financial constraints lead to frequent blocking of proposed commitments, and to budget adjustments and reductions, which creates considerable uncertainty in the implementation of the activities of the sector's public administrations and projects.** Cash flow constraints block the implementation of administrative activities and development projects and destabilize the activities of agricultural administrations and projects. The MEF must guarantee greater stability in the implementation of APE by improving its forecasting methods and putting an end to extra-budgetary commitments.

30. **Performance reports fail to fulfill their designated function.** They are not used to provide positive and negative criticism of administrators or those responsible for the substandard performances observed, neither within the various ministries nor when the MEF examines budget proposals.

31. **Important projects should undergo impact assessments.** Development projects and programs do not yet systematically undergo impact assessments. Although development projects are monitored on a fairly regular basis, ex post assessments, and especially impact assessments, are rarely conducted, and their results are seldom shared with the beneficiaries or published. The results of those carried out have rarely been taken into consideration for the development of new projects and programs, and they have not given rise to training in the expertise required for this type of exercise. Rigorous impact assessments of large projects, but also of several public projects in certain geographic areas, would provide valuable insight into the effects of APE. Various tools can be used, such as the monitoring of APE, experimental and non-experimental assessment methods, etc. The results of such assessments could serve as a basis for informed decision making,

i.e., based on solid empirical evidence instead of the degree of influence of various interests.

32. **Given the considerable disparities between the demands of the sectoral ministries and the allocations approved by the Government after budgetary review, which results in a lowering of SMTEF objectives, the way in which the budget is prepared should be reviewed in order to avoid "disappointing" the spending ministries.** One option could be to explore the possibility of giving all of the ministries the indicative amount of their upcoming budget, based on the results of the implementation of previous budgets, revenue projections, and new priorities. Except under extraordinary circumstances, overspending by 10 percent the indicative amount communicated to each ministry in April could be tolerated.

33. **A knowledge base compiling the results of APE monitoring and evaluation would have a positive impact on the sectoral ministries' budget preparation process.** A knowledge base should be created including all the monitoring reports on operating expenditure, as well as the evaluation reports of ongoing projects led by the various sectoral ministries. These reports should also be made for projects funded from external resources and implemented directly by lenders or other entities. The results of these reports should be used to positively or negatively critique achievements, correct any shortcomings, and reallocate resources to the highest priority areas. An annual synthesis of these reports would provide valuable insight for the compiling of the new budget.

SUMMARY OF RECOMMENDATIONS

RECOMMENDATIONS	Implementation timeframe	Expected result	Technical difficulty/ risk level	Economic costs and benefits
1. REVIEW OF AGRICULTURAL DEVELOPMENT POLICIES				
Create a central coordination unit for more coherence in the activities of government actors (ministries and agencies in the agricultural sector).	Short term	High	Average	Least cost, high economic benefits
Fill the sector's strategic and technical positions with quality human resources, independently of ministerial appointments.	Medium term	High	Average	Least cost, high economic benefits
Strengthen capacities of human resources (training and retraining) and create motivating conditions for managers and other staff.	Medium term	Average	Low	High cost, high economic benefits
Modernize the public administration of the agricultural sector by improving the service conditions of technical staff (material, logistic, financial, and other) to improve their performance with regard to project and program development, implementation, and evaluation.	Short term	High	Low	Low cost
Bring presidential initiatives in line with ongoing projects to avoid straying from the initial objectives of these projects.	Short term	High	High	
Construct a permanent framework for consultation between the ministerial departments and producers' organizations (POs).	Short term	Average	Average	Least cost, high economic benefits
Involve grassroots actors in the development of the SMTEF.	Short term	Average	Low	Least cost, high economic benefits
Introduce legislative reforms to create a more favorable	Medium term	High	Average	High economic

environment for production, marketing, processing of agricultural products, and ecosystem restoration.				benefits
Strengthen farmers' ability to create organized structures to defend their interests, access and manage appropriations, and formalize their relations with supply chains (both suppliers and customers).	Medium term	Average	Low	
Coordinate clearly stated objectives with the strategies and means to guarantee their success.	Short term	High	Low	
2. BUDGET PROCESSES AND PERFORMANCE				
Implement a strategic planning process so as to have sufficient financial resources (implement a phase during which line ministries develop and prepare a multi-year strategic programming framework).	Short term	High	Low	Low cost, average economic benefits
Have a critical mass of skilled human resources capable of successfully completing the technical and budget planning.	Medium term	High	Low	
Improve effectiveness in budget implementation by mastering and abiding by regulations and public procurement procedures.	Short term	High	Average	
Give monitoring and evaluation its proper place in project and program management.	Short term	High		
Improve the sector's budget preparation process to make it more realistic.	Short term	Average	Low	
Set up a donor (development partner) coordination system.	Short term	Average	Low	High economic benefits
Develop management mechanisms to reduce disbursement delays.	Short term	Average	Average	
Have a procurement plan on hand and provide at least a three-month delay for the drafting of bidding documents.	Medium term	Low	Low	
Use outsourcing to address the lack of expertise in the sector's project	Short term	Low	Low	

and program development.				
Conduct impact studies in addition to the regular monitoring of development projects.	Medium term	Average	Low	Low cost
3. GREATLY IMPROVE THE EFFICIENCY OF AGRICULTURAL PUBLIC EXPENDITURE				
Strengthen the sector's technical and budget deconcentration by increasing regional staff's ability to act in the field.	Medium term	Average	Average	Average cost
Promote private investment in the agricultural sector.	Medium term	Average	Low	
Allocate available resources based on the comparative advantages of the regions.	Medium term	High	Low	
Focus on the modernization of production methods by strengthening the capacities, extension services, and training of rural actors.	Medium term	Average	Low	Average cost
Further intensify agricultural production.	Medium term	Average	Low	Average cost
Conduct periodic assessments of the system of subsidies to the various commodities.	Short term	Average	Low	
Plan the agricultural input supply system.	Short term	High	Low	High economic benefits
Reform agricultural subsidies in order to ensure correct targeting of the beneficiaries based on objective criteria, and reduce the number of subsidized commodities and the range of subsidies granted.	Short term	High	Average	High economic benefits
Develop and implement innovative strategies for the adoption of new technologies and the application of technical itineraries in the various subsectors.	Short term	High	Low	Average cost
Support the development of farmers' organizations to defend their interests, access and manage credits, and formalize their relations with supply chains (suppliers and customers).	Medium term	High	Low	

Significantly increase the study and research project budget.	Short term	Average	Low	Average cost
Make public investment in roads, research and development, and ecosystem preservation a government priority in order to guarantee sustainable agricultural growth.	Short term	High	Low	
Refocus public projects around the production of public goods and let the market drive the production of private goods.	Short term	High	Low	
Re-examine the number of projects inscribed in the BCI in order to reduce management costs and facilitate coordination, control, and evaluation.	Medium term	Average	Low	Low economic benefits

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ANNEXES

Annex 1: Rural development policies

The measures envisaged by the state are stated in guidelines such as the Poverty Reduction Strategy Papers (PRSP I and II), the Agro-Sylvo-Pastoral Law (LOASP), and the Accelerated Growth Strategy (AGS).

The Poverty Reduction Strategy Papers (PSRPs)

After its first PSRP (2003–2005), Senegal drafted its PSRP II (2006–2010), which provides a frame of reference for the country's economic and social development. This paper presents the struggle against poverty as the Government's main priority. In fact, it constitutes the basis for formulating sectoral development plans and investment programs. The following are the main poverty-reduction objectives: doubling per capita income by 2015 as part of strong, balanced, sustainable, and better distributed growth; expanding access to essential social services while speeding up the creation of basic infrastructure to strengthen human capital before 2010; eradicating all forms of exclusion and establishing gender equality, in particular in primary and secondary education, by 2015. Under PSRP II, the strategy for growth and poverty reduction centers on four approaches: (i) creating pro-poor wealth and growth; (ii) speeding up promotion of access to basic social services; (iii) social protection, and prevention and management of risks and disasters; (iv) good governance and decentralized and participative development.

To promote the objectives of the poverty reduction strategy and the MDGs, the Accelerated Growth Strategy (AGS) was developed.

The Accelerated Growth Strategy (AGS)

The AGS seeks to consolidate the macroeconomic gains from the previous decade and sustainably raise the growth rate by creating the conditions for further increases in productivity in order to achieve a growth rate of 7 to 8%. It is built around five priority sectors:

(i) Agriculture and agro-industries
(ii) Fisheries and aquaculture
(iii) Tourism, cultural industries, and handicrafts
(iv) Textiles and clothing
(v) ICT and online services.

The AGS is aimed at ensuring strong growth in the targeted sectors, with a ripple effect on the entire economy, and at strengthening intersectoral synergy.

The Agro-Sylvo-Pastoral Law (LOASP)

In June 2004, the state adopted the LOASP (*Loi d'Orientation Agro-Sylvo-Pastorale*) which lays out general provisions and overall guidelines for development of the agricultural, sylvicultural, and pastoral sectors over the next 20 years. This law provides the basis for development of medium-term operational programs such as the National Agricultural Development Program (PNDA), the National Livestock Development Program (PNDE) and the Forestry Action Plan for Senegal (PAFS).

The state had previously prepared and approved sectoral policy letters as a strategic framework, with the intention that agriculture should fully play its role as an engine of the economy.

In 1984 the New Agriculture Policy (NPA) represented a new phase in agricultural development policy. However, in the wake of the devaluation of the CFA franc, and to remedy the NPA's dysfunctions, the state set up the Agricultural Sector Adjustment Program (ASAP). The Government's renewed determination to develop the primary sector can be seen in the drafting and approval of various sectoral policy papers:

Policy Paper on Agricultural Development (LPDA), 1994
Policy Paper on Sectoral Environmental Development (LPERN), 1997
Policy Paper on Institutional Development in the Agricultural Sector (LPI), 1998
Policy Paper on Livestock Development (LPDE), 1999
Policy Paper on Decentralized Rural Development (LPDRD), 1999
National Strategy on Food Security (SNSA), 1999
Sectoral Policy Paper on Water and Sanitation, 2001

Policy Paper on Development of the Groundnut Industry, 2003
Forestry Policy of Senegal (2005–2025), 2005
National Action Plan for Adaptation to Climate Change (NAPA), 2006
Sectoral Policy Paper on Fishing and Aquaculture (2007–2010), 2007

The Government's latest initiative is the Great Agricultural Offensive for Food and Abundance (GOANA), which represents Senegal's response to the world food crisis of 2007. Its objective is to meet the challenge of food sovereignty, to avoid any risk of food shortages or famine, and to produce for export.

The Sectoral Medium-Term Expenditure Framework (SMTEF)

The SMTEF is defined as an iterative decision-making process that makes it possible to determine macroeconomic constraints and plan the implementation of sectoral policies. A second definition from the same source introduces the SMTEF as "…a coherent set of strategic objectives and public expenditure programs that defines the framework in which the operational ministries can make decisions regarding the allocation and use of their resources" (World Bank manual, 1998). The SMTEF is thus part of a results-oriented management approach with reference to strategic planning, the program concept, and the autonomous decision-making of national managers. An essential aspect of the exercise is establishing links between budget allocations, setting objectives, and monitoring performance. In Senegal, formulation of the SMTEF began in 2002 in the form of a pilot project based on the PRSP, with the participation of the Ministry of Education, the Ministry of Health, the Ministry of the Environment, and the Ministry of Justice.

Annex 2: Linkage of NAIP, SMTEF, AGS, and PRSP

	Investment Plan Objectives	LOASP	PRSP Objectives	SMTEF Objectives	AGS Objectives
Agriculture	1. Ensure consistent, transparent coordination of sector activities and interventions.	Reduce the impact of climate-related, economic, environmental, and health risks by managing water, diversifying production, and training rural inhabitants in order to improve the population's food security and achieve national food sovereignty going forward.	1. Reduce the vulnerability of agricultural activities.	1. Improve and secure the productive base.	Promote investment in the sector by domestic and foreign private investors
	2. Contribute to the sustainable boosting of agricultural production and to promoting efficient, wealth-creating agricultural development	Establish a system to encourage private investment in agriculture and rural areas.	2. Promote land development and productive investments.	2. Boost production and productivity.	2. Support the emergence of world-class producing and exporting companies.

	3. Facilitate modernization of mostly family-run farms, and intensification of activities in order to significantly boost production.	2. Improve rural living conditions and environment, mainly through access to infrastructure and public services, with balanced and consistent development of the territory.	3. Intensify and modernize agricultural production.	3. Improve the sector's efficiency.	3. Integrate small producers into globalized value chains.
	4. Raise the professionalization level of actors; support the union-organizing process and establish a social-protection system.		4. Promote agroindustry.		4. Make the place of origin a major actor in the horticultural produce segment.
		3. Improve the income and living standards of rural populations and establish a social-protection system for them.	5. Increase and diversify agricultural revenue.		5. Modernize the sector through the carry-over effects of the horticulture sub-industry into other areas (particularly agricultural training for human resources, modernization of infrastructure, and transfer of techniques and technologies.
			6. Strengthen the role of farmers' organizations.		6. Significantly increase the volume and range of production .intended for the domestic market and for export.
			7. Improve food security.		
Livestock	1. Increase the productivity of traditional livestock raising and the traceability of animal		1. Make pastoral and agro-pastoral livestock raising more secure.	1. Improve livestock production.	

	products.				
	2. Improve livestock-raising know-how in Senegal		2. Increase the productivity of the subsector in order to guarantee food security and raise incomes	2. Make livestock raising more secure.	
	3. Contribute to preserving the population's health.		3. Improve conditions for marketing animal products.	3. Improve marketing conditions.	
			4. Strengthen the institutional framework for better sector management.	4. Strengthen the institutional framework.	
Fisheries	1. Ensure sustainable management and restoration of fishery resources,		1. Ensure sustainable management and restoration of fishery resources.	1. Ensure sustainable management and restoration of fishery resources.	
	2. Contribute to reducing poverty in fishing households and sustainably maintain production, processing, and marketing of fishery products.		2. Satisfy domestic demand for fishery and aquaculture products.	2. Satisfy domestic demand for fishery products.	1. Maintain the already substantial share of the Senegalese export sector and the remarkable increase in this activity's contribution to meeting the population's need for animal protein and food security.
	3. Reduce post-catch losses, facilitate access of fishery products to major consumption centers.		3. Develop fishery resources and modernize small-scale fishing.	3. Develop fishery resources and modernize small-scale fishing.	2. Lay the groundwork for effective sector participation in speeding up economic growth beginning no later than 2015.
	4. Promote aquaculture to compensate for the reduction in catch sizes.		4. Promote professionalization and enhanced qualification of actors in the fishing	4. Promote professionalization and enhanced qualification	

			and processing sector	of actors in the sector	
	5. Develop marine algal resources.			5. Improve the system for financing fishing and aquaculture.	
Environment	1. Contribute to preserving animal and plant biodiversity through sustainable development and management of forests, protected areas, and community nature reserves.		1. Promote rational management of natural resources and preserve biodiversity.	1. Improve natural-resources and environmental knowledge base.	
	2. Contribute to reducing the degradation of lands and plant cover through conservation measures and sustainable management of forestry and pastoral potential and biodiversity.	Environmental protection and sustainable management of natural resources by understanding and improving soil fertility.	2. Combat desertification and safeguard flora and fauna.	2. Reverse the current trend of degradation of natural resources and the environment in accordance with the relevant international agreements.	
	3. Promote agro-sylvo-pastoral activities through greater involvement of the private sector in managing natural resources and the environment.	Improve the environment and production quality so that agriculture can be an engine for industrial and artisanal development, and to better meet the needs of domestic and foreign markets (subregional and international).	3. Combat pollution and risks.	3. Increase participation by the private sector, populations, and local communities in the coordinated management of natural resources and the environment	
			4. Safeguard the marine and coastal environment.		
			5. Develop wild resources.		

			6. Promote sustainable forms of production and consumption in all sectors of development.		
Cross-cutting Program	1. Improve conditions for developing existing village irrigated areas and thereby facilitate intensification and diversification of irrigated crops.				
	2. Strengthen the system for preventing and managing food crises to increase the anticipatory capacities of various actors in Food and Nutrition Security (FNS).				
Coordination, monitoring & evaluation	1. Improve the quality of policy and strategy design and implementation in the country by facilitating planning, review, and dialogue processes.				

Source: Government of Senegal, Agricultural Sector Investment Plan, 2010.

Annex 3: Expenditure by USAID in the agricultural sector not included in the Consolidated Investment Budget, in USD, March 16, 2011

	LIST OF USAID'S PROJECTS AND IMPLEMENTATION PARTNERS ON March 16, 2011				
Main contractor	Project name	Sub-contractor	Start date	End date of project	Funding
Funding	USAID/Economic Growth and Value Chain Development project	Relief International J. E. Austin Associates Aid to Artisans (ATA) Land O'Lakes Inc. (LOL) Focus Africa Michigan State University (MSU) Booz Allen Hamilton (BOZ)	4/16/2009	11/30/2013	47,192,452
International Resources Group (IRG)	USAID/WulaNafaa-Agriculture and Natural Resource Management	Cooperative League of the USA (CLUSA), also known as National Cooperative Business Association (NCBA) Winrock International World Wildlife Fund (WWF) Senegal	8/11/2008	8/30/2013	22,593,258
Virginia Tech	USAID/Fruit Fly Project		7/10/2008	3/31/2011	400,000
RTI	USAID/PEPAM	Enterprises Works Associates in Rural Development	7/21/2009	7/12/2011	20,392,323
World Food Program	USAID/World Food Program-CFSVA		6/26/2009	12/31/2010	300,000
Peace Corps	USAID/Food Security		9/30/2009	9/29/2013	1,570,000
USAID/USDA-PAPA	USAID/Support to the Directorate of Plant Protection		1/18/2010	1/31/2012	1,256,000

LIST OF USAID'S PROJECTS AND IMPLEMENTATION PARTNERS ON March 16, 2011

Main contractor	Project name	Sub-contractor	Start date	End date of project	Funding
International Relief and Development (IRD)	USDA/Project for the Development of the Cashew Nut Value Chain in the Gambia River Basin	Acting Differently for Development in Africa (AGADA) ICAP/Tesito African Cashew Alliance (ACA) Action Sud de Ziguinchor-AJAC Lukal	2008	2011	3,200,000
Cooperative League of the USA (CLUSA), also known as National Cooperative Business Association (NCBA)	USDA/Food For Progress - Development of the Millet Value Chain in the Arachidier Basin		2009	2011	4,200,000
Africare	USDA/Food For Progress - PRODIAKT-Microfinance and Promotion of Agribusiness		2009	2011	6,200,000
Counterpart International	USDA/Food For Progress - Capacity Building		2008	2011	11,000,000
USDA/APHIS	Regional Activities on Avian Influenza		2011	2012	250,000

Annex 4: List of projects closed before 2007 and still included in the 2009 BCI

Project description
Development of the Baila Valley
Irrigation pilot project in the Bas Ferlo Valley
Program for modernizing and intensifying agriculture
Special food security program
Hortibak Ph. II
Program for increasing soil phosphate levels
Promotion of agricultural exports (PPEA)
National rural infrastructure program I
PRIMOCA
PRODAM Intermediary Phase
Niayes micro-dam project
Bakel area hydro-agricultural development
Control of Epizootics/PACE
Milk development program
Village Management and Development Project (PADV - *Projet d'aménagement et de développement villageois*)
Fisheries research vessel
Kayar fishery complex
Support program for the fisheries sector
Kaolack fishery complex
Acquisition of 6 patrol boats
Training of fishermen
Thiaroye pier
Hann fishing port
Development of the Goudomp site
Lompoul fishery complex
Construction of fisheries inspection and surveillance posts
Construction of fishery services and surveillance of the Matam region
Restoration of the center of Mbane
Construction of a fish farm in Guidick

Source: MEF, BCIs for 2007–2009.

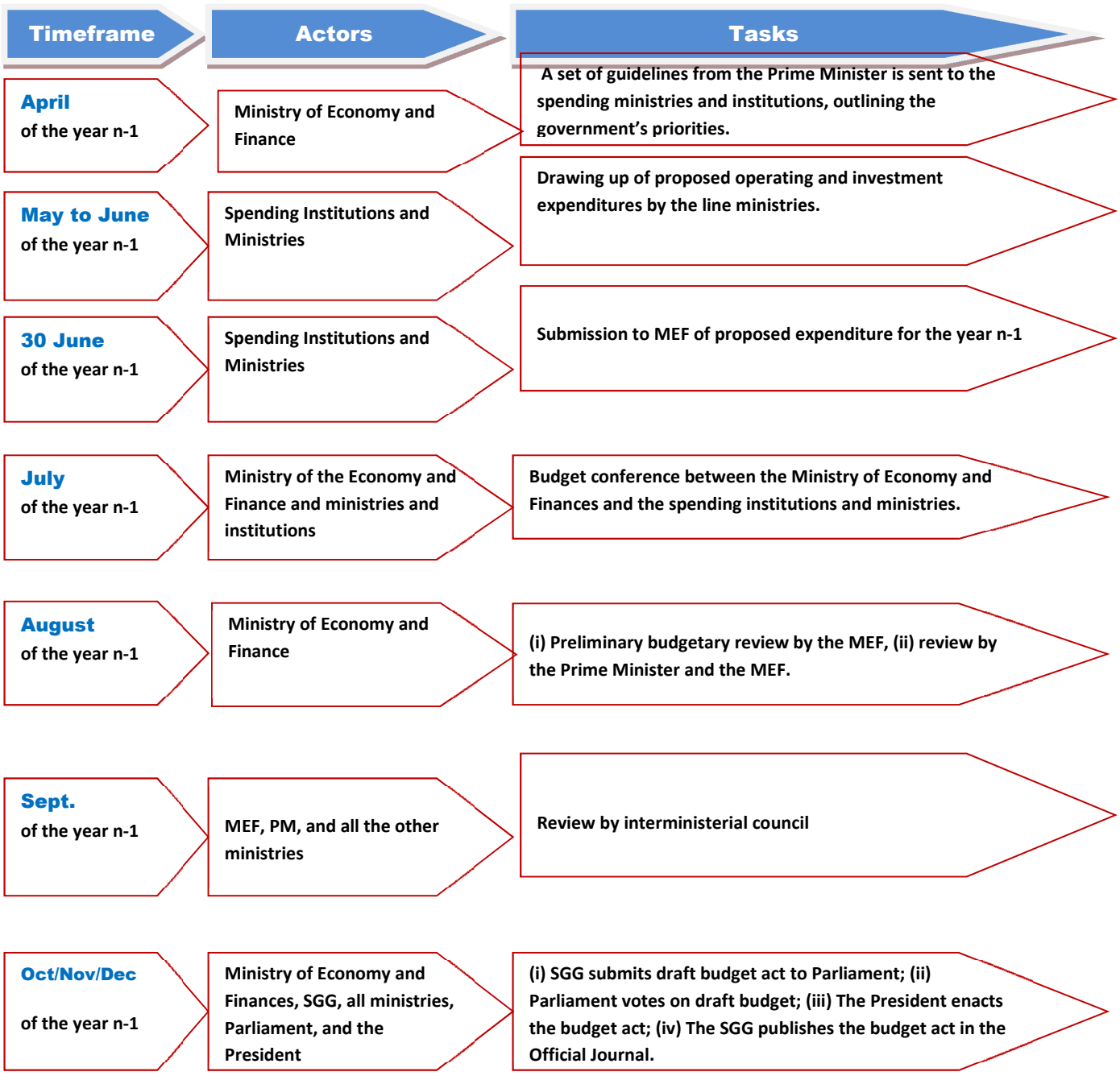
Annex 5: Agricultural projects that mobilized the most resources, 2007–2009

Description	Amount (CFAF)	Percentage	Cumulative percentage
Agricultural Program/Fertilizer Component	34,098,496,010	11.75	11.75
Agricultural Program/Special Programs Component	23,306,377,295	8.03	19.78
Reconstitution of Seed Assets and Soil Restoration Program	12,342,560,555	4.25	24.03
PEPAM-Sub-progr. AfDB DWS in rural areas, regions of Louga, Kolda, & Zig	12,285,318,370	4.23	28.26
National Self-Sufficiency in Rice Program (*Programme national autosuffisance en riz*)	11,895,881,093	4.10	32.36
Program to boost the groundnut industry	11,324,704,953	3.90	36.26
8th SAED Mission Statement	10,136,842,400	3.49	39.75
Agricultural market development program	10,052,589,376	3.46	43.21
Cold chain program, Phase II	8,511,601,480	2.93	46.15
National Local Development Program (PNDL)	8,156,905,168	2.81	48.96
Reconstruction project for the Diamel works	6,542,846,533	2.25	51.21
DWS project, N'Diosmone Palmarin	6,297,634,252	2.17	53.38
National Self-Sufficiency in Rice Program (repair of hydro-agricultural works)	5,700,000,000	1.96	55.34
Project for drinking water supply, Japan 13	5,619,000,000	1.94	57.28
Support program for combating avian flu	5,219,838,750	1.80	59.08
Agricultural Dev. of Matam (PRODAM)	4,416,199,566	1.52	60.60
Emergency reconstruction project in Casamance	4,324,957,471	1.49	62.09
Agric. modernization & intensification (PMIA) - consolidation	4,003,511,004	1.38	63.47
Reinforcement of approach for combating bush fires (*Projet renforcement du dispositif de lutte contre feux de brusse*/PROLFB)	3,825,403,415	1.32	64.79
Support program for socio-economic development for peace in Casamance (*Programme d'appui au développement socio-économique pour la paix en Casamance*/PROCAS)	3,707,502,710	1.28	66.06
Regional hydro-electric and solar program	3,462,942,378	1.19	67.26
Hydro-agric. dev., ANAME, Phase III	3,300,441,433	1.14	68.39

Agricultural Program/Producer Price Support Component	3,300,000,000	1.14	69.53
Bakel Area Hydro-Agricultural Developments	3,263,693,819	1.12	70.65
Rural Facilities Program	3,132,138,696	1.08	71.73
Support to cotton industry actors	3,003,000,000	1.03	72.77
PEPAM under the Luxembourg program in the Thiès and Louga regions	2,940,875,633	1.01	73.78
Local Small-Scale Irrigation Project	2,650,001,939	0.91	74.69
Retour Vers l'Agriculture (return to agriculture/REVA)	2,497,315,516	0.86	75.55
Agricultural Program/Natural Resource Mgmt	2,447,904,188	0.84	76.40
Integrated Marine and Coastal Resource Mgmt	2,411,197,947	0.83	77.23
Agricultural Program/Livestock Component	2,275,292,295	0.78	78.01
Framework program for mutual obligations in agriculture	2,233,557,029	0.77	78.78
Development of Micro-garden Sector in Senegal	2,206,482,521	0.76	79.54
Project for Promotion of Rural Entrepreneurship (PROMER II)	2,031,217,526	0.70	80.24
Allocation from the BCI to the FNH	1,962,636,449	0.68	80.92
Africa Emergency Locust Project	1,957,479,967	0.67	81.59
Réal Reservoir Program	1,957,394,759	0.67	82.27

Source: MEF, BCIs of 2007–2009

Annex 6: Process for drawing up the budgets of the ministries related to the agricultural sector



Annex 7: Typical contents of a budget framework letter for a draft budget act

The budget framework letter starts by contextualizing the preparation of the next budget. Based on the context of the global economy and its implications for the national economy, projections for GDP growth are given, as well as the estimated revenue received during the first quarter of the current year compared to projections. In addition, the spending ministries who are subject to the SMTEF are informed of the date on which they will be notified of their approximate sectoral allocations for the next budget period. The Prime Minister concludes by asking the members of the Government to take into account the state's priorities during the upcoming budget preparation, and lists these priorities. In the case of the 2010 budget (see Budget Framework Letter no. 0006/MEF/DGF/DB/DB.1 of April 30, 2009), these were the following:

- ✓ Confirm the implementation of the poverty reduction strategy;
- ✓ Continue to follow the course set for implementing the AGS;
- ✓ Orient actions towards achieving the MDGs;
- ✓ Pursue the GOANA;
- ✓ Intensify programs for rural electrification and diversification of energy sources;
- ✓ Accelerate school and sanitation infrastructure programs;
- ✓ Pursue the PNDS (National Health Care Development Plan);
- ✓ Strengthen programs for addressing youth unemployment;
- ✓ Extend the use of the results-based budgeting method;
- ✓ Accelerate the modernization of the tax services;
- ✓ Strengthen cooperation with donors, notably through the consolidation of the ACAB (Framework Agreement on Budget Support);
- ✓ Payment of all domestic debt in order to renew the country's productive fabric.

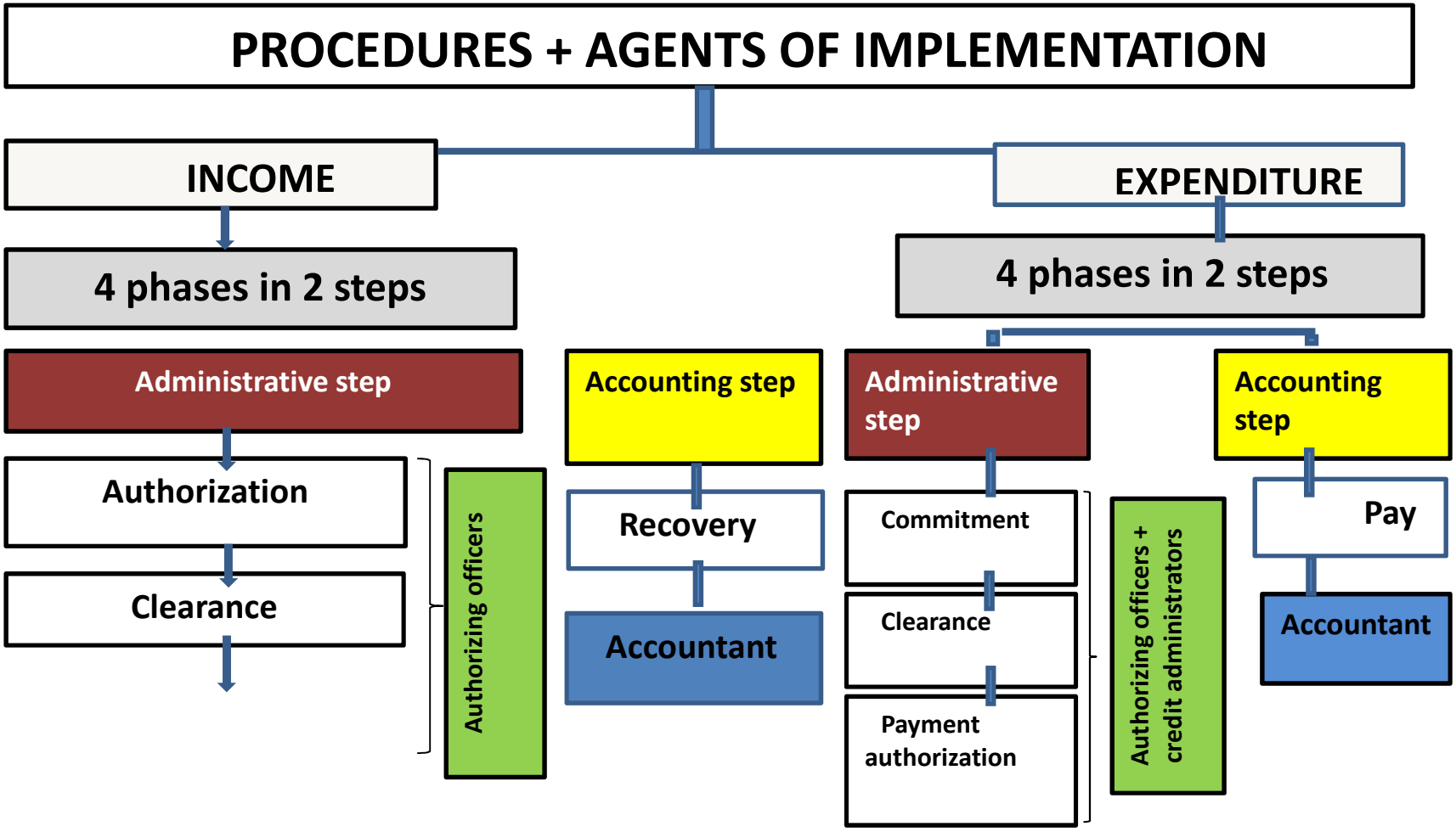
Annex 8: Typical example of an SMTEF document

The Sectoral Medium-Term Expenditure Framework (SMTEF) is structured as follows:

- An executive summary;
- An introduction;
- An outline of the mission of the ministry that manages the sector(s) in question;
- An analysis of the sector and the results achieved;
- The sector's challenges and constraints;
- The objectives and indicators, and how they relate to the programs;
- The various programs, their components, their sub-components (where applicable), projects, and activities;
- The triennial budget plan;
- The implementation mechanisms;
- Mechanisms for monitoring and evaluation;
- Financing of the sector.

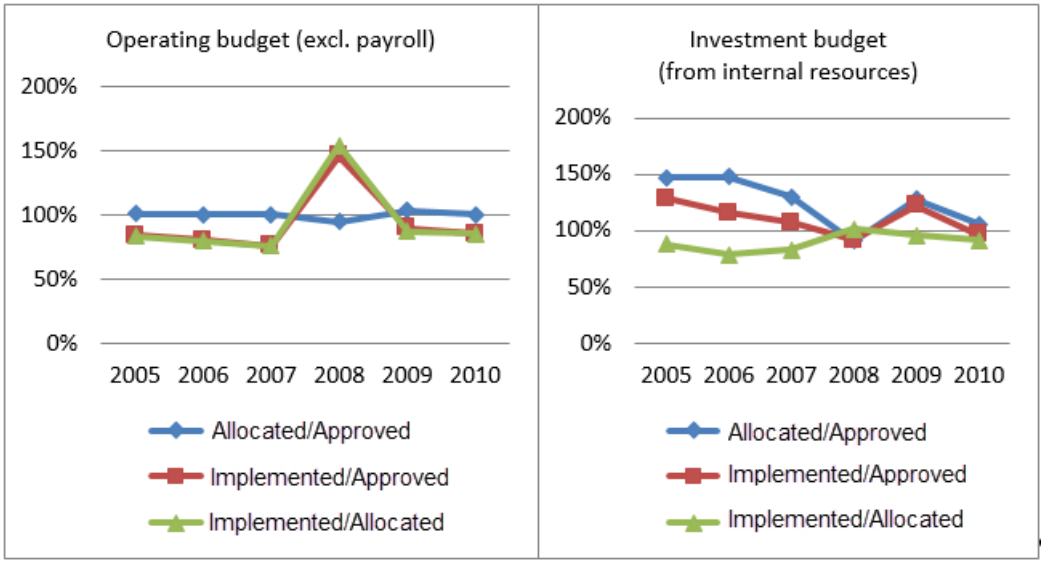
We have included in these annexes tables showing performance indicators and the log frame, along with a reconciliation of the SMTEF with the itemized budget.

Annex 8: Procedure for budget implementation in the ministries



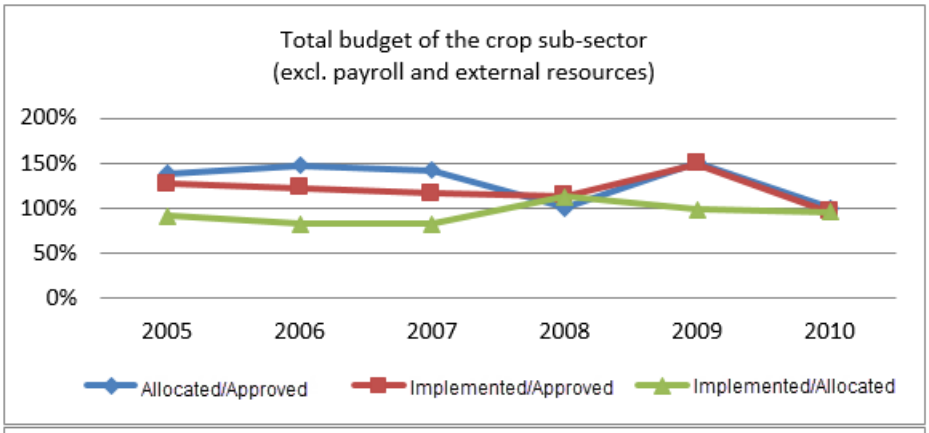
Annex 9: Budgets of agricultural subsectors

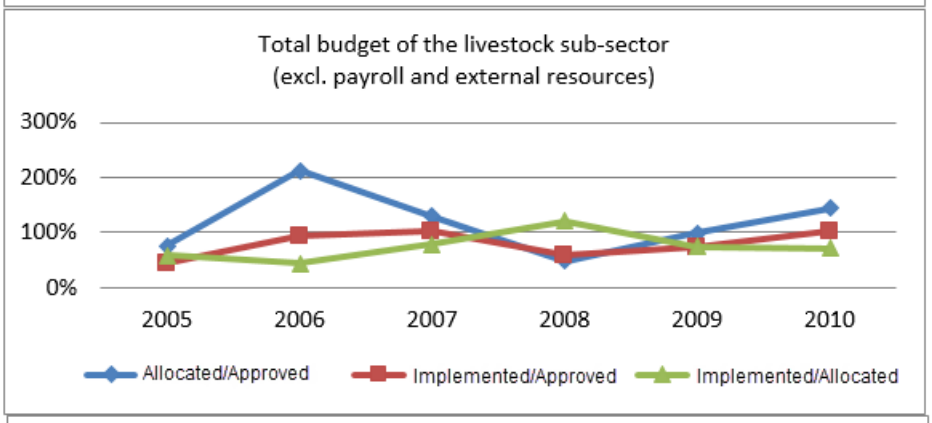
Figure A.9.1: Operating and investment budgets of agricultural ministries, 2005–2010

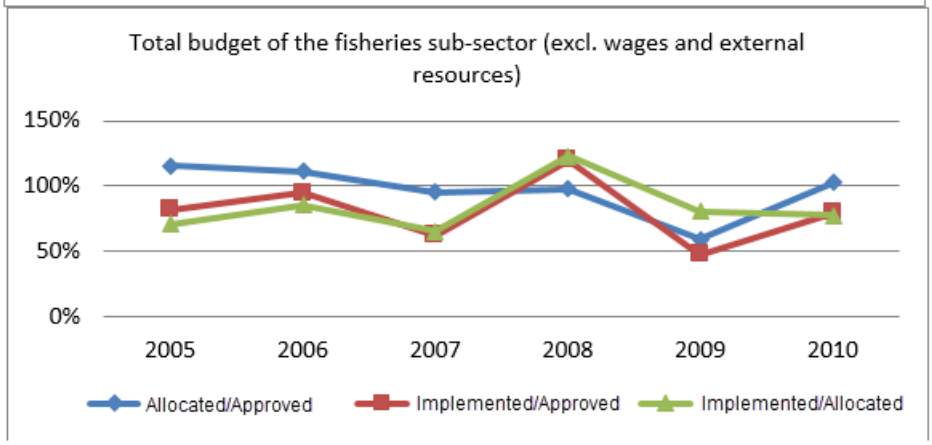


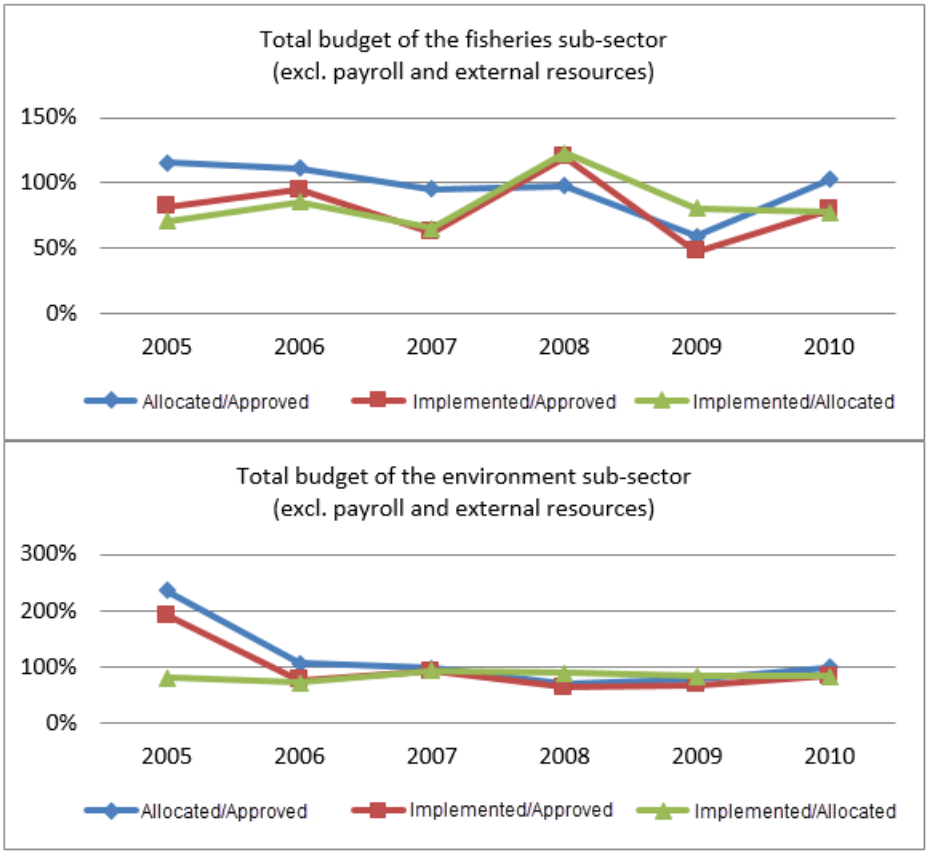
Sources: Senegal Budget Act, 2005–2010

Figure A.2: Total public expenditure from internal resources, 2005–2009


Total budget of the crop sub-sector
(excl. payroll and external resources)
200%
150%
100%
50%
0%
2005
2006
2007
2008
2009
2010
Allocated/Approved
Implemented/Approved
Implemented/Allocated


Total budget of the livestock sub-sector
(excl. payroll and external resources)
300%
200%
100%
0%
2005
2006
2007
2008
2009
2010
Allocated/Approved
Implemented/Approved
Implemented/Allocated


Total budget of the fisheries sub-sector (excl. wages and external resources)
150%
100%
50%
0%
2005
2006
2007
2008
2009
2010
Allocated/Approved
Implemented/Approved
Implemented/Allocated



Sources: Senegal Budget Act, 2005–2010