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2021 | Evaluation Report

Senegal

Impact assessment of the initiative

“Sector Country Programme – Agriculture and Rural Development in Senegal (2014-2018)”



PAPSEN: AID 9577 – PAIS: AID 10424

This independent evaluation report has been commissioned by Office III of the General Directorate for Development Cooperation - Italian Ministry of Foreign Affairs and International Cooperation. The company STEM-VCR was designated to carry out the evaluation by means of a public award procedure pursuant to art 36 of the Italian Public Procurement Code.

STEM-VCR evaluation team: Giorgio Brandolini (Team Leader); Amadou Cissé; Mody Ba; Adama Sarr Samb; Fatou Dieng; Malik Sada Sy; Maurizio Floridi; Federica Floridi.

The opinions expressed herein represent the views of the evaluators, and are not necessarily shared by the commissioning body.

The cover image represents the traditional threshing of rice in the village of Mbalo Kounda, Commune Kiro Yero Goka, Kolda region (photograph by G. Brandolini)

The images on the back cover represent: top left, entrance to an irrigation farm in the municipality of Taïba Niassène, department of Nioro, Region of Kaolack. Above right voltaic system for the irrigation of a banana farm, municipality of Balambi, department of Sédhiou, region of Sédhiou (photographs by G. Brandolini). Photo below: dry grain management committee, construction of the grain warehouse, municipality of Linkiring, department of Vélingara (photograph by M. Sy).

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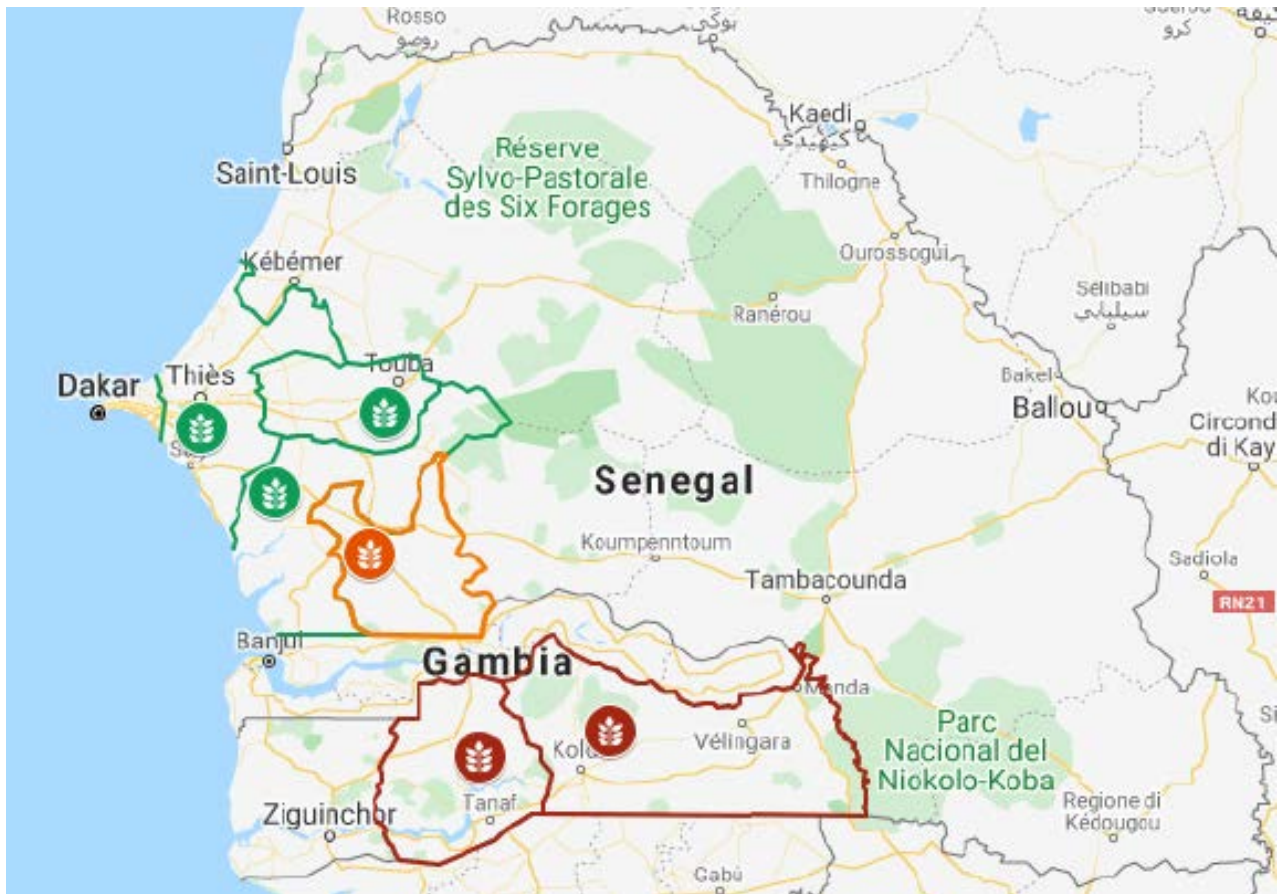
LIST OF ACRONYMS

ADF	Agricultural Development Fund
AFD	French Development Agency
AfDB	African Development Bank
AGS	Accelerated Growth Strategy
AICS	Italian Agency for Development Cooperation
ANCAR	Agence Nationale de Conseil Agricole et Rural (National Agency for Agricultural and Rural Advice)
ANIDA	Agence Nationale pour l'Insertion et le Développement Agricole (National Agency for Integration and Agricultural Development)
AWPB	Annual Work Plan and Budget
BAME	Bureau d'Analyses Macro Economiques (Office of Macro Economic Analysis)
BEI	Bio-Economics Institute
CDH	Centre de Développement Horticole (Horticultural Development Center)
CFA franc	Franc of the Financial Community of Africa
CNCAS	Caisse Nationale de Crédit Agricole du Sénégal (National Bank of Credit Agricole of Senegal)
CNRA	Centre National de Recherches Agronomiques (National Center for Agronomic Research)
CSO	Civil Society Organization
DAC	Development Assistance Committee
DAGE	Direction de l'Administration Générale et de l'Équipement (Directorate of General Administration and Equipment)
DBRLA	Direction des Bassins de Rétention et des Lacs artificiels (Department of Retention Basins and Artificial Lakes)
DGCS	Directorate General for Development Cooperation
DRDR	Directions Régionales de Développement Rural (Regional Directorates of Rural Development)
DREFCCS	Direction des Eaux, Forêts, Chasse et de la Conservation des Sols (Department of Water, Forests, Hunting and Soil Conservation)
EIG	Economic Interest Group
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GNP	Gross National Product

GOANA	Grande Offensive Agricole pour la Nourriture et l’Abondance (Great Agricultural Offensive for Food and Abundance)
Ha	Hectare
HCI	Human Capital Index
HDI	Human Development Index
IFAD	International Fund for Agricultural Development
IHDI	Inequality-adjusted Human Development Index
ISRA	Institut National de Recherche Agricole (Senegalese National Research Institute)
LBA	La Banque Agricole (The Agricultural Bank)
LDP	Local Development Plan
LGEC	Local Gender Equality Committee
LOASP	Loi d’Orientation Agro-Sylvo-Pastorale (Agro-Sylvo-Pastoral Orientation Law)
LTU	Local Technical Unit
MAECI	Ministry of Foreign Affairs and International Cooperation
MAER	Ministry of Agriculture and Rural Equipment
MASHAV	Israeli Agency for International Development Cooperation
MEFP	Ministère de l’Economie, des Finances et de la Planification (Ministry of Economy, Finance and Planning)
MPI	Multidimensional Poverty Index
NAFSN	New Alliance for Food Security and Nutrition
NAIP	National Agriculture Investment Plan (Programme National d’Investissement Agricole)
NGO	Non-Governmental Organization
NPMU	National Project Management Unit
NRC	National Research Council
OECD	Organization for Economic Cooperation and Development
PAFA	Programme d’Appui aux Filières Agricoles (Agricultural Sector Support Program)
PAIS	Programme Agricole Italie-Sénégal (Italy-Senegal Agricultural Program)
PAPSEN	Programme d’Appui au Programme National Agricole (Support Program for the National Agricultural Program)
PES	Plan Sénégal Emergent (Plan for Emerging Senegal)
PFDLS	Programme Fonds de Développement Rural de Sédhiou (Sédhiou Rural Development Fund Program)
PMU	Project Management Unit

PNAR	Programme National pour l’Autosuffisance en Riz (National Plan for Self-Sufficiency in Rice)
PNIASAN	Programme National d’Investissement Agricole pour la Sécurité Alimentaire et la Nutrition (National Agriculture, Food Security and Nutrition Plan)
PRACAS	Programme d’Accélération de la Cadence de l’Agriculture Sénégalaise (Accelerated Programme for Agriculture in Senegal)
PRIMOCA	Programme de Développement Rural Intégré de la Moyenne Casamance (Integrated Rural Development Program of Middle Casamance)
PRSP	Poverty Reduction Strategy Paper
RBA	Results-Based Approach
SC	Steering Committee
SDDR	Sous-Direction de Développement Rural (Departmental Rural Development Service)
SDG	Sustainable Development Goals
SNDES	Stratégie Nationale de Développement Economique et Social (National Economic and Social Development Strategy)
SNEEG	Stratégie Nationale Equité et Egalité de Genre (National Strategy for Equity and Gender Equality)
STC	Service and Training Centre
T	Metric tonne
TIPA	Techno-Agriculture for Poverty Alleviation
TIS	Territorial Information System
UIMCEC	Union des Institutions Mutualistes Communautaires d’Epargne et de Crédit (Union of Mutualist Community Savings and Credit Institutions)
UNICEF	United Nations International Children’s Emergency Fund
USAID	United States Agency for International Development
USD	United States Dollar
WB	World Bank
WHOS	World Health Authority

LOCATION OF OPERATIONS



SINTHESYS

The PAPSSEN (Programme d'Appui au Programme National Agricole) and PAIS (Programme Agricole Italie-Sénégal) programmes are part of the "Agriculture and Food Security" sector of Italian-Senegalese cooperation. They were funded through the **bilateral channel** partly through donations and partly credit, and will be implemented between 2013 and 2021 as part of the Italy-Senegal Country Programme 2014-2016.

The two projects promote the implementation of Senegal's agricultural policies by means of aid credits of € 45 million and of a grant component. Namely, for the financing of a fund experts, of an on-site management fund, and for the involvement of Institute of Bio-Economics (IBE) of the National Research Council (CNR) in strengthening the applied research capabilities of the Senegalese Institute for Agricultural Research (ISRA). In particular, these projects promote the increase of agricultural production and the improvement of food security and incomes of rural populations, strengthening the horticultural-fruit and cereal-rice value chains in eighteen departments of six regions with a high poverty rate, of the Centre and the South of the country.

On the base of the evaluation exercise conducted, the two projects were characterised by the performances described below according to the evaluation criteria adopted.

Relevance. As stated in the "Three-year Planning and Steering Document 2017-2019", Senegal is a priority country for Italian Cooperation, which has significantly increased its activities in the country in recent years. This special focus was reaffirmed by coordination work within the EU, which led to the "Joint European Strategy Document for Senegal 2018-2023". The sector strategy for agriculture and rural development defined by Senegal and supported by the coordination of European member states identified an overall objective for this sector aimed at improving the food security of the population.

The strategy of the two projects is complementary in both geographical and operational terms. The projects collaborate with the decentralised agricultural agencies and services of the Ministry of Agriculture and Rural Equipment (MAER), which they involve in the planning and implementation of field activities, and with farmers' associations, which enable the mobilisation of beneficiaries. The project activities focus on strengthening and transferring technology to producers, while contributing to a limited extent to building the capacity of agricultural institutions and support services. This strategy is flawed in that the limited capacities and resources of local agricultural services force the two projects to adapt their activities to the contingent priorities of MAER and the assisted decentralised agricultural services, limiting the use of knowledge and technologies resulting from studies and research carried out in collaboration with the NRC.

Coherence. The two projects are consistent and integrated with Senegal's agricultural policy and with the priorities of Italian Cooperation in the country, as well as with the 2019-2021 three-year planning document and the Guidelines for the Development of Rural Agriculture and Food Security (2012) of the DGCS (Directorate General for Development Cooperation). The Italian Agency for Development Cooperation (AICS) participated in joint planning by the EU, undoubtedly after the elaboration of the two projects, but in any case is a point of reference for implementation and coordination with the other member states. Participation in (and coordination of, since 2019) the relevant donor group (rural development) also enables coordination with other non-European countries and multilateral agencies.

Efficiency. The resources available for field activities are very limited, especially in departments in the central regions assisted solely by PAPSSEN. Collaboration with Senegalese agricultural agencies and MAER regional and departmental offices mobilises additional professional resources for setting up and monitoring activities, but ultimately further fragments the projects' interventions to cater for the contingent priorities of these bodies, and therefore limits their joint impact on the fruit, vegetable

and rice value chains. The Senegalese procedures for awarding contracts and the Italian Cooperation processes for approving the various phases of tenders created delays in the execution of the two projects; this was further affected by the COVID-19 pandemic in 2020. The most serious delays concern the building of infrastructure, which is subject to laborious bidding and monitoring procedures, and the allocation of credits to producers (Agricultural Development Funds or ADF), which is also subject to laborious pre-selection work carried out by departmental committees set up by the PAIS. This process is prior to the economic and financial evaluation of applications by the lender banks, which in turn is slowed by their own internal procedures. The result of this was that PAPSEN had spent 18% of its available budget at the end of 2019, PAIS 9%, and PAPSEN/NRC 100% of available funds, while the ADFs, which began in 2018, had distributed approximately €0.4 million in credits by the end of 2020.

The projects allocate the AICS an expert fund and an on-site direct management fund to provide technical assistance for initiatives. The PAPSEN project employed an expert from Italian Cooperation from the outset. The PAIS project has been more uneven. The PAIS expert fund was not used, and in 2019 it was converted to a fund for direct on-site management, following an AICS resolution not to use missions but local contracts in the various locations. Since 2018, the experts have been managed by the single on-site fund for technical assistance at the AICS headquarters in Dakar. Directly managed on-site funds were used to contract Italian and Senegalese experts for technical and administrative work, and other expenses related to initial PAPSEN/NRC activities, funding agreements, logistics and office costs.

The planning and monitoring of the two projects focuses on the awarding and execution of contracts rather than the results of their activities. So, the information collected and the indicators calculated are not used for the decision making and orientation of the projects. This situation has prevented the results obtained so far being used to formulate content for communication campaigns and to publicise the innovations and good practices produced.

Effectiveness. PAPSEN/NRC. Research conducted by the NRC in collaboration with the ISRA produced approximately 50 agro-environmental and socio-economic studies and mission reports and some forty thematic maps for the territorial planning of the two projects' interventions. The NRC advised PAPSEN (in the central regions) on the strengthening of the ISRA's capacities.

PAPSEN. The PAPSEN project improved equipment in the central laboratories (e.g. the refrigerated chamber), refurbished the experimental farm of the *Centre National de Recherches Agronomiques* (CNRA), created the Service and Training Centre (STC), and contributed to the creation of the Sédhiou and Kolda laboratories, with assistance from the NRC. The project established 3 pilot farms, selected 70 sites for the creation of demonstration irrigated horticultural farms, of which 15 are functioning, trained 1,054 farmers and assisted 807 farmers. Refurbishment work is largely underway or is yet to begin. The 3 pilot farms in Mbassis, Touba Toul and Darou Fanaye Diop do not yet have photovoltaic systems to drive the submersible pumps in the boreholes. The other 55 demonstration farms are not yet operating due to the delay in procurement of the photovoltaic systems that drive the submersible pumps. In some cases, the facilities constructed are inadequate, particularly in terms of irrigation infrastructure and storage facilities. The project contributed to the elaboration of Local Development Plans in 21 municipalities and built 7 cereal warehouses of the 10 planned; it has also planned and is completing the construction of 100 km of tracks to link the production areas to the market in the south of the country.

PAIS. The PAIS project has created local gender equality committees, strengthened producers' associations, particularly women's groups, through training events, and supported agricultural officials in a number of processes instrumental to the execution of project activities. It identified 16 valleys and began work on the development and rehabilitation of lowland soils (hydro-agricultural upgrading of water regulation in rice fields). The project set up departmental committees for pre-

selection of ADF projects, of which 136 were approved (404,009 euros), supporting both infrastructure creation and production.

Impact. The combination of different actions, such as the hydro-agricultural upgrading of water regulation on farms, training and the supply of seed, machinery and fertilisers, as well as the establishment of a sub-chain for rice seed, increased horticultural yields and doubled - and in some cases tripled - rice yields. This growth shows considerable annual variation across the central regions, due to incomplete or inadequate water systems and farmers' dependence on regular supplies of subsidised inputs. The most significant results were achieved in the south, where increased rice production by assisted women farmers not only met their own consumption needs but, for the first time, provided a surplus crop whose sale generated monetary income. The greatest difficulties encountered in adopting innovative production techniques are access to water, which many farmers in the central regions consider too expensive, and inadequate maintenance and repair of farm equipment. This situation indicates that the transfer of these technologies has been set up in a simplistic, or rather *top-down*, manner, lacking adequate trialling or at least comparative field demonstrations that would provide farmers with the knowledge they need in order to choose the options most appropriate to their abilities and needs. Delays in the granting of ADF credits have often forced recipients to limit crop advances and consequently expansion. The allocation of funds without adequate accompanying measures, such as training and technical assistance, has limited the efficient use of inputs purchased with these funds. Lastly, the scattered nature of activities across the territory, coupled with the delays affecting activities, impacts the projects' ability to work together to integrate value chains and remove the constraints that limit agricultural productivity.

Sustainability. Assistance to the MAER focused on building a certain amount of technical capacity to support the implementation of agricultural policy. In effect, this policy guides the choices of stakeholders in the value chains supported by the projects by limiting their capacity for self-regulation. This situation also influences the transfer of technology from the ISRA to farmers by encouraging the dissemination of innovations whose viability has not been proven on the ground. The sustainability of project-related agricultural innovation therefore depends on redirecting agricultural policy towards greater self-regulation of value chains.

Communication and visibility. The PAPSEN/NRC component has been the most active in the area of communication. The NRC publicised the results of research and studies conducted with the ISRA. The websites created by the NRC remain active and provide access to the studies and cartography created in the early years of PAPSEN and PAIS, as well as the NRC's recent contribution to technical assistance in the south of the country.

Gender equality. PAIS, and to a lesser extent PAPSEN, encouraged the empowerment of women, who are the main stakeholders in Senegalese agriculture. The work of the two projects had a positive impact on women's participation in the management of agricultural production, following the formulation of a gender-equality strategy and subsequent detailed action plan (2017) by a female Senegalese expert. This work involved the organisation of local committees and the execution of systematic activities in this area, with notable results in the training and empowerment of members of women's EIGs, particularly in the south, where farmers have begun the transition from self-consumption to commercial production.

Best practices. The activities carried out under the two projects highlighted the following best practices.

Technology transfer value chain. Integration between applied research or experimentation and field demonstrations facilitates the sustainable adoption of innovation, as long as there is no attempt to impose predetermined technology packages. To reap the benefits of this approach, comparative

testing of various technologies, including traditional techniques, should be carried out, so as to take into account the varying capacities and starting points of individual farmers.

Territorial planning. Carrying out territorial studies (agro-ecological and socio-economic) allows the constraints and conditions that determine the success of technology transfer to be identified. The validation and dissemination of such studies is an integral part of territorial planning, as it valorises the contribution of beneficiaries in defining objectives and methods of intervention.

Empowerment of women. The organisation of women farmers valorises the role they play in this sector, raising them from providers of family labour to protagonists in crop choices. Strengthening them must therefore include building technical capacity, but also building the management capabilities of women's associations.

Lessons learned. In terms of lessons learned, the evaluation team believes that, for the continuation of the two projects or for future interventions to be planned in the same area, it is useful to consider the aspects described below.

Strategic setup. An approach not exclusively based on alignment with national agricultural policy, but rather on the development by project managers of its own strategic vision, facilitates the transfer of innovative technology - the added value of international cooperation - to farmers.

Strengthening of and participation in producer associations. Strengthening the management capacities of beneficiaries' associations increases their weight in directing and implementing project activities geared to technology transfer. It encourages the involvement of vulnerable groups who are often excluded from such initiatives due to their difficulties in dialogue with technical services and their propensity for risk.

Recommendations. In conclusion, the evaluation team makes the following general recommendations. More specific recommendations are provided in Appendix 8.

AICS, PMU. Results-based project management. Review the logical frameworks of projects so that their indicators (no more than ten *core indicators* for use in strategic planning and communication) measure progress toward achieving outcomes and objectives, i.e. project-induced changes in beneficiaries' activities, conditions and context. Develop specifications for each indicator with the baseline data collection plan, and train staff to collect data.

AICS, PMU. Link monitoring and communication. Use *key indicator* values for institutional (annual reports) and external (circulation among partners and beneficiaries) communication. Use indicator values in communication campaigns to ensure they are shared with all stakeholders (upstream and downstream accountability of projects).

AICS. Fruit and vegetable and rice value chains. Discussion with other donors involved in funding Senegal's food security regarding the requirements for the self-regulation of agricultural value chains, in a participatory approach to *governance* which reduces the influence of subsidies in guiding farmers' choices. The results of such discussions should contribute to the formulation of a common position in discussions with the MAER on the role played by subsidies in directing agricultural production.

PMU. Strengthening the technology transfer chain. Carry out demonstrations of technologies and production innovations which allow comparison between proposed technologies. Support field demonstrations with success stories and exchange and discussion between farmers. Systematically include the elements that determine the success of technology transfer (capitalisation of best practices, comparative trials, results-oriented training) in technical assistance actions.

MAER, PMU in collaboration with banks. Systematise the experience of farmers' credits and develop sector studies, or rather, *business plans*, for reference when calculating the risks of activities to be financed.

PMU. Training aimed at ownership of knowledge by beneficiaries. Establish criteria to which training activities must adhere. These should include: (a) the development of a trainer's manual and concise documentation (posters, operational guides) for use in teacher training and field demonstrations, and (b) a requirement that beneficiaries formulate an agenda or plan for using the skills and knowledge acquired. In this way, it will be possible to target training to concrete objectives, plan assistance to the beneficiaries and measure the level of their learning.

PMU. Expert mobilisation plan. Develop a training and technical assistance plan that outlines the skills required to implement the technologies promoted by the two projects. This plan should define the skills of experts contracted directly by the projects and those required of the staff of partner agricultural agencies. Include these specifications in memoranda of understanding with the agencies mentioned.

AICS, MAER. Building capacity for the repair of agricultural machinery and equipment. Create a network of mechanics who can repair farm machinery and distributors of parts located close to users, as an alternative to the mere distribution of machinery. In the event that a training programme for mechanics cannot be implemented, strengthen or create mechanisation services. The density of the mechanisation network should be based on thematic studies and mapping and therefore benefit from the reactivation of the Geographic Information System developed by the NRC at the start of the PAPSEN project.

AICS, PMU, MAER. Organisational strengthening and gender equality. Develop or implement (in collaboration with other initiatives) training modules on results-oriented management, targeting EIG leaders and particularly female leaders.

1. Procedure of awarding and fulfilment of the contract

Following the call for tenders CIG 81283774E5 issued in December 2019 by Office III of the Directorate General for Development Cooperation (DGCS) of the Ministry of Foreign Affairs and International Cooperation (MAECI) for the project "Independent evaluation of the cooperation initiative: Sectoral Country Programme for Agriculture and Rural Development in Senegal (2014-2018)", with final award in ministerial decree no. MAE00390022020-03-04 of March 4, 2020, the company STEM-VCR srl was appointed to carry out the evaluation. The initiatives under examination are:

- The project "PAPSEN - Programme of Support to the National Programme of Agricultural Investment in Senegal - PNIA" - AID 9577";
- The project "PAIS - Programma Agricolo Italia Senegal (Italy-Senegal Agricultural Programme)" - AID 10424.

Although information on the final awarding of the contract was released on 8 May 2020, the gradual spread of the Covid-19 pandemic in West Africa, and Senegal in particular, and the consequent government measures for its containment, caused a delay in finalising the contract, since evaluation work on the ground would have been highly problematic due to the impossibility of carrying out visits to the sites involved in the two projects.

In view of the ongoing pandemic and the low likelihood of loosening or removing restrictions adopted to contain the risk of infection, the MAECI, in a communication dated 24 August 2020, ordered the signing of the contract to be postponed to a date to be decided by monthly assessment, starting 1 October 2020, of any improvement in the health situation in Senegal and associated relaxation of the restrictions on movement.

Following the improvement of the health situation in Senegal and the easing of restrictions, the contract was signed on 5 November 2020. After the inaugural meeting on 11 December 2020 (held remotely in compliance with the Italian government's measures to counter the Covid-19 pandemic) between representatives of DGCS (Directorate General for Development Cooperation), AICS (Italian Agency for Development Cooperation) and STEM, the evaluation project was officially launched on 14 December with a maximum period of 135 days' work from that date.

Following the drafting and approval of the *inception report* (14/1/2021), in addition to preparatory work involving extensive communication with some of the institutions and organisations involved in the implementation of the projects, which kept the team busy during December and January, the field mission began on 25 January 2021.

2. Context of the initiative evaluated

2.1 Country situation

Thanks in part to **long-standing political and institutional stability**,¹ Senegal's economic growth was among the highest in Africa between 2014 and 2018, standing at over 6% per year. For the FY 2019, GDP growth was 5.3%, down from 6.3% in 2017. The services sector continues to make the greatest contribution to GDP growth, while on the demand side, investment (up 12.5%) and exports (up 7.2%) were the most important growth drivers².

¹ Senegal and Tanzania are the only countries on the African continent not to have suffered coups d'état or violent political and institutional revolutions since gaining independence in the early 1960s.

² <https://www.worldbank.org/en/country/senegal/overview>

In 2018, Senegal's GDP was USD 24,129,599,552 and with regard to import/export (balance of payments), it should be noted that this constitutes 57.94% of GDP: imports of goods and services account for 36.09%, while exports account for 21.85% of GDP. In 2018, Senegal had a **negative trade balance** of USD 4,448,167,910³. In 2017, agriculture accounted for 16.9% of Senegal's GDP⁴.

Although Senegal's GDP per capita has improved from USD 2,296 in 1990 to USD 3,395 in 2019, it is below the average for Sub-Saharan African countries, but above the average for countries with low human development⁵. It is useful to consider the figure of GDP per capita alongside the Gini inequality index, which provides an indication of inequality in income distribution. This value is 0.403, indicating a **high concentration of income** (the value ranges from 0 to 1, where 0 indicates that all citizens receive the same income)⁶.

Economic growth has also been accompanied by an **improvement** in the Human Development Index (HDI), which rose from 0.376 in 1990 to 0.512 in 2019. Senegal ranks among the world's lowest countries for human development, coming in 168th out of 189. Senegal's HDI value is below the average of 0.513 for countries in the low human development group, and below the average of 0.547 for countries in Sub-Saharan Africa⁷.

Low as the HDI is, however, it should be noted that there has been a general improvement over the past 30 years, with an increase of 36.2%. Among the various components of the HDI, it is evident that Senegal's life expectancy at birth increased by 10.7 years between 1990 and 2019; average years of schooling rose by 1 year; and expected years of schooling rose by 4.1 years. Furthermore, Senegal's GNI⁸ per capita **increased** by approximately 47.8%⁹.

However, when the HDI value is adjusted for inequality¹⁰, the figure drops from 0.512 to 0.348. As inequality in a country increases, so does the loss of human development. Senegal records a **decrease of 32.0%** due to inequality in the distribution of HDI parameters. This reduction is greater than the average reduction due to inequality for low HDI countries, which stands at 31.4%, and for Sub-Saharan Africa, which stands at 30.5%. In addition, Senegal's reduction is greater than those of Burkina Faso and Rwanda,¹¹ which recorded reductions due to inequality of 30.1% and 28.7% respectively. The Coefficient of Human Inequality for Senegal is 31.2%¹².

Adding to this picture is the high Multidimensional Poverty Index (MPI) rate that¹³ characterises Senegal. The most recent publicly available survey data for Senegal's estimated MPI is for 2017 and calculates that 53.2% of the population is classified as **multidimensionally poor**, with a further 16.4% **vulnerable to multidimensional poverty**¹⁴.

Between 2010 and 2020, Senegal's Human Capital Index (HCI) value increased from 0.39 to 0.42. This means that a child born today in Senegal will be 42% as productive when they grow up as they

³ <https://wits.worldbank.org/CountryProfile/en/SEN>

⁴ <https://www.cia.gov/the-world-factbook/countries/senegal/#economy>

⁵ <http://hdr.undp.org/en/indicators/194906>

⁶ <http://hdr.undp.org/en/countries/profiles/SEN>

⁷ http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SEN.pdf p.4

⁸ The gross national income (GNI) of a country is calculated by adding or subtracting various income flows between countries from gross domestic product (GDP)

⁹ http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SEN.pdf p.2

¹⁰ The Inequality-adjusted Human Development Index (IHDI) was introduced in 2010 by the Human Development Report. The index is calculated by discounting inequality from the Human Development Index.

¹¹ In Sub-Saharan Africa, Senegal is compared with Burkina Faso and Rwanda, whose HDI values are ranked 182 and 160 respectively http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SEN.pdf p.4

¹² http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SEN.pdf p. 4-5

¹³ This indicator measures the overlap of three dimensions of deprivation: health, education and standard of living

¹⁴ http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/SEN.pdf p. 6-7

could be if they enjoyed a full education and complete health. Senegal's HCI is above average for the Sub-Saharan Africa region, but below average for low-to-middle income countries¹⁵.

In terms of the **employment rate**, 42.7% of the working population (over 15 years old) was reported to be employed in 2018, with service-sector employment accounting for 56.5% of the total. In the same year, 6.6% of the working population was unemployed; with the ratio of women to men at 1.23 (ie 123 unemployed women for every 100 unemployed men). Unemployment appears to be accentuated among young people: in 2018, **youth unemployment** (ages 14-25) was around 8.2%, with a female-to-male ratio of 1.38¹⁶.

However, it should be noted that the **informal sector** is an important component of the economy, albeit with a slight downward trend from 44% in 1991 to 36.8% in 2017; the average weight of the informal sector on GDP is 42.1% (Medina and Schneider, 2019¹⁷). 90% of non-agricultural employment in 2015 was informal¹⁸. This figure would be higher if it included agricultural employment.

2.2 Brief description of the development policies active in the country and its political, socio-economic, cultural and institutional situation

2.2.1. Development policies

Regarding development policies, following the implementation of two generations of poverty-reduction strategies (Poverty Reduction Strategy Papers - DSRP) between 2003 and 2010, Senegal, with the support of international technical and financial partners, drew up a **National Economic and Social Development Strategy (SNDES)** for the period **2013-2017**; this constituted the framework for coordinating public interventions. This strategy is part of the **Plan for an Emerging Senegal** (Plan Sénégal Emergent - PSE) adopted by the Senegalese government as a reference for its medium and long-term economic and social policy, to coordinate the efforts of the public sector, international development partners, public-private partnerships and citizen participation.

The PSE is based on a **new model of development** whose main objective is to **promote economic growth, with a strong impact on human development at the horizon of 2035**. In this sense, the Senegalese government intends to consolidate achievements, particularly in terms of democratic *governance*, and to refocus priorities in order to ensure lasting economic, political and social stability. Achievement of these objectives is based on the implementation of a major investment programme in promising sectors which are capable of stimulating strong and sustained growth.

The thinking behind the development of the PSE led to the conclusion that for more than five decades, Senegal has experienced economic growth rates close to population growth. However, this performance **has not led to a sustainable reduction in poverty**. Overall, the decline in the incidence of poverty has been particularly low in rural areas.

Within this framework, the predominantly young population has limited opportunities to access basic social services and integrate in the labour market.

The weakness of GDP growth is partly explained by **insufficient levels of productivity**, lack of infrastructure to support production, difficulties in access to inputs, and also by agriculture's

¹⁵ https://databank.worldbank.org/data/download/hci/HCI_2pager_SEN.pdf

¹⁶ <http://hdr.undp.org/en/countries/profiles/SEN>

¹⁷ Medina, L., & Schneider, F. (2019). Shedding light on the shadow economy: A global database and its interaction with the official one.

¹⁸ <https://data.worldbank.org/indicator/SL.ISV.IFRM.ZS?locations=SN>

vulnerability to climate-related risk, the poor structuring of agro-pastoral supply chains, issues with access to land and adequate funding, and *governance problems*.

The PSE's aspiration of greater wellbeing is expressed in a vision of "*An emerging Senegal in 2035 with a united society under a rule of law*". The **strategic orientations** that must guide the initiatives undertaken to translate this vision into tangible action and results which benefit the population are based on three axes, aimed at

- a **structural transformation of the economy** through the consolidation of current growth drivers and the development of new sectors which generate wealth, employment and social inclusion, and have a strong capacity to export and attract investment;
- a significant **improvement in the living conditions of the population**, a more sustained effort to combat social inequalities by preserving the resource base and encouraging the emergence of viable territories;
- the strengthening of security, stability and *governance*, the protection of rights and freedoms and the consolidation of the rule of law in order to create **optimum conditions for social peace and** facilitate the full development of potential.

Of course, due to the global Covid-19 pandemic, the implementation of development policies **slowed considerably** in 2020, and this situation is expected to last through much of 2021.

2.2.2. The evolution of agricultural policy in Senegal

Turning more specifically to Senegalese agricultural policies, these follow a **parallel path to the evolution of national development strategies**. The various and successive iterations of these policies are inspired and supplemented by the PAPSEN and PAIS projects (the technical-economic feasibility study of the PAPSEN project was conducted in 2010).

Senegal's agricultural policies are aligned with the priorities of the **New Alliance for Food Security and Nutrition (NAFSN)** a partnership between governments,¹⁹ international and local businesses and other partners to improve food security and combat poverty. NAFSN was founded in 2012 as the initiative of the G8, and Senegal became a member in 2013. Since its creation, several representatives of international civil society have complained that the real function of NAFSN is to create an environment favourable to direct foreign investment in the agricultural sector, claiming that NAFSN imposes on African farmers a system of unfair competition that gradually expropriates them of their land; France's heavy involvement in this programme has also been questioned. More criticism came in 2015 from the French National Assembly (lack of transparency in *governance* and the rules defining which investments to favour) and,²⁰ in June 2016, from the European Parliament, which passed a resolution to formally call for more transparency and *governance from* NAFSN.

In this context, the **National Agriculture Investment Plan (PNIA)** covering the **period 2011-2015** complements the efforts made by the Senegalese government over several years to ensure that agriculture played an important role in economic growth, food security and poverty reduction by 2015, and in ensuring a more balanced distribution of agricultural activities among agro-ecological zones, regions and local communities.

The Senegalese government has always attached great importance to the need to **accelerate the transformation of agriculture** to increase productivity and competitiveness, so that it becomes the engine of the economy. To achieve these macroeconomic objectives, an **Accelerated Programme**

¹⁹ The member countries of this alliance are Benin, Burkina Faso, Ivory Coast, Ethiopia, Ghana, Malawi, Mozambique, Nigeria, Senegal and Tanzania

²⁰ Following these numerous criticisms, in February 2018 France announced its withdrawal from NAFSN

for Agriculture in Senegal (PRACAS 2014-2017) was established, **considered** as the **agricultural component of the PSE**.

The medium-term goal of PRACAS is to achieve food and nutrition security from priority products with excellent **development potential and high added value**. The programme specifically addresses the three aspirations outlined in the PSE's Axis 1, "Structural Transformation of the Economy and Growth": (i) strengthening Senegal's food security and rebalancing a trade balance negatively impacted by food imports, (ii) developing competitive integrated sectors with high added value, and (iii) preserving socioeconomic balances and stimulating the rural economy. In accordance with the objectives of the PSE regarding agriculture, PRACAS is based on:

- **Modernisation of the family farm business** through professional training for farmers and adequate financing and equipment;
- **The emergence of agricultural and rural entrepreneurship based** on a smart synergy between agribusiness and family farming, which is respectful of the environment, motivated to adapt for climate change and based on a supply chain approach;
- **Downstream-driven supply chain organisation;**
- **Good involvement of young people and women** in the agricultural sector, with the creation of farms that generate employment and the strengthening of technical expertise and appropriate equipment;
- **Resilience in vulnerable populations.**

PRACAS takes an approach based on promoting rural areas, which is deemed the only viable process to ensure **consistent, balanced, and sustainable land** use planning.

Lastly, the **PNIASAN (2018-2022)**(National Agriculture, Food Security and Nutrition Plan), the most recent agricultural policy development in Senegal, represents the second generation of the PNIA and is the national version of Senegal's regional agricultural policy. It was developed in accordance with the guidelines of the Agro Silvo Pastoral Orientation Law, the Emerging Senegal Plan and the Sustainable Development Goals, the national policy on combating climate change.

The PNIASAN builds on lessons learned from the formulation and implementation of the first-generation PNIA. Indeed, the PNIA's track record showed a number of **positive accomplishments, but also some shortcomings**. By way of illustration, if we look at agricultural performance, according to official statistics Senegal recorded significant results for certain crops - cereals, peanuts, onions - increasing the sector's contribution to GDP from 13% in 2011 to 15% in 2015. On the other hand, the coordination and management of the PNIA's implementation suffered from the flawed functioning of the bodies put in place for its operation.

The PNIASAN aims to address **four challenges**: (i) improving the quality and quantity of nutrition for a rapidly growing and increasingly urbanised population, (ii) promoting sustainable production systems that are resilient to various shocks, and making these more competitive, (iii) improving the attractiveness of the agricultural sector to young people, women and private investors, and (iv) improving the multi-sectoral *and* multi-stakeholder governance of the agro-silvo-pastoral and fisheries *sector*.

In the face of these issues, **the challenges** include: (i) improving the productivity of strategic and promising sectors, (ii) facilitating the access of vulnerable populations to sufficient good quality food, (iii) better control of water, (iv) reducing post-harvest losses, (v) strengthening the early-warning system for climate shocks and volatility in food prices, (vi) facilitation of market access for family farming products, (vii) improved intersectoral coordination, (viii) improved consultation and dialogue with other operators, etc.

The PNIASAN aims to promote "an agro-sylvo-pastoral and fisheries sector which is the driving force **behind the country's sustainable socio-economic development by 2025.**" Its goal is to "make a lasting contribution to economic development, poverty reduction, and greater food and nutritional security for the Senegalese population." The programme covers agro-sylvo-pastoral, fisheries, food and nutrition and the sector's funding system, and is committed to strengthening the resilience of vulnerable populations by 2025.

To achieve its goals, PNIASAN was designed around six **focus areas**, namely:

- i. Improve and secure the manufacturing base,
- ii. Sustainably increase agro-sylvo-pastoral and fishing productivity and production,
- iii. Develop agro-sylvo-pastoral and fisheries supply chains focused on the growth and formalisation of artisanal processing units and geared to national, regional and international demand,
- iv. Strengthen the food security, nutritional status, resilience and social protection of vulnerable populations,
- v. Improve the business climate, *governance* and funding mechanisms for the agriculture and agribusiness sector,
- vi. Strengthen human capital.

2.3 Description of the cooperation initiative under evaluation

2.3.1 Analysis of the initiative's logic

The evaluation covered by this report concerns two cooperation initiatives with Senegal: the **PAPSEN**- Aid 9577 project and the **PAIS** Aid 10424 project, which extends some of the action and strategy of PAPSEN to new regions, particularly in the south of the country.

The PAPSEN and PAIS programmes are part of the "Agriculture and Food Security" sector of Italian-Senegalese cooperation. They were funded through the **bilateral channel** partly through donations and partly credit, and will be implemented between 2013 and 2021 as part of the Italy-Senegal Country Programme 2014-2016. The two projects support the PNIA and PRACAS with aid credits of €30 million and €15 million respectively.

The two programmes under evaluation include some aid credit components and some grant components, in particular for the funding of an expert fund, an on-site management fund, and for the involvement of the NRC (National Research Council) in cooperation with local entities and with the Israeli research institutions partnered with these. The programmes differ in relation to the promotion of the "service centres for technical assistance" of the PAPSEN project (according to the Israeli model of TIPA: *Techno-Agriculture for Poverty Alleviation*); the local development component (short-term loans and micro-projects) of PAPSEN; the territorial coverage and the creation of "Agricultural Development Funds" to finance the initiatives of women's groups and associations of the PAIS project.

In this way, both projects support Senegal's **agricultural and economic development policies** and in fact share its **Theory of Change** (ToC), which underlies the National Agriculture Investment Plan (PNIA), the National for Economic and Social Development Strategy (SNDES), the Plan for an Emerging Senegal (PSE) and the Accelerated Programme for Agriculture in Senegal (PRACAS); and more generally the strategy of the New Alliance for Food Security and Nutrition (NAFSN).

The theory of change is based on the observation that the unsatisfactory performance of agricultural production led to an economic, social, and political crisis during the decade 2000-2010. A central factor in this situation was the low productivity of family-based agriculture, which, although it

extended to include commercial and food crops, remained heavily dominated **by a few crops for local consumption (millet, sorghum, maize, rice, cassava, and green beans)** and groundnut for trade.

The cropping practices of rain-fed agriculture and, in particular, **vulnerability** to climate change events, even in some regions where irrigation infrastructure is present, contribute to the stagnation of **agricultural production**.

However, this situation is not uniform: in many regions - including those covered by the initiatives evaluated - new production chains are emerging (**e.g. fruit and vegetables**), paving the way for the **transformation of agriculture**.

The intensification of agricultural activities in irrigated vegetable and fruit growing, self-sufficiency in grain production and the modernisation of family-based farming have a **high potential to propel agriculture**. The two cooperation initiatives encourage these three processes by:

- the **development of integrated farms**;
- the **creation of "granary zones"** (with intensified rainwater management);
- the **development of processing capacity for agri-food products**;
- the **integrated development of family-based agriculture** (intensification of production, diversification of agricultural income sources, conversion to crops with higher added value).

The most promising interventions in **support of agricultural growth** include the creation of innovative irrigation schemes; the creation of service centres; land management and the construction of rural infrastructure geared to mechanisation; the introduction of agricultural machinery; and the execution of research.

The two projects were intended to contribute in a **complementary manner** to the goals of the PNIA. Specifically, the **PAPSEN** programme aimed to increase agricultural production and improve the incomes of rural populations by improving food security and promoting local economic development. This consists of the following elements:

- a. **The development of irrigated horticulture and fruit growing** with the technical collaboration of the Israeli Agency for International Development Cooperation (MASHAV) in the central regions of Thiès, Diourbel and Fatick;
- b. **Support for rice farming, horticulture and fruit growing, agricultural mechanisation** and local economic development in the southern regions of Kolda, Kaolack and Sédhiou.

Similarly, the **PAIS** aimed to improve the food security of populations in the regions of intervention covered by the Italy-Senegal cooperation programme, via an approach based on concerted development at local and sustainable level. This consists of the following elements:

- Support for Senegal's **food sovereignty** through the sustainable improvement of rain-fed rice production.
- **Support for the sustainable intensification** of agriculture by building capacity among women and young farmers in rain-fed rice farming, horticulture, post-harvest processing and the marketing of agricultural products.
- Strengthening of the **technical skills** of beneficiaries and project stakeholders.
- Support for **institutional governance** and other stakeholders in sustainable agriculture and food security at central and local levels.

The **direct beneficiaries** of these interventions are:

- Farmers (mostly women), their families, and farmers' associations, economic interest groups, and women's promotion groups in assisted regions that participate in and benefit from rural development projects, training, and the promotion of local economic development.
- Municipalities which, together with the assisted regions, can implement initiatives identified by them in Local Development Plans and benefit from their capacity-building activities.
- The affected technical services and the Senegalese national agro-sylvo-pastoral research system, which benefit from technical support and the provision of the necessary means to increase their capacity and effectiveness, thus supporting agricultural producers.

Indirect **beneficiaries** include:

- The rural populations of the regions involved in project implementation.
- State-run technical services not directly involved in the projects, which will be able to operate in a more efficient institutional setting at the local level.
- Senegal's economic and development partners, who will benefit from improving the productive and administrative capacities of the assisted regions.

The **Ministry of Agriculture and Rural Equipment (MAER)** is the **supervisory body** for the two projects. It executes them through its departments, specialist agencies and decentralised bodies. The Ministry of Economics is a member of the national project-steering committee, alongside MAER, MAECI, DGCS and the Israeli Agency for International Development Cooperation (MASHAV). A trilateral agreement between DGCS, MASHAV and MAER defines their responsibilities and coordination arrangements.

2.3.2 Status of the implementation of project activities

The execution of the two projects and the research component, carried out by the Bio-Economics Institute (BEI) of the National Research Council (NRC), were implemented **flexibly** in accordance with MAER policies and within the framework of the DRDRs and SDDR of the assisted regions and departments. The project documents and funding agreements set out the objectives and the main lines of action, leaving it up to the executors to specify the beneficiaries, technical aspects and methods of implementation. The national PMU, the two project PMUs and the project antennae in the departments interacted continuously with the agricultural authorities and services, with whom they entered into collaborative agreements for the planning and execution of project activities.

Regarding the concisely-defined objectives, the two projects therefore drew up **annual action plans** that defined the geographic distribution of activities and beneficiaries, and the sequence of the components of each initiative (e.g., conducting studies on the improvement of the Samiron and Djimbana valleys, training for the beneficiaries, carrying out the work and distributing inputs, or setting up evaluation committees, selecting and funding investment through Agricultural Development Funds (ADFs), and monitoring and assisting beneficiaries).

As such, the annual action plans required **close consultation** between the project and MAER at national and local levels. This coordination took into account the results of the studies and assistance carried out by the NRC and integrated them into local agricultural planning. The execution of activities was therefore tailored to **the priorities of DRDRs and SDDR**, their capacities, and their relationships with communities and farmers. A typical case is that of seed multiplication, which contributed to the promotion of the ISRA's (Senegalese National Research Institute) improved varieties, benefited farmers and EIGs who gained the trust of decentralised agricultural services, and was carried out according to the availability and production plans of local agricultural authorities.

Clearly, the identification of agricultural priorities (horticulture in the centre and rice farming in the south of the country) reflects the strategy of the projects and contributes to the success of other project

activities in the same areas (the creation of demonstration horticultural farms in the centre, and the hydro-agricultural upgrading of water regulation on rice farms in the south). This approach produced **independent action** in each department and variable time sequencing, because the creation of the farms and the hydraulic-agricultural upgrading of water regulation proceeded at **extremely varied** rates.

The collaboration between the NRC and PAPSEN created knowledge that was used in setting up the activities of both projects. Support for the ISRA led to several studies in the areas of intervention of the two projects, the training of Senegalese researchers, the creation of the Service and Training Centre (STC) in Bambey with the development of its Research Programme, and subsequently the regional seed analysis laboratories. As expected, BEI activities focused on **building knowledge for** horticultural supply chain development in the centre of the country, and creating the conditions that enable rural development in the south.

The NRC assisted MAER in strengthening the Territorial Information System (TIS) that would be used for planning, managing and monitoring project activities. The BEI then assisted the project in producing seeds and conducting demonstrations, as well as carrying out activities to support regional dynamics. Assistance to the ISRA continued after the end of the PAPSEN/NRC project (2016) through consultations and advice provided by Italian researchers to their Senegalese counterparts.

PAPSEN project activities began with **agreements with** MAER units and preparatory studies. Capacity building of research staff and DRDRs were followed by the identification of intervention sites and the establishment of demonstration horticulture farms in the central region. Subsequently, the project carried out activities to assist farmers with training in horticultural production and the distribution of productive inputs (seeds, fertilisers, tools, machinery, etc), still in the central regions.

The activities carried out in the south of the country focused on the elaboration of PDCs, hydro-agricultural upgrading of water regulation in rice farms, construction of grain warehouses, rural tracks, assistance to farmers and distribution of inputs, as well as capacity building for agricultural services and local organisations involved in the project.

The activities of the PAIS project concerned both improved management of rice-growing lowlands in the Kolda region, and the creation of 9 Naatangué farms in Kaolack, as well as assistance to farmers and support in accessing funding from Agricultural Development Funds (ADF), following the signing of the credit concession agreement between the Cassa Depositi e Prestiti (formerly Artigiancasse) and the Senegalese Ministry of Economy, Finance and Planning (MEFP). The agreements between the Ministry of Economics, Finance and Planning (MEFP), MAER and local banks, and the creation of the project pre-selection committees, allowed for the approval of 136 ADF **projects** for a total of 404,009 euros (338 projects were submitted, with a total of 1,932,237 euros).

Assistance to farmers included training and technical assistance, the distribution of productive inputs (seeds, fertilisers), and the strengthening of farmers' associations. Collaboration with agricultural companies focused on **capacity building and** collaboration with agriculture monitoring activities.

It should be noted that the research and the identification of sites and beneficiaries, as well as the allocation of AFD grants, took **longer than expected**. PAPSEN has completed the setup of the STC and demonstration farms, but most of the producers' infrastructure building work had not been completed at the time of the evaluation.

3. Objective of the evaluation

3.1 Type, objective, and purpose of evaluation

The overall objective of the evaluation was to **verify the impact and validity of the** two projects in the rural development sector in Senegal, and to identify good practices to be replicated and lessons learned.

Its specific objective was the **verification of the results achieved and the formulation of recommendations for** the main stakeholders of the projects and their development partners in Senegal, in order to guide future strategies and initiatives in the sector, in particular with regard to the joint Strategy and Programming of Italy and the European Union (EU) in Senegal. The evaluation also tested the impact of these interventions on the **economic empowerment** of women.

The evaluation was designed to produce **information and recommendations useful for improving the management of the interventions** themselves, and to enable identification and management of other cooperation interventions in Senegal and the Sahel region associated with the "modernisation of agriculture to combat poverty".

Publication of the results of the evaluation should make it possible to **report to parliament** on the use of funds allocated for Official Development Assistance, and to Italian public opinion on the validity of making government funds available for cooperation activities. The results of the evaluation and the experience gained will be shared with key cooperation agencies and partners. The evaluation will also foster mutual *accountability among* partners with respect to their reciprocal commitments.

Lastly, by involving the partner country at every stage of the process, the evaluation has contributed to **capacity building in evaluation**.

Also taking into account the indicators contained in the logical framework of each project, the evaluation made a judgment on the relevance of their objectives, as well as the effectiveness, efficiency, impact and sustainability of their interventions. The report took into consideration the initial situation and the external factors affecting the implementation of these initiatives and the results achieved and, in particular, ongoing and foreseeable changes in the social, economic and environmental context and other indicators of development, highlighting the extent to which they are attributable to these interventions and analysing the **mechanisms that determine their impact**.

The team also considered whether and how the monitoring and impact **assessment system** for these projects responds to the *accountability* needs of partner institutions and the Italian public.

Finally, the evaluation examined the **contribution of Italian Cooperation** to Senegal's policies, strategies and programmes, and to the achievement of the Sustainable Development Goals indicated in the project documentation.

3.2 The evaluation path

The evaluation was split up into some **fundamental steps**, corresponding in part to the stages of the evaluation (analysed below). In greater detail:

- the **construction of a knowledge base concerning the setting** in which the project was identified, planned and rolled out;
- the construction of a **shared knowledge base** about mobilised resources, actors involved and actions performed in projects;

- construction of a **shared knowledge base regarding results obtained with actions and the processes and events occurring during their performance**;
- the **interpretation of collected information and understanding of the meaning actions had for the subjects** directly or indirectly affected and involved;
- the **overall interpretation of processes and evaluation of projects based on the categories of relevance, coherence, effectiveness, efficiency, sustainability, impact and visibility**;
- the **identification of best practices and feasible measures to improve** the implementation of any future actions;
- The **formulation of recommendations**;
- The **validation** of the evaluation and recommendations, through dialogue with project stakeholders.

4. Theoretical and methodological framework

4.1 Evaluation criteria

Analysis of the project and its implementation entailed use of the **categories proposed by the OCSE** according to the new definition of December 2019, including the adoption of the **new criterion of “coherence”**²¹. The **new set of** categories adopted is as follows:

- **Relevance**: The extent to which the intervention objectives and design respond to the needs, policies and priorities of beneficiaries, the country, the international community and partners/institutions, and continue to do so in changing circumstances. This criterion answers the question: *“Does the intervention respond to the problem?”*.
- **Coherence**: The extent to which the intervention is compatible with other interventions performed in the country and the same sector. This criterion answers the question: *“Does the intervention fit in with other interventions?”*.
- **Effectiveness**: The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups. This criterion answers the question: *“Does the intervention achieve its goals?”*.
- **Efficiency**: The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way. This criterion answers the question: *“How well are resources being used?”*.
- **Impact**: The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects. This criterion answers the question: *“What difference is the intervention making?”*.
- **Sustainability**: The extent to which the net benefits of the intervention continue, or are likely to continue. This criterion answers the question: *“Will benefits last over time?”*

In addition to the application of the six OECD/DAC (Organization for Economic Development / Development Assistance Committee) criteria, the **visibility/communication** criterion was considered. In fact, the aspect of communication played an important central role in the implementation of interventions, since it constituted an essential tool for the impact of technology transfer to the rural sphere and, more generally, for the success of *lobbying* local organisations representing the ultimate beneficiaries.

As far as visibility is concerned, its correct application was verified in the use of the logo and symbols used in communication, and the perception of the main stakeholders regarding the provenance of **funding for** Italian Cooperation allocated to the two cooperation initiatives.

²¹ <http://www.oecd.org/fr/cad/evaluation/criteres-adaptees-evaluation-dec-2019.pdf>

In addition, the **logic and coherence of planning** and its overall validity, the methods of implementation, the coordination between the partners and the results obtained by the execution of project activities were examined. In particular, the report considered how and to what extent the projects contributed to local appropriation of the proposed **technologies**, in a context of social inclusion, gender equality and the conservation of natural resources and the human environment. To this end, the **direct and indirect** effects of interventions on **women's status and the environment**, in relation to changes in agricultural and irrigation practices, were also tested.

Lastly, the **synergic effects, both positive and negative**, between the two projects were taken into consideration in order to identify joint and convergent impact, ascertaining whether there was coordination between the projects and other initiatives in the sector, including those of other donors, within the country and in accordance with the principle of complementarity.

4.2 Evaluation questions

On the basis of the indications contained in the Terms of Reference, the technical proposal presented a set of **evaluation questions** relating to the various evaluation criteria, and a set of **indicators** functional to the evaluation exercise. Following an initial stage of analysing documents and some interviews conducted during the first phase of the work, these sets of questions were reviewed by means of improved calibration, both of the evaluation questions and of the indicators, as well as a different distribution of the latter according to the new OECD/DAC coherence criterion, which was formalised after the drafting of the ToR (see Appendix 1) and the consequent technical proposal.

The table in Appendix 2 contains the set of evaluation questions and indicators that guided the entire evaluation process for the PAPSEN and PAIS projects.

4.3 The methodology adopted, its application and difficulties encountered

4.3.1 Methodological principles

The evaluation adhered to some **methodological principles**, in particular:

- **Contextualisation.** Although the intervention consisted of a set of coordinated activities based on specific goals and expected results, the evaluation attempted to determine the extent to which these activities have helped to support and/or steer processes of ongoing change (in the administration and public services, and in society). If one failed to consider the relationship between project “activities” and ongoing processes it would not be possible to assess either the relevance of the projects or their effectiveness (which relates not simply to the performance of activities but also to the development of new technological modalities, economic action, organisation and management of territory) or their impact.
- **An approach to recognising the persons involved.** The actions of the intervention considered involved and continue to involve a diverse set of subjects and actors, including agencies and organisations and informal groups (such as productive and involved in economic activities). During the evaluation an attempt was made to identify the subjects “affected” by the project in order to ascertain the extent to which and how these different subjects were involved in actions. The non-involvement of some subjects could result in limitations in terms of relevance, effectiveness, sustainability and impact of actions or even – in some cases – a reduction in their efficiency (e.g. due to emerging conflicts). The non-involvement of some important subjects might also play a part in lowering the quality of planning.
- **A participatory approach.** Agricultural and of environmental management systems, as well as those economic and of resources management, those organisational and those linked to consumers (and to the same nutrition), are based on interaction among a number of subjects,

each having its own perception of reality and interested to varying extents in the ways in which the system works. For support initiatives like those under review, this makes it necessary to take into account different points of view and different forms of involvement. This is why we have encouraged the active participation of these various actors in all phases of the evaluation process not simply as “information sources” but also and above all as stakeholders bringing different needs, interests and knowledge, relevant for gaining an overall understanding of the projects.

- An **approach based on the reconstruction and analysis of events and factual elements**, rather than on the simple level of “satisfaction” expressed by the various actors. While the opinions and level of satisfaction regarding project activities as a whole are indispensable for the evaluation (providing important information on sustainability and on the project's impact), any evaluation based solely on the views of the subjects involved is inadequate given the complexity of the intervention. There are numerous aspects of the project that cannot be “seen” or “perceived” at first sight. There are also processes that have a bearing on satisfaction levels that are often unconnected with the project itself. During the evaluation, therefore, examination of the level of satisfaction and the opinions expressed by the various actors involved regarding the projects was flanked by an analysis of factual elements (data, infrastructures, etc.) and events occurring related to planned and completed activities.

Adoption of the principles outlined above allowed the evaluation exercise to **be in line** with:

- international standards of reference and **the guidelines regulating Italian Cooperation**;
- the **principles of utility, credibility, independence, impartiality, transparency, ethicality and professionalism**, (including those relating to human rights, gender equality and “*leave no-one behind*”);
- **standards of integrity and respect for civil law, customs, human rights and gender equality, and the “do no harm” principle**;
- the **principles and practice of the *Human Rights-Based Approach*** (since, rather than on the provision of services, the team's attention focused on the promotion, recognition and exercise of rights by the beneficiaries, which seems particularly important in relation to the fact that, although the projects were originally conceived with reference to the Millennium Goals, they are now in the context of the Sustainable Development Goals, in which the issue of food is no longer only expressed in terms of “need”, but also in terms of “right”, associated with the delicate issue of food sovereignty).

As became clear both from the indicator systems proposed and the identification of the sources covered in the following paragraphs, a method of evaluation consistent with the “**Results-Based Approach (RBA)**” was adopted.

Lastly, the evaluation was strongly geared to produce **information and recommendations useful for the improvement of the management of the interventions** themselves, and for the identification and management of other cooperation interventions in Senegal and the Sahel region concerning the “modernisation of agriculture to combat poverty”. In this sense, the risks associated with “**land grabbing**” and those relating to relationships between small and medium-sized producers and large multinational economic actors were taken into account.

4.3.2 Difficulties encountered

The experts involved in the evaluation exercise received a warm welcome and frank and open collaboration on all aspects, even the most critical ones, related to the implementation of the two projects. This **positive climate** affected meetings both at the level of those responsible for the two projects in the capital and the regions, and at the level of the beneficiaries and local authorities involved in the consultation on the ground.

These aspects undoubtedly facilitated the work of the experts, despite the complexity of the issues involved in the two interventions and the large number and variety of actions carried out. However, there was no shortage of **challenges** facing the team of experts, particularly in the field phase, including, of course, issues related to the **Covid-19** pandemic.

In fact, although the consequences of the pandemic have been less severe in Senegal than in other African countries and, more generally, than in other continents, the measures taken by the Senegalese government **to contain** the epidemic made meetings difficult, especially between institutional representatives and project managers at national level, as well as with representatives of other donors.

Specifically, in a memo dated 18 January 2021, the Senegalese Ministry of Agriculture banned in-person meetings for all its offices, recommending that such meetings be conducted by **video conference**. Although video conferencing is now a reliable and effective tool, its adoption nevertheless presents some limitations in terms of the interaction that can be established in a face-to-face meeting, and also because of the less formal aspects of the interviews, which at time risk being too impersonal, since they lack the aspect of empathy between interviewer and interviewee. Moreover, remote interviews with officials and project managers can rarely be collective, an aspect that prevents both observation of interactions between the interviewees themselves, and the differences, small or large, between various positions on the same theme or topic.

A further element of difficulty was the **large number of sites of the two projects**, distributed over different regions and often with considerable distances between one site and another.

Moreover, it was not always easy to distinguish the results between the two projects under evaluation, since in reality they tend to **overlap**, both in terms of effects and, above all, in terms of perception by beneficiaries and other local stakeholders.

Finally, among the challenges encountered, the analysis of coherence, and in part relevance, made the evaluation exercise particularly complex. In fact, as already mentioned, the PAPSEN, which was defined in the year 2010, had to align with development policies and, more specifically, with the agricultural policies in force in the country. Of course, during the 8 years of the PAPSEN project and the 4 years of the PAIS, these policies have undergone changes - very large ones, in some important aspects - which the team had to take into consideration by carrying out a real **historical reconstruction**, not lacking complexity, in order to verify the conformity of the projects to policy changes.

4.4 Information sources, their degree of reliability and technical tools

The evaluation used a **variety of information sources and data collection and analysis tools**. Specifically, both quantitative and qualitative methodologies were adopted. Throughout the evaluation exercise, reliable data and statistics with appropriate levels of validity were used whenever they were available, using qualitative information in the calculation of indicator values.

The following table shows the technical tools used to collect and analyse the information and data for each type of source. For documentary sources, a complete list is provided in Appendix 4 of this report, and for individuals and institutions consulted, please see Appendix 3.

Specific sources	Tools for the collection and analysis of information and data
Documentary sources	
Documents relating to the projects and their execution (regular reports, correspondence between MAECI - DGCS, AICS and local stakeholders etc.).	<ul style="list-style-type: none">• Document analysis grid• List of hindering and facilitating factors that emerged during implementation of the project• List of actions carried out, individuals involved and results achieved within the initiative• List of food security factors• List of measures implemented by the project for the mitigation of risk• List of stakeholders relevant to mitigating food insecurity risks and promoting agricultural development• List of individuals involved in the project• List of good practices• List of actions by other stakeholders geared to agricultural development in the areas in question• List of ongoing transformation phenomena in relation to agricultural and food security activities and policies
Reports on individual activities carried out, Report on research work, Report on communication activities	
Records and statistical data regarding activities carried out and services offered	
Documents and publications produced during the intervention and by the organisations involved	
Documents and reports on the food security situation in Senegal, particularly with regard to children and those who are vulnerable or experiencing hardship, such as female heads of household etc (UNICEF, EU, Ministries, African Development Bank etc).	
Monitoring and evaluation reports	
Live sources	
Representatives of the bodies involved in promoting and managing the intervention as a whole	Semi-structured in-depth interviews
Representatives of local and international organisations involved in the execution of the intervention	Semi-structured in-depth interviews Discussion workshops
Representatives of local administrations, agricultural support services and relevant authorities in the places where interventions are implemented (Directions Régionales de Développement Rural of Sédhiou, Kolda and Kaolack)	Semi-structured in-depth interviews
Representatives of relevant national administration departments (Direction des Bassins de Rétention et des Lacs Artificiels; Agence Nationale pour l'Insertion et le Développement Agricole; Programme National pour l'Autosuffisance en Riz; MAER gender coordination unit; Institut National de Recherche Agricole etc).	Semi-structured in-depth interviews
Representatives of relevant international organisations (FAO, UNICEF, EU, etc.)	Semi-structured in-depth interviews
Representatives of civil society organisations (CSOs, including non-governmental organisations - NGOs - and platforms) which intervene on food security policies at national and regional levels	Semi-structured in-depth interviews
Representatives of groups supported by the initiatives (particularly through Agricultural Development Funds)	Semi-structured in-depth interviews
Direct observation	
Offices of organisations involved in the intervention	Observation grid

Action sites (irrigated areas, vegetable and fruit-growing areas, farms, experimental sites, infrastructure etc).	<i>Rural Rapid Appraisal</i> tools (informal interviews)
Sites of service provision to beneficiaries of the intervention (service centres and offices)	

Finally, with regard to the level of **reliability of information**, the technique of **triangulation of sources** was systematically adopted when data from documents or information collected from live sources required verification. This also involved additional work on the ground by Senegalese experts, which continued even after the official end of the mission in Senegal and the return to Italy of the team leader.

It should be noted, however, that the large number of interviews, both with direct beneficiaries and other stakeholders involved, even indirectly, in the two projects, ensured a **high degree of reliability** in the information collected.

4.5 Some data on the consultation of direct sources

Consultation of the beneficiaries and institutional stakeholders involved in the two projects took place under optimal conditions for the experts on the evaluation team. In fact, thanks to the excellent reception by the Senegalese authorities and beneficiaries at the sites of the two projects, all the meetings took place in an atmosphere of great openness and cooperation. Even the fear of potential difficulties due to Covid-19 containment measures proved unfounded, to the point that many more meetings were held than initially planned, and a truly remarkable number of focus groups were held with the beneficiaries, while still respecting government measures to combat the pandemic.

Meetings in the capital took place remotely, while interviews with beneficiaries, local authorities and local branches of the Ministry of Agriculture were held in person.

A total of 65 meetings or remote interviews were conducted as follows: 29 Economic Interest Groups (EIG), cooperatives and producer associations involving about 14,000 farmers, of which approximately 51% men and 49% women (of these 29 organisations, 28 participated through focus groups with an average of 8-10 people, a total of 280 people involved); 3 private companies; 5 national state agencies and central institutions of the Senegalese public administration; 9 local authorities (governors, mayors, prefects); 5 decentralised agricultural services (DRDR and SDDR); 4 international organizations and development banks (UNICEF, FAO, BAD, EU); 1 project partner (NRC): 2 meetings with AICS headquarters in Dakar; 7 central and peripheral structures (antennas) of the two projects.

5. Evaluation results

5.1 Relevance

Summarised judgment of relevance

The project strategy is well developed from a technical perspective, as it proposes the transfer of technology from studies and demonstrations. On the other hand, the approach to water management - the biggest environmental constraint to production, especially in the centre of the country - has shortcomings which should have been addressed at the planning stage, such as the lack of water storage basins (except at the Sambé farm) and insufficient consideration of problems associated with maintaining and repairing tubes in drip irrigation systems. In practice, the projects lack comparative analysis of different technical options in different environmental and socio-economic contexts.

The general and specific objectives are consistent with those defined by the agricultural strategies and policies for the regions concerned, and respond to the needs expressed by rural populations. The intervention strategy adopted by the projects is relevant in that it seeks to combine the development of existing agricultural potential with assistance to farmers. At the social level, the intervention responds to a real need to combat poverty and malnutrition in the regions concerned by means of action to build capacity and resilience in the population.

The training and technical assistance provided to farmers focuses on increasing agricultural production and improving yields by assisting beneficiaries in production and marketing, but also by access to information through their organisation and collaboration with agricultural services such as ISRA, ANIDA (Agenzia Nazionale per l'Inserimento e lo Sviluppo Agricolo) and DBRLA (Direzione dei Bacini di Ritenzione e dei Laghi Artificiali) and access to credit through the banks responsible for managing the Agricultural Development Funds (AFD). Interviews with representatives of beneficiary organisations highlight their insufficient involvement in the identification and organisation of activities, apart from supporting the collective involvement of women. In fact, beneficiaries are involved in identifying activities, defining their problems and possible solutions, but often at the time of implementation these are subordinated to contingent needs, due to delays in implementation. It can therefore be assumed that the collective dimension of food security and poverty eradication was not sufficiently considered in the planning of the projects, which ultimately reflected the centralist orientation of Senegalese agricultural policies.

TO WHAT EXTENT DID THE INTERVENTIONS FACILITATE ADEQUATE RESPONSES TO ISSUES ASSOCIATED WITH ACHIEVING MILLENNIUM DEVELOPMENT GOAL NO.1, POVERTY REDUCTION?

Italian Cooperation was active in Sédhiou in the Casamance region (southern Senegal), with the Integrated Rural Development Programme for Mid Casamance (PRIMOCA, 1985-2004) followed by the Local Development Fund Programme of Sédhiou (PFDLS, 2007 - 2010) which encouraged local participation to boost agricultural development. The PAPSEN (2012) and later PAIS (2015) projects **continue this action** by strengthening the capacities of farmers and integrating them into fruit, vegetable and rice value chains. The projects contribute to the goals of the National Programme of Investment in Agriculture (PNIA), which aims to achieve MDG no. 1. "*Reduction of poverty*". The choice of aid credit as a funding tool contributes to the participation of Senegalese agricultural institutions in the orientation of the projects' activities. The projects include a directly-managed donation component (expert fund for technical assistance), an on-site fund to support the operation of Programme Management Units (PMUs), and a donation component granted to the NRC to strengthen research, training and technology transfer capacity for farmers. Both projects aim to address the problems limiting agricultural growth identified by the PNIA:

- ongoing degradation of soil;
- instability of production due to climate risks;
- difficulty of accessing basic services and markets;
- weaknesses of the institutional framework for assisting producers;

- inadequate access to investment.

The revitalisation of the agricultural sector promoted by PNIA is **consistent with** Senegal's commitment to achieving MDG no. 1. "*reduction of poverty*", since it harmonises with the country's other sustainable development policies²². The PNIA aims to support development strategies through access to innovation and investment and strengthening organisation, which are the core elements of the strategy envisaged by the two Italian Cooperation **projects** under review. These concurrently contribute to the implementation of the PNIA framework programmes: water management, conservation and sustainable management of other natural resources, increased production and improved productivity,²³ the development of product processing capacity, access of products to markets, strengthening research for the generation and transfer of new technologies, capacity upgrading of stakeholders, and sectoral coordination and management. This **multi-sectoral approach** is geared to the achievement of the specific objective of the two projects, which is the strengthening of the fruit/vegetable and cereal/rice sectors in disadvantaged regions, contributing to both food and nutritional self-sufficiency and the creation of monetary income. This flexibility and common purpose allow the two projects, which overlap from a technical and operational point of view²⁴, to direct the use of their resources to issues and **areas which are priorities for the reduction of poverty**²⁵. In fact, the assisted regions are characterised by a high incidence of poverty and **structural constraints** which limit the growth of unit returns. A growth strategy that covers the entire agricultural sector, i.e. one that removes the constraints limiting the productivity of the chosen value chains, is necessary for poverty reduction, because it removes fruit and vegetable and grain production from the uncertainties **created by the environment and the market**. Moreover, collaboration with national and local agricultural institutions makes it possible to specify the objectives of the two projects, integrating them with other high-priority sectoral activities for rural development and directing them towards supporting farmers who need assistance and are able to profitably benefit from it; in other words, to combine **public assistance with market development**. Specifically, the strategy of these projects focuses on rural development, as a priority of Senegal's agricultural policy, by (i) contributing to economic growth, (ii) stabilising the rural population, (iii) improving food security, (iv) reducing poverty, (v) preserving the natural heritage, and (vi) promoting local products.

The choice of the two sectors mentioned responds to precise development criteria that take into account the potential of the area, the existence of productive resources not fully exploited for the reasons stated, and what can be considered a basic element of Senegal's food security strategy: **product diversification and the integration of farmers' self-sufficiency with the development of the food market**. The crisis in the production of peanut, the key commercial (*cash*) crop for the economy of the centre of Senegal, indicates that farmers in that region are already geared towards income generation. In this context, horticulture can easily fit in and take advantage of existing

²² Poverty Reduction Strategy Paper (PRSP), Accelerated Growth Strategy (AGS), Loi d'Orientation Agro-Sylvo-Pastorale (LOASP), Cadre Intégré au Commerce et la Grande Offensive Agricole pour la Nourriture et l'Abondance (GOANA).

²³ Broken down into six components: (i) crop protection; (ii) control of major animal diseases; (iii) seed production for various agricultural and forestry supply chains; (iv) farm equipment and modernisation; (v) development of traditional agricultural sectors and support for the emergence of new ones; and (vi) development of the dairy, poultry and equine sectors.

²⁴ Geographically, the overlap is partial: PAPSEN operates in the regions of Thiès, Diourbel, Fatick (centre), Sédhiou and Kolda (south); PAIS in the seven regions of the south and also in Kaolack (centre).

²⁵ In 2011, in fact, the results of the poverty monitoring survey revealed an unemployment rate of 10.2%, although the poverty reduction rate has evolved positively, with 46.7% of individuals living below the poverty threshold. However, the regions of Kaolack, Diourbel and Kolda (76.6%) Kédougou (71.3%), Sédhiou (68.3%), Fatick (67.8%) and Ziguinchor (66.8%) presented the highest levels of poverty. p. 158. From : Pascal Sène 2018. *Culture sociale de l'aumône et phénomène des enfants des rues au Sénégal*. L'Harmattan. p. 296

commercial services to market agricultural commodities with high **added value**, such as fruits and vegetables, whose importation in the fresh state is very limited. The key aspect of poverty reduction, in this context, lies in diversifying production for the market through **access to innovation to remove the constraints** - particularly water scarcity - that had imposed peanut monoculture in the central regions of the country.

In the south, however, the projects target both subsistence and commercial farmers in a **more nuanced way**. Rice production addresses Senegal's shortfall in grain availability and fills a gap in the supply of urban markets currently occupied by imports. Agricultural potential in the southern regions is greater, because water is relatively abundant (surface aquifer). In this context, the main problem in the water economy is the **economic management** of its use. On the other hand, the distance from the metropolitan market of Dakar - albeit with decreased transport times thanks to the construction of the Senegambia bridge - has isolated the agriculture of the south from the market and led it towards **self-sufficiency, limiting the technical renewal and investment** which are particularly needed in post-harvest structures and in the commercial network. In this context, the boosting of productivity can be directed towards both the growth of subsistence crops and product diversification, provided that it affects all the links in the production chain: access to innovation and other productive inputs and investment in processing and marketing.

In both regions, this agricultural renewal and diversification strategy is based on **local participation and collaboration with the decentralised authorities and technical services**. The economic management of water is not limited, therefore, to increasing access to the aquifer, but also acts as a reservoir that benefits the farmers directly involved in the project but - since it contributes to the water regulation of the area - also entire communities. For this reason, the strengthening of producers' organisations is carried out as an element of territorial planning, with assistance in the drafting of the Local Development Plans of the municipalities involved. In addition, the aid credit component of AFDs, managed within the framework of PAIS in the regions of Kaolack (centre), Kolda and Sédhiou (south), aims to **mobilise private initiative** in favour of both crop investment and the provision of post-harvest and commercial services. In this perspective, the project creates the conditions for **private investment to replace public subsidies**, at least among the best technically and economically equipped producers.

For the innovation component, these strategic lines of the two projects made use of the contribution of the NRC, which assisted the Institut Sénégalais de Recherche Agricole (ISRA). This component provided expertise to PAPSEN in renewing the infrastructure involved in applied research and dissemination, and to both projects in terms of technology transfer, planning areas of research and carrying out studies aimed at **resolving the production constraints addressed** by the two projects. These activities allowed better identification of constraints on production and the options available to remove them, providing researchers and decentralised Senegalese agricultural authorities and services with the knowledge and the conceptual and operational tools to set up structural interventions.

However, this holistic and essentially flexible view of the project must contend with the **centralised approach** to technical assistance from Senegal's agricultural services. In practice, the project contributes marginally to their institutional strengthening (actually only in the case of the ISRA). Therefore, although the objectives and technical offer of the PAPSEN and the PAIS projects are in line with national food security and poverty-reduction strategies, their execution **disregards the removal of the operational constraints that plague its institutional partners (typically, the strong centralisation of agricultural production choices)**. This approach, which is unavoidable given the practical and localised nature of the projects on the ground, could have been corrected if the projects had been associated with **other institutional strengthening initiatives**. In their strategy, this orientation is envisaged at the theoretical level but, in practice, it has only taken on certain

components, again at the level of peripheral services, without **affecting the centralist approach of the MAER**, which makes extensive use of the distribution of agricultural inputs to stimulate production growth.

The local integration of various interventions to rehabilitate soils and farm equipment (water economics, mechanisation), improve pond management and create post-harvest and marketing infrastructure has the potential to remove physical constraints to accessing innovation and, thus, **ensure food security**. Strengthening producer associations and empowering women have the effect of increasing local participation in the sphere of agricultural production, thus creating a **favourable environment** for the introduction of innovations promoted by the project and the appropriation and fruitful use of production inputs and specialised technical assistance.

It should be noted that the project strategy includes a strong commitment to training/technical assistance and technology transfer monitoring, not only in order to make use of the knowledge and technologies produced in collaboration with the NRC, but also to ensure the **participation of beneficiaries** in the execution and direction of upstream activities such as research setup, identification of sites to be (re)enabled and farmers to be assisted, grant management and effective use of inputs.

Together, these activities demonstrate that the two projects have adopted a **vision of integrated development and social inclusion**²⁶. Notwithstanding this approach, it should be noted that the completion of the strategy would have required the strengthening of the organisations responsible for the management of works of collective interest, such as water regulation projects (dams) and tracks with supra-municipal value, i.e., those corresponding to local land reclamation and improvement consortia which, among other things, have the task of ensuring economic management of this infrastructure in order to safeguard public utility²⁷. Despite the prevalent land-improvement nature of hydro-agricultural projects for water regulation and water economy, these often have a **supra-municipal scope** and were conceived within the framework of the hydro-agricultural redevelopment of the valleys, i.e. in line with a perspective of integrated reclamation which, moreover, is aligned with the poverty-reduction objectives of the PNIA and Senegalese development policy.

TO WHAT EXTENT ARE INTERVENTIONS DEFINED IN THE CONTEXT OF THE MILLENNIUM DEVELOPMENT GOALS STILL RELEVANT IN THE CONTEXT OF THE SUSTAINABLE DEVELOPMENT GOALS?

The objectives of the two projects **contribute** to the achievement of the Sustainable Development Goals (SDGs). Applied research and the transfer of innovation to farmers contribute to the achievement of food security and income generation in rural areas, which are the poorest in Senegal. The objectives of the two projects are aimed at increasing agricultural production and farmer income by directly contributing to the achievement of SDG no. 1. "*Defeat poverty: end poverty in all its forms, everywhere*"; and no. 2 "*Defeat hunger: End hunger, achieve food security and improved*

²⁶ As a conceptual reference, article 1 of the Consolidated Act on integral reclamation (law no. 215 of 13/2/1933 or the Serpieri Law): Integral reclamation is provided for purposes of public interest, through *reclamation works and land improvement*. Reclamation works are those carried out on the basis of a *general plan of works and coordinated activities*, with significant hygienic, demographic, economic or social benefits, in areas of lakes, ponds, marshes and swampy lands, or mountainous areas with scarce water and forest; in other words, land which is extensively used due to serious physical and social issues and which, once these are removed, is susceptible to a radical transformation of the productive system. Land improvement works are those carried out *for the benefit of one or more areas*, independent of a general reclamation plan.

²⁷ For comparison, see the reference to article 3 of law 12/2/1942 no. 183. Land improvement consortia have the option to impose *contributions for the execution and operation of the works, for the maintenance of the same and in general for consortium management*. Credits for contributions are preferential to properties benefiting from the work, and the privilege is graduated after the benefit gained from state credits for direct taxes

nutrition, and promote sustainable agriculture." The hydro-agricultural improvement component for water regulation (rehabilitation of valleys), based on studies by consultancy firms and the NRC, promotes the integrated management of reservoirs, thus contributing to SDG no. 13. *"Combat climate change: take urgent action to combat climate change and its impacts."* Lastly, the projects' inclusive approach and promotion of eco-friendly agricultural technologies indirectly contribute to the achievement of SDG no. 5 *"Gender equality: achieve gender equality and empower all women and girls"*.

Changes in the Senegalese socio-economic situation **do not affect this perspective**; if anything, the accentuation of the peanut-crop crisis in the central regions and the increase in climate variability throughout the country increase its relevance. Drought events in the centre and flooding and drought in the south reaffirm the **importance of increasing farmers' resilience and adaptability** to the impact of climate change by means of local approaches, crop diversification, water economy and the use of technology to intensify production. The recent growth in begging by children, who are organised by *daara*²⁸ to ask for alms in the street, confirms the continuing inadequacy of the rural economy²⁹ and of actions intended to resolve obstacles to production. The two projects, and PAIS in particular, adopted a broader but still insufficient **vision**, both because of the persistence of the **centralist imprint borrowed** from MAER (often in contradiction with its formally participatory and sustainable development-oriented priorities) in prioritising and executing aid activities, and also because of the altogether complementary rather than strategic role played by collective elements, which organise the participation of beneficiaries without involving them in project orientation.

The promotion of women's autonomy in agriculture is a **notable advancement** in this field, although it should be extended beyond the economic dimension to also involve the social sphere. The projects were **less active** in the inclusion of other individuals, despite support for municipal development planning and the intention to engage young people. Thus, issues such as food security, the development of training and aid packages targeting vulnerable individuals, and ultimately the effective participation of beneficiaries in guiding project activities, have been **lacking**. The inclusion of the project interventions in agricultural policies, and their geographical dispersion, have led to the need for **solutions that are homogeneous, and therefore directed from above**.

The same risk is apparent in the distribution of credits to producers. This mechanism allows intermediary banks to improve their expertise in assessing the soundness of farmers' investments. However, these need to bear in mind that the risks of new businesses in a given environment are greater and, of course, the same is true when evaluating new clients. Banks are induced to **prioritise precautionary criteria** regarding funding for the introduction of horticulture in new areas and by new farmers, but also for the production of improved seed; since they are unaware of the creditworthiness and struggle to evaluate the collateral of credit applicants. These considerations apply particularly to women, due to their limited access to land.

We can conclude that the strategy of the projects alone, albeit innovative, **may be inadequate with regard to the complexity of the factors that determine rural poverty**. While collaboration with local authorities and decentralised agricultural services allows vulnerable people to be reached, at the same time it limits **their participation and social inclusion**. In the absence of a broader design for integrated development, this approach risks nullifying at the macro-economic level (departmental and

²⁸ Quranic schools.

²⁹ *Agricultural difficulties have de-skilled farmers, who have found refuge in cities like Kaolack. In fact, one parent of a street child remarked, "What can we do? You said it. I have no choice. I don't choose that my child's on the streets. I would like him to go to school tomorrow and become someone important. But I can't afford it, because the fields I've always relied on no longer give me anything. In the city we all get by. What we have in the city, we can't have in the village.* From: Pascal Sène (cited), page 163.

regional) the progress achieved by the two projects at the individual and community levels, i.e. at the micro-economic level.

TO WHAT EXTENT ARE THE TWO INTERVENTIONS COMPATIBLE WITH THE GOALS OF GOVERNMENT RURAL DEVELOPMENT POLICY?

The two projects are **highly compatible with** the aims of government policy on rural development, in terms of both approach and operation. Their strategy provides capacity and material and financial inputs for the execution of the PNIA, as well as the resources needed to link the creation of innovation to its appropriation by farmers, with a view to **strengthening value chains**. They support the **diversification of agricultural production** with the introduction of technological innovations in fruit and vegetable growing systems in all the assisted regions, and the intensification of rice and, marginally, other grain production in the south of the country.

Production choices are left to farmers, but **depend heavily on** the priorities of agricultural policies that decide the allocation of inputs, starting with the multiplication and distribution of improved seed. Crops grown, therefore, are those required by the local market, such as onions, tomatoes, salad, sweet potatoes, okra, bananas, rice, maize and millet.

The two projects **are therefore in line** with the priorities of the PNIA and, at the same time, with the National Poverty Reduction Programme and the National Food Insecurity Reduction Programme, contributing to both self-sufficiency and income creation through the sale of surpluses on the market.

Aid to farmers was preceded by **field studies** carried out by the ISRA, such as: (i) definition of cropping systems; (ii) marketing studies; (iii) preliminary cultivar studies and field trials; (iv) research into pre-basic vegetable seed production; and studies carried out jointly with the NRC on the constraints and productive vocation of the lands, the water regime of the Casamance River (in the south), and existing capacities.

The six assisted regions³⁰ are **seriously affected by poverty and suffer extensive food and nutritional insecurity**. The central areas are particularly susceptible to drought, while those in the south suffer primarily from isolation and distance from major urban markets. The identification of projects, therefore, adopted a **supply chain approach** aimed at eliminating production constraints, both by the creation, adaptation and adoption of innovative techniques, and by enhancing local resources - starting with deep aquifers and agricultural soil (affected by salinity in both the centre and³¹ the south); accompanied by the strengthening of producers' associations (and, partially, of assistance services) and mechanisms for access to credit. On the other hand, it did not consider the strengthening of the *governance* systems of the two production chains chosen, since these depend on the leading role played by the Ministry of Agriculture in guiding farmers' choices.

Obviously, an intervention of this scope would have required action at the national level to **have an effect on agricultural policy-making** and, in particular, the tasks of the Ministry of Agriculture, its peripheral offices and agencies, in order to involve representatives of producers in the definition of priorities at all geographical levels, i.e. in the deregulation of rural development and the creation of *governance* mechanisms that are truly participatory and **independent of centralised systems for the allocation of subsidies**.

³⁰ Thiès, Diourbel, Fatick, Kaolack nel Centro; Sédhiou, Kolda nel Sud.

³¹ The soils of the horticultural farms created by the projects in the central regions have deep water tables and therefore salt accumulation in the upper layers of the soil, and often a high concentration of nematodes (nematohelminths or roundworms).

In this context, the design of the credit component of AFDs, which is based on the decision-making autonomy of aid applicants, presents **some critical issues that** affect its implementation. The goal is to dispense credit for land improvement and production costs, on the basis of market demand. Along with other project components, this contributes to the creation or strengthening of market-oriented smallholder farms. These are the rural producers who are **best equipped technically and economically**, i.e. those who are able to take risks because they have reserve capital. As such, this condition introduces an additional variable to the PAIS strategy, namely that food security and poverty-reduction benefits are derived **from the success of entrepreneurs**³². Such benefits do not directly correspond to the poorest segments of the population, which in this case should be supported through participation in the guidance of the project strategy. In fact, this component is primarily aimed at developing entrepreneurship. The AFD was created partly in order to offer opportunities to the most vulnerable in society, but this is not the main objective, because credit clearly involves risk and offers greater advantages to entrepreneurs with more capacity, whose success indirectly creates employment and therefore benefits the poorest strata of the population.

Obviously, the project has little influence on such effects since farmers, who are taking risks to go into debt, choose labour-intensive technologies or otherwise on the basis of their **affordability**. But the main problem remains the fact that market orientation, and specifically economies of scale, also depend - at least in the short term – on **government direction for the distribution of inputs** (seeds, machinery, fertilisers and technical assistance). Thus, the factors influencing the calculation of investment affordability may not coincide with market trends. These incentives condition crop choices, as they lead to suboptimal choices from a production standpoint and, indeed, from a social standpoint, given the **limited grassroots participation** in their formulation. In particular, seed producers and representatives of some EIGs in the centre and south noted in interviews that the quantity of improved seed multiplied from those selected by the ISRA is insufficient, a fact that forces them to resort to traditional seed.

The creation of transparent value chain *governance* is, therefore, a condition for project success which has not **been adequately developed, and on** which the projects have had very **little** impact. The PAIS project, in particular, aimed to boost the capacities of local authorities and decentralised agricultural services to monitor interventions and analyse funding requests. The benefits of these interventions, however, depend on the creation of a coherent framework that would require coordination with actions aimed at a **review of agricultural policy**.

5.2 Coherence

Summarised judgment of coherence

The two projects, which constitute the primary interventions of Italian Cooperation in Senegal, continue a previous initiative and are the result of a strategy that aims to reduce poverty by improving agricultural production, the main livelihood of the rural populations which are the country's poorest. The projects' close integration with the work of MAER limits their collaboration with other development initiatives. The NRC's donation component, which supports the ISRA in field research and aid to farmers in the intervention areas, facilitated the identification of the issues to be addressed, and hence the technical choices and intervention areas of the two projects. The NRC continued its collaboration with the ISRA after the conclusion of the PAPSEN/NRC project, and collaborates with both projects as part of a new initiative funded by the Italian Cooperation: the *Projet Papsen Pais Assistance & Recherche - Casamance Sénégal - PP AT & RD*, in the field of applied research (demonstrations), organisation and technical assistance for producers in the south (through a network of animators or relais) in a regional programme for the hydro-agricultural upgrading of water regulation (in rice-growing valleys³³).

³² The annual interest rate for short term credits is 6.5%, that at mid and long term is 5.5% per year.

³³ This model of assistance is similar to the *Area Development Programmes* employed by many NGOs.

TO WHAT EXTENT ARE THE TWO INITIATIVES COMPATIBLE WITH THE INTERVENTION OF COOPERATION STAKEHOLDERS INVOLVED IN THE COUNTRY'S AGRICULTURAL DEVELOPMENT?

As stated in the "Three-year Planning and Steering Document 2017-2019", Senegal is a priority country for Italian Cooperation, which has significantly increased its activities in the country in recent years. This special focus was reaffirmed by coordination work within the EU, which led to the "Joint European Strategy Document for Senegal 2018-2023". The joint programming process of the member states and the European Union delegation began in 2016 and saw the active participation of Italy, with a commitment to align its actions with the strategies envisaged by the programme at least for the first implementation period, 2018-2021, ensuring 15 million euros for each of the 3 priority sectors of the AICS. The document was signed jointly by the Senegalese Minister of Economy and Finance, the EU and the ambassadors of the member states present in Senegal in December 2018.

The sector strategy for agriculture and rural development defined by Senegal and supported by the coordination of European member states identified an overall objective for this sector aimed at improving the food security of the population. The specific objectives, shared by Italy and in accordance with the sectoral strategic lines of Italian Cooperation, direct action towards supporting a sustainable increase in agricultural production through the effective use and preservation of natural resources, the reduction of extreme vulnerability and food insecurity, the improvement of food availability and access to markets, improved *governance* in the management of production factors and the marketing of agricultural products.

MAER coordinates the actions of international cooperation agencies in the sphere of agricultural development and food security. In this context, the PAPSEN project was conceived as part of a **three-party collaboration** which also included MASHAV, the Israeli international cooperation agency, and was formalised by a three-year protocol signed on 12/10/2012. The work of the PAPSEN/NRC component began in 2013, but ended up taking place bilaterally, due to the difficulties that hindered collaboration with MASHAV, namely the establishment of preferential relations by both organisations with their counterparts within the ISRA; this was very soon compounded by the withdrawal of Israeli cooperation from Senegal for reasons unrelated to the project. In fact, both organisations established **direct relations** with their Senegalese counterparts but failed to develop a joint action plan, despite the initial participation of both in the identification of demonstration horticultural farms³⁴. Thanks to the NRC, PAPSEN therefore began strengthening the ISRA in 2013, improving its laboratories and the CNRA pilot farm, and helping to create the Service and Training Centre (STC). The next phase began in the central region in 2016, with the collaboration of the EIGs of the pilot and demonstration companies. Since then, these companies have catalysed the collaboration of several technical aid and training projects from USAID, FIDA, FAO, World Vision, Caritas and the Red Cross. On the other hand, the work of the two projects became part of the operation of the Senegalese agricultural services with collaboration agreements with the country's agricultural agencies.

In the southern region, collaborations with other international cooperation initiatives have also been propitiated by EIGs. **The guidance exercised by MAER** in the distribution of resources, with the assignment of specific goals and beneficiaries to each project, limits convergence between the different components of the two projects. In this way, the two projects focused on technical objectives without coordinating directly with other initiatives, since the MAER ensures their compatibility and includes their contributions in its own action plans. Suffice to say that support for local development

³⁴ Collaboration with MASHAV could mobilise specialist expertise in the formulation of technical packages for drip irrigation, small-scale rural mechanisation, and improved horticultural seed production, complementary to the NRC's expertise in land analysis, seed multiplication and agricultural expansion.

planning and infrastructure interventions involves communities engaged in the projects of various NGOs, and that the promotion of mechanisation makes use of equipment donated by other cooperation agencies, **without the two projects having direct collaborative links with** these entities. Coordination between the two projects and other initiatives **is not visible** in their strategy, yearly planning or annual progress reports. This omission also emerges in the **limited commitment** of projects in the social sector, for example nutrition, where the UNICEF representative noted how collaboration with Italian Cooperation is carried out at a regional level rather than in the whole of Senegal.

Representatives of the cooperation agencies interviewed presented a consistent picture of the problems they face in their agricultural and rural development projects and emphasised, in particular, the **rigidity** of guidance from the Ministry of Agriculture, which exerts a highly centralising action that overlies the greater flexibility of international projects. In particular, they expressed their intention to coordinate more closely in order to develop a **common position**, starting from sector studies, for example on the role of subsidies in guiding agricultural production, to propose common actions to solve the **structural problems** of agricultural aid³⁵.

5.3 Efficiency

Summarised judgement of efficiency

The complexity of the Senegalese agricultural authorities' administrative procedures regarding public tenders greatly affected the pace of implementation of the two projects. These delays were compounded by the need for authorisation by Italian Cooperation of interventions and tenders, further lengthening the time of execution. Since many activities require the use of expertise not possessed by the decentralised agricultural authorities and services, the granting of responsibilities such as the acquisition of materials and services took months and ultimately caused the project to accumulate delays of several years. The organisation of the pilot horticultural farms, the (re)qualification of irrigation perimeters, the hydro-agricultural upgrading of water regulation, the construction of infrastructure and, to an even greater extent, the allocation of AFD credits, were the activities most affected by administrative delays. The result was that other activities which should have enhanced these investments were further delayed. In Sédhiou and Kolda, where AFD credits can be combined with other PAPSEN and PAIS activities, and in particular with training prior to credit provision, this was not the case. Delays in issuing credit also created delays in ancillary activities such as access to agricultural inputs. Ultimately, the two projects' lack of administrative autonomy resulted in the adoption of procedures that run counter to the need for flexibility that justifies the use of a project, by hampering the integration of different activities and limiting their joint effects on production and, more generally, on the integration of value chains.

TO WHAT EXTENT HAVE RESOURCES BEEN USED IN A WAY THAT PROMOTES THE EFFECTIVENESS OF THE ACTION OVER TIME AND IN THE MANNER INTENDED?

The **delay** to the start of the two projects' activities strongly influenced the use of funds made available by Italian Cooperation, and it was therefore necessary to review the initial budgets. The agreement between Italy and Senegal for the financing of PAPSEN (4/6/2012) provided for a concessionary credit of € 30 million and gift funding of about € 2.5 million, while the PAIS agreement (2015) included € 15 million credit and € 1.6 million gift funding, including the sums managed by Italian Cooperation for experts and expenses on the ground. Specifically, the initial PAPSEN budget had provided for a directly managed on-site fund (€ 527,700), which was launched in 2012 and closed in 2017. This covered the costs of the rural development and agriculture expert (2012-2013), the project

³⁵ The formulation of Country Strategy Papers or their equivalent allows the aims and methods of international cooperation with assisted countries to be clarified, and thus promoted in a more incisive way in the execution of projects. The *Country Strategy Papers* of Development Banks and the *National Indicative Programmes* of the EU are valid as references.

leader, the administrative technical assistant based in Sédhiou (2012-2017), the driver, and logistical and office expenses. In this way, the AICS office in Dakar provided technical assistance through support to the PAPSEN coordinator for the drafting of the first Annual Work Plan and Budget (AWPB), the establishment of the PMU and support to the MFB for administrative work associated with the financial agreement. Subsequently, the fund financed the studies and the start of the work related to the donation component (PAPSEN/NRC project), procurement procedures, the amendment of the agreement and the financial contract.

PAIS had access to an expert fund (50,000 euros) which was not used and was closed (resolution 78/2019) and a directly-managed on-site fund (150,000 euros), subsequently increased by 110,000 euros following the transfer of the expert fund (50,000 euros) and refinancing of 60,000 euros (total: 260,000 euros). This fund is still active and has financed technical aid to the two projects, in the form of an agriculture and rural development expert (2015-2016), an administrative technical assistant based in Sédhiou (as of August 2017 and previously under the PAPSEN direct management fund), a driver, and logistics and office expenses. The funding currently available will cover the costs of technical assistance until July 2022.

The **slow pace** of progress on the projects therefore led to changes in the allocation of funds granted to Senegal. PAPSEN's transfers of funds to Senegal's Ministry of Finance exceeded €4 million between 2013 and 2019 (see Table 1, Appendix 5). However, it should be considered that the management of PAIS uses the Project Management Unit funded by PAPSEN. Therefore, the donation component of PAPSEN funds the management of the two projects (see Table 2, Appendix 5). Finally, PAIS introduced Agricultural Development Funds (ADFs), which are allocated to farmers who apply for them by means of subsidised bank credit. The remainder of the funds are used to finance MAER's technical assistance to farmers, including training, infrastructure creation and the distribution of subsidies in the form of machinery, equipment, seeds and fertiliser. Tables 3 and 4 in Appendix 5 show the revised budgets for the two projects, expenditure incurred, and balances at 31/12/2019. We note that as of this date, **PAPSEN has spent 18% of available funds, PAIS 9%, and PAPSEN/PAIS 100% of funds.**

The PAPSEN activities that registered the **highest expenditure** are sections 1.1 *Increase and diversification of vegetable and fruit production* (90%) in the centre, and 2.1 *Intensification of technical cultivation routes* (32%) in the south, while the other production support activities registered variable rates around 20%, for a total value of 17% of the total project budget. The lowest expenditure figures were recorded in activities supporting supply chains and economic development in the south of the country, accounting for slightly above 3% of the available budget. Overall, with the exception of the donation component from the NRC (100% budget execution), PAPSEN had a budget execution rate of **33%** and a credit component of **13%**.

The PAIS activities with the **highest budget execution rate** are those outlined in sections 3.4 *Technical assistance and training in agricultural development* (64%) and 3.3 *Research and development in women and agriculture, upland rice, post-harvest processing (ISRA)* (17%), followed by sections 3.2 *Seeds and fertilisers* (9%) and 1.1 *Support for rain-fed rice cultivation in the Kolda region* (4%).

It should be noted that at the end of 2019, some AFDs for the regions of Kaolack, Kolda and Sédhiou had been allocated but not **yet spent**: figures updated at the end of 2020 show that by that date less than half of the proposals submitted had been approved (**136 out of 338**) for a total of approximately € 0.4 million, or about **6% of the funds available** for this activity. In addition, representatives of the Kaolack and Kolda antennas believe that there are **fewer** AFD projects already funded and underway than approved (11 and 19 instead of 99 and 29, respectively) as reported in Appendix 6.

The PAPSEN/NRC component spent some €2.2 million between 2013 and 2016, i.e. the **entirety** of the available financial resources, of which 70% was borne by the MFA and 30% by the NRC (see Table 5 in Appendix 5). This expenditure corresponds to studies carried out by the NRC in collaboration with the ISRA and the strengthening of that institution's programmes and infrastructure.

An analysis of the composition of PAPSEN and PAIS expenditure reveals that the execution rate of the two budgets is **fairly low**. The highest values for PAPSEN are recorded by the direct management of MAER and Outcome 1 (Support to increase agricultural production and yields) of the south component, and for PAIS by Outcome 3 (Strengthening technical capacity of beneficiaries and other programme stakeholders).

The greatest delays, and consequently the **lowest rates of execution of the available budget**, are found in the allocation of AFDs and the execution of infrastructure work. In both cases, the laborious Senegalese procedures of credit allocation and tendering, and the approval of the annual ex-ante and ex-post audit reports of the tenders by Italian Cooperation, took more than a year. In fact, most of these activities were concentrated during the two-year period 2019-2020 and are still ongoing. These procedures absorbed much of the PMU's time and involved numerous meetings with the decentralised agricultural services, as well as meticulous work by the technical committees and departmental pre-selection commissions. The projects, particularly PAIS, drew on the collaboration of Senegalese agricultural agencies to monitor activities. This collaboration allowed field activities to remain within the framework of the operation of Senegalese agricultural services, and thus removed flexibility from their execution. Delays and low budget execution rates created a **gap** among potential AFD recipients in favour of those **financially better off**.

Finally, it should be noted that the resources available to conduct field activities are geared to the need to monitor farmers rather than to the transfer of technology. Antenna leaders and project animators can set up activity schedules and follow progress but, with the exception of a few cases, such as that of the animator in the department of Kaolack, they cannot provide specialised assistance as they **lack the necessary technical knowledge**. In addition, in the southern region, projects have one animator per department, while in those of the centre, there are cases of one animator per region (Thiès, Diourbel, Fatick) and in addition, the animator of the Fatick department is the only one who has a functioning motorcycle, while those of his colleagues are obsolete or missing. Their work often fails to bring together the threads of different interventions and ensure their convergence in strengthening crop systems. A typical example is the case of water economics and mechanisation, two key entry points for technology transfer. Dependence on external collaborations ultimately aligns the PAPSEN and PAIS interventions with reasoning and priorities that are **beyond their control** and have alienated a number of farmers from the fruit and vegetable farms promoted by the projects, especially in the central regions, or led them to persist with traditional cultivation techniques that are **highly labour-intensive with limited technology use**.

TO WHAT EXTENT HAVE THE PLANNED MODES OF INTERVENTION (AID CREDIT AND GIFT) PROVEN TO BE ADEQUATE WITH REGARD TO ACHIEVING THE OBJECTIVES AND EXPECTED RESULTS?

The efficient combination of aid credit and donations depends primarily on the project **management capabilities**. In fact, these modes are **complementary** and fit into the value chain approach taken to encourage fruit and vegetable and grain production. The promotion of market access mechanisms for cash as well as other inputs is in line with the priorities of the PNIA and meets the **enfranchisement needs of farmers**, whose dependence on public subsidies is among the causes of their limited **level of innovation**. On the other hand, the two projects are integrated with the work of the agricultural services and share their centralistic methods of intervention and administrative inflexibility, aimed at preventing arbitrary decisions. The organisation of a national project unit and two centres linked to regional antennas achieves this approach in a structural manner. The same is true of the mechanism

for granting credit, which is integrated with the decision-making processes of local authorities and depends on the technical expertise of decentralised agricultural services.

In this regard, the two projects have encountered difficulties coordinating their activities, as they are dependent on external factors that **lengthen their time frames** and prevent the smooth sequencing and integration of their results. This problem **reduced the effectiveness** of the most innovative component of PAPSEN, its support for the ISRA and the circulation of the results of socio-economic, agricultural and land use studies. The systemic nature of these problems resulted in a **limited use of the projects' financial resources**, especially AFDs, and widened the gap between the economic results obtained by better-off producers who are able to put innovation to use, and the results obtained by other producers.

The antennas' capacity to organise training and technical assistance is extremely **varied**, mainly because the human resources available vary from region to region and from department to department. The greatest delays were in those activities most closely dependent on the action of government departments, such as tendering for works and services and the granting of AFD credits. Difficulties in strengthening agricultural *governance* must therefore be considered as one of the major problems of the two projects, and particularly of PAPSEN, which has practically **given up** its more market-related components.

The projects made specific technical contributions to the creation of value chains which, however, lack a **coordination or governance structure that functions independently of the way agricultural policies are implemented** (i.e. places them in a strategic context in which various private-sector operators play independent roles, not subordinate to waiting for subsidies), which can ensure self-regulation by stakeholders. Such is the case with the distribution of agricultural machinery, but also of seed and fertilisers. In the case of the former, the supply of machinery, tractors, motor hoes and fixed threshers, facilitated by agricultural policies, is matched by an **absence of auxiliary services** to ensure their efficiency. So there has been no provision for the creation of mechanisation centres, or even simply to encourage the emergence of a network of trained and equipped mechanics to provide rapid assistance to farmers. This action, provided for in the PAPSEN project, has not yet been implemented. During field visits, many dismantled, rusty equipment was noticed, unlike the popular motorcycle taxis, which evidently enjoy repair services and parts suppliers spread throughout the region.

One of the problems created by the elaborate structure of the two projects' overall strategy is the need for specialised expertise to oversee their activities. Working with agricultural agencies and banks partially solves this problem in that it provides more qualified technicians than DRDRs and SDDRs, but it does not **guarantee their independence of judgment**. In practice, they respond to the needs of Senegal's agricultural policies and have the **same interests as** the implementers of the project activities. Whether it is the trialling of initiatives or the supervision of credit allocation, it is clear that these agencies are **in tune** with the local authorities and decentralised agricultural services that direct them, and therefore are not equidistant from the interests of the beneficiaries and the donor. Similarly, research conducted by the NRC was a contributing factor in the selection of sites and land improvement works for rice farms in the valleys.

The monitoring and evaluation missions focused on the progress of work and provided guidance on how to resolve the bottlenecks that hamper its execution. The monitoring plan developed at the beginning of PAPSEN was revised in 2020, and the monitoring team is implementing changes to improve its execution. On the other hand, these missions do not have a strategic frame of reference that systematises their results for the purpose of analysis and presentation of the project as a whole, much less for broader decision-making, i.e. the **reorientation of the strategy** and activities of the two projects beyond the resolution of their contingent problems, the execution of specific activities or, at most, coordination with the actions of decentralised agricultural services. Therefore, even when

they have noted the existence of structural constraints, this has not affected the strategy of the projects, which is ultimately to intervene to support the work of the MAER and decentralised agricultural services. This **weakness of the management system** - the lack of an organic relationship with monitoring activities - is evident from reading the yearly reports and the annual work plans and budgets, formally combined in a single document, but which present the activities in very different ways that limit understanding of the links between activities carried out and those yet to be implemented.

Lastly, it should be noted that the PAPSEN has developed a monitoring programme that has not been applied except minimally, and certainly not as an intended tool for the strategic management of the two projects. The presentation of the results of the two projects is therefore **episodic and not systemic**. The PMU does not conduct systematic data collection of outcomes, much less measure their effect on beneficiaries or their context. Rather, the tables shown in the available documents are a list of the status of procedures for awarding contracts and carrying out work or organising events, but not the number of beneficiaries. They do not give a view of the benefits gained by farmers - the outcomes of the projects - only the amount of activity accomplished. This situation is highlighted by the fact that the indicators given in the annual reports refer directly to activities and not to results or objectives (PAIS), and even to phases in the execution of works (PAPSEN). Therefore, even when the text of the annual reports occasionally presents ongoing activities and difficulties in their implementation, the data reported relate to the performance of the activities, i.e. internal to the projects, and not to numerical targets that are significant in terms of progress toward the project goals. The numerous tables do not represent successive states in the **measurement of progress achieved**, but situations that are relevant during a particular year and may no longer be relevant in the next. This monitoring system ultimately produces a large amount of data on the efficiency rather than the effectiveness and impact of these actions.

TO WHAT EXTENT HAS THE INTEGRATION OF RESEARCH WORK AND COOPERATION WITH THIRD-COUNTRY BODIES TO SUPPORT LOCAL STAKEHOLDERS BEEN ABLE TO INFLUENCE THE RELEVANCE AND EFFECTIVENESS OF ACTIONS?

Collaboration between applied research programmes in agriculture and aid projects for rural development is the **most salient aspect** of the Italian Cooperation intervention to support Senegalese agriculture. Strengthening the ISRA, establishing pilot and demonstration farms and conducting studies to set up training and assistance schemes for farmers create knowledge useful to decision-making processes and innovation (as in the case of improved seed), which ultimately improve farming systems. This approach is extremely important in terms of strengthening the fruit, vegetable and cereal value chains, since the capacities of the Senegalese agricultural services are **purely executive** and therefore insufficient to guide farmers' decisions in the field of modern and innovative technologies.

The NRC produced a considerable amount of studies and mapping tools (see the NRC section of the bibliography in Appendix 4) and worked with the ISRA and local agricultural agencies to strengthen their expertise. On the other hand, this assistance focused on issues specific to the two projects, since it did not address the reorganisation of the working methods of these institutions. Thus, this collaboration did not impact the functioning of the Senegalese BEI partners, with **sometimes disappointing results**. Utilisation of the studies carried out was minimal and, for example, the operation of the TIS was limited to the period of collaboration with the BEI, due to Senegalese institutional weaknesses.

In the absence of a radical institutional reorganisation of decentralised agencies and technical services, it is difficult for the two projects to have an impact on their functioning and, in particular, to enable organic, bi-directional collaboration between research/experimentation and

training/technical assistance. Seed producers interviewed, for example, noted that pre-basic seed multiplication on behalf of the ISRA does not take local market needs into account. Southern DRDRs and project antennas themselves also pointed out that short-cycle (drought-tolerant) rice seeds are available for the lowlands but not for hill or plateau rice farming, which is the type most adversely affected by water scarcity. In this sphere too, it is evident that the influence of the **centralising approach** prevents external contributions from being taken into account, for example, the alignment of international cooperation action with the agricultural and rural development objectives of the MAER. The very processes for executing work - with lengthy procedures for awarding contracts - create conditions - calculations of opportunity costs and adjustments to established circumstances - that hinder **the transfer of technology**. Typical examples are the promotion of vegetable and fruit growing in the centre of Senegal, and mechanisation in the south. In the former, the difficulty of building wells, and therefore gaining access to irrigation water, along with persistent water scarcity, discourage the adoption of innovative irrigation practices. In the latter, the distribution of machinery not adequately backed by the creation of mechanical services to maintain and repair it ultimately perpetuates labour-intensive farming practices.

These problems confirm the insufficient elaboration of *governance* (i.e. coordinated decision-making by participants at the various stages) of production chains - in practice, their self-regulation - and thus favour the development of a **centralised technology transfer** system that takes into account the needs of beneficiaries but ends up proposing solutions without considering intermediate technologies that can broaden the spectrum of farmers' choices, according to their different needs and abilities. Those who carry out the research, training and demonstrations, provide technical assistance, organise beneficiaries and supervise all these activities act in an anodyne way, and therefore rely on the decentralised technical services that constitute the only structure present in all links of the chain. Rather than being limited to oversight and participation in the *governance* of production chains, they act as key players at all stages and reinforce their steering role through the allocation of subsidies. In practice, they make use of research input **episodically**. Such is the case of collaboration with the project for the supply and multiplication of improved seeds for the lowlands but not the hill areas (plateau), as these are not as high a priority for agricultural research. In fact, the ISRA and the various farmer assistance associations merely propose innovations, but do not provide input for goal setting and research programming. The decentralised agricultural services, in fact, are unable to overcome the **weakness of local participation** and obviously end up aligning their priorities with those established at the national level, based on **considerations not validated by the potential beneficiaries**. Communication difficulties between the parties delayed the implementation of this method of technical assistance, which should be central to the execution of PAPSEN and PAIS activities.

To address these obstacles, the continuing collaboration of the NRC with the ISRA after the end of the PAPSEN/NRC project has developed along innovative lines, but **become distanced** from the other activities of PAPSEN and PAIS, with the organisation of its own network of relais (hubs) in rice-growing areas which can provide information on the needs of farmers and inform them about research results. PAPSEN and PAIS' own activities, on the other hand, continue to be developed through ad hoc collaborations with Senegalese agricultural agencies and thus limit two-way communication between applied research and technology transfer.

Finally, with regard to the efficiency criterion, it should be noted that the response to the **COVID-19** pandemic **resulted in delays and suspension of activities of the two projects**. The reduction in the work rate of agricultural authorities and decentralised technical services resulted in a similar reduction in project staff who are closely associated with and subject to MAER regulations. Training activities and departmental AFD pre-selection committee meetings were suspended during 2020 and resumed at the end of the year, albeit on a limited scale. The PMU did not organise the usual monitoring and assessment missions of field activities from April onward. The COVID-19 pandemic, therefore,

further exacerbated the problems of integration between the various activities of the two projects and thus their cumulative impact.

5.4 Effectiveness

Summarised judgment of effectiveness

The two projects helped transfer innovation to farmers in horticultural (central and south) and rice (south) production. The activities carried out allowed farmers to access a range of services, from hydro-agricultural upgrading of water regulation to farming equipment training and technical assistance, and to strengthen their organisations and their relations with decentralised agricultural services. AFDs also provided low-interest loans to fund investment. These results are biased from a quantitative perspective. Production per unit (see appendices) has increased, but targets for production areas and number of beneficiaries are lower than expected. Pilot farms have entered production, but only a portion of those planned are operating. The rehabilitation of tracks and irrigation perimeters in the valleys are still ongoing, so the results of other capacity-building activities are still partial. Investments facilitated through AFD projects are ongoing.

TO WHAT EXTENT WERE THE PLANNED PROJECT ACTIVITIES IMPLEMENTED?

Project activities **took longer to implement than anticipated**, so many activities involving land management are currently in the execution phase. Field visits and available annual reports allow us to specify the following achievements.

A. NRC/PAPSEN

Component	Activities carried out
1. General activities	Programme management: mobilisation of 21 experts: 4 coordinators, 17 technicians, 40 missions in Senegal
	Technical assistance to national PMU and AICS headquarters in Dakar (former Local Technical Unit - LTU) for the formulation of <i>Programmes de travail et des budgets annuels (PTBA 2015 and PTBA 2016)</i>
	Participation in 2 joint evaluations of the PAPSEN project
	Communication: reports, studies, publications, cartography, 2 brochures, 1 poster, 6 videos (http://www.cnrweb.tv), photos, website http://www.papsen.org , participation in seminars, events
2. Scientific studies and events	Elaboration of 28 technical reports, 7 other reports, 12 thematic maps, publication of the proceedings of the symposium <i>Eaux et société : face au changement climatique dans le bassin de la Casamance</i> , publication of an article on lowland rice farming in South Senegal (mid Casamance)
	Events and seminars: seed delivery meetings: organisation of the seminar: <i>Eaux et société : face au changement climatique dans le bassin de la Casamance</i> (Zinguichor, June 2015) and the conference <i>Innovating agriculture for sustainable development in favour of new generations</i> (Rome, May 2016) with the participation of Senegalese counterparts. Participation in the 5ième Semaine Africaine de l'Eau (Dakar, 2014) and the conference <i>Les sociétés rurales face aux changements environnementaux en Afrique de l'Ouest</i> (Paris, 2015). PAPSEN presentation at 2 events at Milan Expo (2015).
3. Technical assistance	
3.1 Centre: development of the horticultural supply chain	Elaboration of the research programme for the experimental perimeter
	Assistance in the creation of the Service and Training Centre (STC) in Bambey for intensive horticulture education
	Development of the Territorial Information System (TIS)
	Agro-pedo-climatic study for horticulture in the peanut production basin
	Plant variety study, with report published May 2015

	Identification and mapping of 140 sites (400 ha), verification and production of the map for site monitoring with the TIS
	Study of seeds and horticultural seed production systems
	Preparation of the list of teaching and laboratory equipment
	Study visit by representatives of Senegalese agricultural institutions to Policoro, Italy, May 2015
3.2 South: rural development	3.2.1 Technical assistance to producers in the south and to the PMU and Local Technical Unit (LTU) in annual planning <ul style="list-style-type: none"> • Study and monitoring of regional land use and land cover dynamics • Production of maps to support the planning, management and monitoring of land activities • Role and dynamics of the Casamance River. Seminar organised jointly with IRD, ISRA and the University of Ziguinchor. Publication of the minutes of the seminar • Study of the impact of climate change on the water cycle in the Casamance river basin. • Definition of technical specifications in assistance for agricultural mechanisation • Territorial information system for the management of project data • Update to mapping of tracks and land use • Grain warehouse distribution map
	3.2.2 Valley rice farming: Creation of 4 rice demonstration plots; 4 demonstration sessions for 70 producers <ul style="list-style-type: none"> • Study of production types • Support in the formulation of aid instruments • Technical assistance in the realisation of demonstration plots • Socio-economic analysis of the two valleys of Samiron (rice farming and related non-agricultural activities) and Djimbana (rice farming and cashew competing with each other) • Establishment of an agro-meteorological network • High-resolution analysis of land occupancy in the 2 valleys and those to be rehabilitated • Technical assistance to rice farmers, outreach, consultancy, demonstration plots etc. • Assistance for organising training in educational sites
	3.2.3 Seed chain: Pre-basic rice seed production, training and assistance for multipliers, trials of new short-cycle rain-fed rice varieties, training of 75 multipliers <ul style="list-style-type: none"> • Assistance for pre-basic rice seed production at ISRA/CNRA(<i>Centre National de Recherches Agronomiques</i>) in Djibelor • Training and technical assistance for 150 seed multipliers • Trials of new varieties of short-cycle rain-fed rice, with phenotype and agronomic characterisation of 140 local rice varieties collected in the intervention area
	3.2.4 Pre-basic rice seed production at ISRA/CRA in Djibelor <ul style="list-style-type: none"> • Trials of new varieties of short-cycle rain-fed rice, with phenotype and agronomic characterisation of 140 local rice varieties collected in the intervention area
	3.2.5 Regional dynamics <ul style="list-style-type: none"> • Studies of land occupancy dynamics and land use, analysis of land cover and the water dynamics of the Casamance river • Development of the Territorial Information System (TIS): strengthening of the GIS unit of the <i>Direction des Eaux et Forêts, Chasse et de la Conservation des Sols (DREFCCS)</i>

The activities of the NRC formally concluded at the end of 2016. However, the institute continued collaborating with the ISRA and the two projects thanks to subsequent funding from AICS, through PAIS and PAIS PLUS, and later with a dedicated project: the PPATRD (with funding of 1.5 million euros; resolution no. 47 of 16/07/2018). The results of the first project were remarkable in that the scientific studies and events produced knowledge and conceptual tools which make it possible to address the constraints - environmental, technical, economic, operational, etc - that hinder the two value chains, fruit and vegetables and cereal and rice, at the root, in a systematic way. This is the case with the agro-climatic and socio-economic studies, which were framed in a territorial approach

suitable for **agricultural development planning**. Finally, the selection of sites and beneficiaries can be based on objective data, meaning that assistance can be targeted directly towards the farmers who need it.

The strengthening of the ISRA in applied research, such as the improvement, conservation and multiplication of seeds and in-vitro plants obtained by improved micro-propagation of fruit, vegetables and rice, also has **broader significance** because it enables the cultivation of varietal selections or cultivars which are tolerant to biotic and abiotic stresses, and adds value to other production inputs with high technological content.

At the same time, the assistance provided to PAPSEN in establishing pilot farms and demonstration plots **reinforces** the mechanisms for technology transfer from the ISRA - along with assistance in planning research to support PAPSEN in the central regions - to agencies that assist farmers. These activities are related to the support provided by the NRC for the orientation and execution of the activities of the PAPSEN project, i.e. the design of interventions, both in terms of identifying beneficiaries, and deciding the technical content of such actions.

In addition, the NRC provided expertise for the strengthening of the ISRA's research and outreach infrastructure and programmes, contributing to the (re)enabling of test plots and the creation of the Service and Training Centre, which plays an important role in this sphere. In effect, it strengthened the value chain of technology transfer from research to the farmer's field by boosting the information content and interaction between stakeholders. These interventions were aimed at the **technological upgrading of** fruit, vegetable and rice production, in line with activities supporting applied research and thus with the institutional work of the ISRA. The studies, and the resulting publications and thematic maps, enabled collaboration between the BEI and the Senegalese technical services, whose technical expertise has been improved, for example in the organisation of field trials, rural surveys³⁶ and agro-meteorological measurements³⁷.

The NRC provided scientific and technical consultancy to support the planning activities of the AICS and the PMU, **enhancing** the results of its studies and carrying out field surveys and monitoring missions that formed the basis of their subsequent activities. Support for local development projects included several studies on the water regime of the Casamance River basin and land occupancy dynamics, analyses of land use and land cover, water dynamics of the Casamance River,³⁸ and participation in discussion events, as well as the development of the Territorial Information System (TIS) which would serve to strengthen the GIS unit of the *Direction des Eaux et Forêts, Chasse et de la Conservation des Sols (DREFCCS)* of the MAER.

Communication activities were extremely intense, with public presentations of the project and the results of studies, and the creation of websites (still active) showing the results of the studies and activities carried out, alongside publications and thematic maps. These activities enabled interventions to be set up in the two showcase valleys of Samiron and Djimbana, where most of the BEI's activities in the southern region were concentrated³⁹.

³⁶ Guide pratique "Introduction aux systèmes de relève GPS: L'utilisation des GPS pour les relèves des superficies cultivées"

³⁷ Guide pratique aux "Mesures agrométéorologiques. Guide à la gestion du réseau de mesure agrométéorologique dans la région de Sédhiou"

³⁸ "Eaux et sociétés face au changement climatique dans le bassin de la Casamance" and 25 land use maps of the assisted valleys.

³⁹ "Analyse sur l'adoption de l'innovation technique par les productrices de riz dans les vallées vitrine de Samiron e Djimbana" and "Changements d'occupation et d'utilisation des sols dans les vallées de la Moyenne Casamance : Les cas d'étude des vallées de Samiron et Djimbana"

B. PAPSSEN

Component	Activities carried out	
1. General activities	Creation of the project management committee and the national, central and southern PMUs and departmental antennas	
	Training for agents of the national PMU and the MAER <i>Direction de l'Administration Générale et de l'Équipement (DAGE)</i> on bidding procedures	
	Drafting of a monitoring and evaluation manual, monitoring visits, development of annual reports and annual activity plans and budgets, audits	
	Communication: radio broadcasts	
	Monitoring, evaluation and organisational development	
2. Centre		
R 1. Vegetable and fruit production in the Thiès, Diourbel and Fatick regions have increased and diversified	Strengthening the ISRA	Strengthening of the ISRA's research and outreach services: laboratory, internet, various materials, creation of a horticultural plot with drip irrigation system and tree planting at the CNRA for research and demonstration purposes, watchman's room and storage
		Marketing and socio-economic systems studies: Creation of cultivation pathways Marketing studies Sector studies Pre-basic horticultural seed production study Varietal studies. Preliminary trial
		Hydro-agricultural system for water regulation in 3 pilot farms (Mbassis, Darou Fanave, Touba Tul). Photovoltaic systems that drive submersible pumps in boreholes yet to be installed.
R.2 The technical and entrepreneurial capacity of farmers (mainly women) is strengthened	Sementi orticole	Training held in Italy for ISRA researchers on the production of improved seeds
		Research, characterisation and trials on cereal varieties, integrated pest management in mango defence, and the water cycle
		Pre-basic vegetable seed production
		Training and certification course for seed producers
		Startup of the Service and Training Centre (STC) in Bambey
	Demonstration farms	Creation of 15 priority irrigated horticultural farms (refurbishment of infrastructure and supply of equipment: irrigation networks, supply and erection of wire fencing and execution of earthworks, construction of building blocks, toilets and awnings): Thiès 4; Mbour 1; Bambey 5; Diourbel 2; Fatick 3. Creation is ongoing of an additional 55 demonstration farms: photovoltaic systems to drive submersible pumps yet to be installed (overall target: 70)
		Assistance to 807 farmers, of which 287 men and 520 women
		Assistance to peanut production in Touba Toul: 50 farmers, including 14 women (2.2 ha)
		Information/training of producers and sector stakeholders: 1,054 farmers trained, including 628 women
		Catalogue circulation and training of producers and industry stakeholders: 7 selected themes (seeds, soil fertility, beekeeping, vegetable and fruit growing, fruit and vegetable preservation, vegetable processing, administrative and financial management)
		Support and strengthening of the organisational capacity of the EIGs of the 3 pilot sites (Touba-Toul Darou-Fanaye, Mbassis): 5 committees formed
		Implementation of the protocol with ANIDA: monitoring of studies and refurbishment work on the 15 demonstration irrigated horticultural farms (target: 70 farms)

3. South		
R 1. Agricultural production and yields of rice, vegetables and fruit in the Sédhiou and Kolda regions improved	Redevelopment of the valleys (hydro-agricultural upgrading for water regulation)	Completion of R&D programme studies: preliminary studies and monitoring missions in the sphere of rice production, integrated pest management (mango, cashew); analysis and impact of changes (land use, population etc), water cycle study (Casamance river basin)
		Surveys and monitoring missions for land development in the new valleys (target: 3,400 ha)
		Hydro-agricultural work for water regulation in the Samiron valley and Djimbana - Simbandi Balante: environmental and social impact study
		Supervision of the hydro-agricultural work for the water regulation (target: 600 ha)
	Rice seed production	Training and certification of seed producers
		Seed production: production of 1,110 kg of pre-basic rice seed for the ISRA
	Technical assistance for female rice farmers	Supply of inputs and seed at subsidised prices: urea MT 168, N-P-K 15-15-15 MT 168
	Distribution of agricultural inputs	Provision of 10 tractors with sprayers (Offset), 50 submerged field tillers, 50 compact tillers, 30 hulling machines, 50 rice threshers, urea MT 168, N-P-K 15-15-15 MT 168
		7 of 10 cereal banks built in the departments of Sédhiou (Saré Djimbi, Sakar, Bamacounda) and Goudomp (Kaour, Djimbana, Kougne, Baghère)
R 2. Supporting local economic development and local communities	Environmental and social impact studies and rural track construction work (target: 100 km: Sédhiou 45 km, Goudomp and Bounkiling 55 km)	
	Organisation of the meetings of the Local Concertation Committee (CLC) of Sédhiou	
R 3. Technical and managerial capacity of farmers (mainly women), technical services of departments and local committees are strengthened	Assistance in the drafting of the Local Development Plans (LDP) of 21 municipalities: department of Sédhiou 6, Goudomp 7, Bounkiling 8	
	Training for farmers' associations	
	Capacity-building for artisan businesses and producers' associations to maintain agricultural equipment	
	Training of municipal and regional council members: quarterly action plan for the Djimbana Valley management committee	
	Training of DBRLA technicians in charge of the construction and management of hydro-agricultural work for water regulation	
	Strengthening the capacities of the Sédhiou DRDR	

PAPSEN intervened in 5 regions with activities that contribute to the creation of value chains for fruit and vegetables and cereal and rice. The creation of the PMU and its organisation at local level reinforced the MAER's training and technical assistance initiatives, and agreements with agricultural agencies allowed it to strengthen its role in monitoring farmers. On the other hand, activities in the central regions focused on the introduction of varietal innovation and production techniques in the **fruit and vegetable** sector in the regions of Thiès, Diourbel and Fatick.

The strengthening of the research and information system (ISRA, STC) enabled the elaboration of theoretical-practical training pathways involving the CNRA farm for scientific research, the 3 pilot horticultural farms for field trials, and the 15 demonstration horticultural farms run by local EIGs, as well as the training of those responsible for their management up to the level of the EIGs (who organise training camps for farmers). This **multi-level articulation** allows technology produced by

the research to be transferred to farmers, and ensures its adoption and adaptation to the context according to local needs. However, such activities encountered **numerous obstacles**, starting with the requirements stipulated by the centralised agricultural assistance agencies and the lengthy procedures for awarding contracts.

Specifically, only some of the knowledge created by the preliminary studies was transferred to producers, resulting in suboptimal technical choices (see the next section on project impact). The sites established for these activities were also used for training events involving several thousand farmers, about two-thirds of whom were women. In fact, the irrigated horticultural farms refurbished or created so far **are significantly fewer than planned**, i.e. 18 (15+3) compared to 73 (70+3) whose (re)development is still in progress, and even in the former, the work is not complete. Training and technical assistance objectives were also only partially met, despite the STC's enablement. Strengthening seed production focused on strengthening multipliers and on linking pre-basic improved seed production and the post-multiplication phases with their supply to the most capable horticulturists on the pilot farms.

In the south, the PAPSEN project began the hydro-agricultural upgrading for water regulation on farms in the rice lowlands with water regulation works that facilitate the transfer of innovative technology and the valorisation of distributed inputs from the agricultural services (Sédhiou). The choice of the rice farming value chain **implicitly endorses the autonomy of women**, who are the main growers of this crop. Furthermore, the project expanded its interventions to the post-harvesting stage, with the construction of 7 cereal warehouses out of 10 planned (work on the others is underway) and the design and construction of 100 km of tracks - whose construction is nearing completion - for market access by the most remote producers in the Sédhiou region.

Collaboration with the ISRA enabled training in and promotion of environmentally friendly technologies. Lastly, PAPSEN carried out initiatives to **strengthen producers' associations** from a management angle, and their partners from a technical angle. This action included assistance to 21 municipalities of the Department of Sédhiou in the drafting of Local Development Plans (LDP) in order to create a favorable environment for the subsequent implementation of hydro-agricultural work for water regulation in the valleys and the construction of infrastructure. These interventions added value to the studies conducted by the BEI. In both the centre and the south of the country, PAPSEN funded the distribution of production inputs, especially seed and fertilisers, in line with MAER agricultural policy and as a **complement** to technical assistance activities for the transfer of technology.

C. PAIS

Component	Activities carried out
R 1. Supporting Senegal's food sovereignty through the sustainable improvement of rain-fed rice production	Development work in 4 new valleys and hydro-agricultural upgrading of water regulation for rice farms in 12 valleys in the Kolda region (2,400 ha)
R 2. Support for the intensification of sustainable agriculture through the empowerment of women and young farmers in rain-fed rice cultivation, horticulture, post-harvest processing and marketing of agricultural products	
Agricultural Development Funds (ADF)	Establishment of a committee and a specific unit for grants (ADF credits), organisation of 14 departmental pre-selection committees (Sédhiou 6, Kaolack 5, Kolda 3); training of their members

	<p>Agreements with the MEFP, MAER, Banque Agricole (LBA), Caisse Nationale de Cr�dit Agricole du S�n�gal (CNCAS) and Union des Institutions Mutualistes Communautaires d'Epargne et de Cr�dit (UIMCEC)</p> <p>Raising awareness of ADFs among producers</p> <p>Funding of agricultural micro-projects and meso-projects in the regions of Kaolack, S�dhiou and Kolda (LBA, UIMCEC): 338 ADF projects forwarded to banks (1,932,237 euros), 136 financed (404,009 euros).</p>
Technical assistance	<p>Distribution of pre-basic rice seed to farmers: 143 kg to 15 producers in Kolda, 31 kg in Kaolack</p> <p>Technical and gender equality training for farmers</p> <p>Organisational diagnosis of 4 cooperatives (Diankacounda, Di�ga Agro, Junuto K�ba, Mouso Molo de Ndorna)</p> <p>Technical assistance and support for rural finance</p>
R 3. Strengthening the technical capacity of beneficiaries and project stakeholders	
Technical assistance	<p>Distribution of pre-basic rice seed to farmers' associations/seed multipliers in S�dhiou and Kolda regions</p> <p>Distribution of 290 tonnes of urea at a subsidised price to producers in the 3 departments of the Kolda region</p>
Training	<p>Monitoring of a rice demonstration plot located in the municipality of Porokhane with rice producers (Kaolack): 10 beneficiaries</p> <p>Training of 12 rice consultants with the National Plan for Self-Sufficiency in Rice (PNAR) and assistance to producers</p> <p>Training in the technique of setting up a plant nursery for the EIG Soop Bakh� in Darou Rakhmane, Kaolack</p>
Organisation of producers	<p>Establishment of 2 departmental networks for the EIGs Nioro and Guinguin�o</p> <p>Training 24 members of Kaolack departmental unions in gender and development issues</p> <p>Establishment of 4 Local Gender Equality Committees (LGEC)</p> <p>Strengthening of 10 producer associations and creation of 10 family-based horticultural farms in Naatangu� (Kaolack)</p> <p>Implementation of the institutional diagnosis of producer organisations in Kolda</p>
R 4. Support for institutional governance and other stakeholders in sustainable agriculture and food security at central and local levels	<p>2 programme launch conferences in Kaolack and Kolda</p>

The work of PAIS, which intervenes in three regions (one in the centre and two in the south) makes use of the resources of the PAPSEN PMU, except in the central region of Kaolack and Kolda in the south. PAPSEN is not active in these areas, and PAIS has therefore created its own antenna. Consequently, these activities also draw on the results of initial studies conducted by the PAPSEN project and on joint training and technical assistance capabilities. Similarly, the fruit and vegetable

and cereal-rice supply chains are addressed **structurally**, from knowledge creation to technology transfer and the provision of production and post-harvest inputs. On the other hand, a substantial portion of PAIS investment is made at the request of beneficiaries, making ADF credits available to enable them to carry out work and purchase materials and services.

The hydro-agricultural upgrading of water regulation in the valley lowlands (Kolda) is the **entry point** for production intensification, and in particular the improvement of the water economy.

Funding micro- and meso-projects was extremely complex. Securing agreements with lender banks, setting up and training members of the 9 departmental pre-selection committees, awareness raising, and launching calls to tender considerably delayed this work, which by the end of 2020 had approved 177 projects out of the 375 forwarded to banks. However, according to PAIS coordinators in Kolda and Kaolack, there were **significantly fewer** projects in progress than were approved at the time of the evaluation (11 and 19, respectively), when 68 projects were funded in both 2019 and 2020. Because ADF funds were disbursed between 2019 and 2020, often lagging behind the needs of farmers, most activities - and particularly building work - were still in progress at the time of the evaluation survey. We note that the fruit and vegetable beneficiaries of the Naatangué farm (Kaolack) visited have given up on the installation of the drip irrigation system and have not yet completed the construction of poultry houses, a sector in which the project does not have its own expertise⁴⁰. This indicates the importance of providing training and technical assistance to beneficiaries in advance, in order to avoid issues and risks (especially if farmers' choices depend on agricultural policy priorities in whose formulation they had no say) that **hinder the success of** these actions.

At the same time, PAIS provided training and technical assistance to farmers by distributing seed, machinery, and fertilisers. One component of the project also supported multiplication from pre-basic rice seed of the improved short-cycle (less drought-sensitive) and lowland-adapted Nerica variety. Training has facilitated technology transfer, especially in the case of water economics (with the introduction of raised plot borders and seedling transplant techniques) and rice seed multiplication (on behalf of the ISRA by farmers or for distribution among EIG members by farmers).

Lastly, PAIS implemented activities to **strengthen** farmers' associations, carried out institutional diagnosis of farmer associations in Kolda, trained the 24 members of departmental unions in Kaolack in gender equality and development, and created 4 local gender equality committees and 2 departmental networks for the Nioro and Guinguiné (Sédhiou) EIGs. In addition, PAIS strengthened 10 farmers' associations by furnishing them with the corresponding Naatangué (Kaolack) family farms supported by ANIDA⁴¹.

The **geographical dispersion of** these initiatives limits their contribution to the creation of rice and fruit and vegetable value chains. The hydro-agricultural upgrading of water regulation in the valleys and the organisation of producers create a favorable environment for technology transfer and are part of the larger design of Senegalese agricultural policy. Local agricultural services play an **essential role** in both identifying and executing these activities, which are part of targeted strategies in the focus areas of PAIS. Therefore, the project's contributions enhance other initiatives (such as the ISRA's provision of improved seed, and projects supplying tractors and farm equipment) and, despite their limited size, **contribute** to the creation of the rice and fruit and vegetable agricultural supply chains.

⁴⁰ Naatangué is a model farm established by ANIDA which includes a well, chicken coops, an irrigation system, fencing etc.

⁴¹ The Naatangué family farms have a size of 1 - 2 ha, which is divided between horticulture, arboriculture, poultry, fish etc. and are equipped with wells with solar-powered pumps and storage tanks.

Overall, the actions of the two Italian Cooperation projects achieved improvement in the following areas:

- Strengthening research capacity and technology transfer to farmers through demonstration farms etc;
- types of crops produced in the valleys and farms;
- access to improved production inputs and the training and technical assistance that enable their adaptation and adoption;
- the creation of infrastructure that facilitates market access;
- the creation and equipping of irrigation perimeters with innovative water extraction, management and distribution systems;
- fencing to protect fruit and vegetable farms from domestic animals and predators;
- crop differentiation and the destination of the harvest (self-consumption and sale);
- increased productivity through access to technologies that enhance the value of government-subsidised production inputs;
- the introduction of a second growing season through irrigation or a second level of production (agro-forestry).

These results were achieved on a **smaller scale than expected** due to the many delays accumulated by the projects. The level of farm exploitation is **uneven**, due to major difficulties encountered in the start-up phase of operations. The project experienced significant delays in the start-up of its activities, due to lengthy administrative procedures at both Italian and Senegalese levels.

Some EIGs waited from 2013 to 2019 for the start of operations, while others are still waiting, due to **technical difficulties and contractual issues**. The shortcomings noted relate to the installation of fencing (at the Tockorag farm), the delay in drilling wells and installing irrigation systems and the quality of ploughing work (Darou Fanaye and Darou Marnane) in the centre; and in the south particularly the hydro-agricultural upgrading of water regulation for rice perimeters, which requires the building of hydraulic plants and the construction of tracks.

The number of farms created by PAPSEN in the centre should have been 70-75, a goal that is far from being achieved, due to the **complexity of the procedures** for awarding contracts and carrying out infrastructure work. In practice, the project rehabilitated three pilot horticultural farms: Dourou Fanaye, Mbassis and Touba Toul, which have entered production; and is setting up 15 demonstration farms (Koul, Tawa Fall, Sakh, Ndoucoumane Fall, Keur Yaba Diop, Lambaye 2, Ngogom1, Bambeye Sérère, Tallègne, Tockorag, Khoubé, Sambé, Darou Marnane, Mbar and Ngohé), which are not yet in production.

Even in terms of strengthening producer associations, **results have been partial**. The two projects have been successful in the case of the strongest and best-led associations, particularly the women's groups in the EIGs, with the establishment of management committee offices and capacity building aimed generally at meeting the need for participation in the projects' activities, as well as some awareness-raising and social management capacity-building action, for example on gender issues. Many of these associations, the cooperatives and some of the EIGs, remain **weak** and highly dependent on the leadership of agricultural services. For example, of the eleven EIGs visited in the central regions, only four benefited fully from the strengthening actions, namely the Takou Ligueeye EIGs of Touba Toul, Jam Bougoul of Mbassis, Sant Yalla of Tallegne and the group in Sambe. These associations are active in the management of demonstration horticultural farms. The EIG of Tallègne is part of the Diourbel network of horticulturists, which has organised its own circuit for the supply of agricultural inputs and the marketing of crops. Financially, each of the aforementioned organisations has a **fairly high level** of working capital.

In contrast, other EIGs assisted in the central regions are **very weak**. Their members make **irregular contributions** ranging from 200 to 250 CFA francs, or approximately a third of a euro, per month⁴². Because these organisations are not yet producing, their working capital is **eroded by fixed expenses** and, in the case of the Lambaye farm's EIG Dieuf Dieul, working capital was converted into credits for its members.

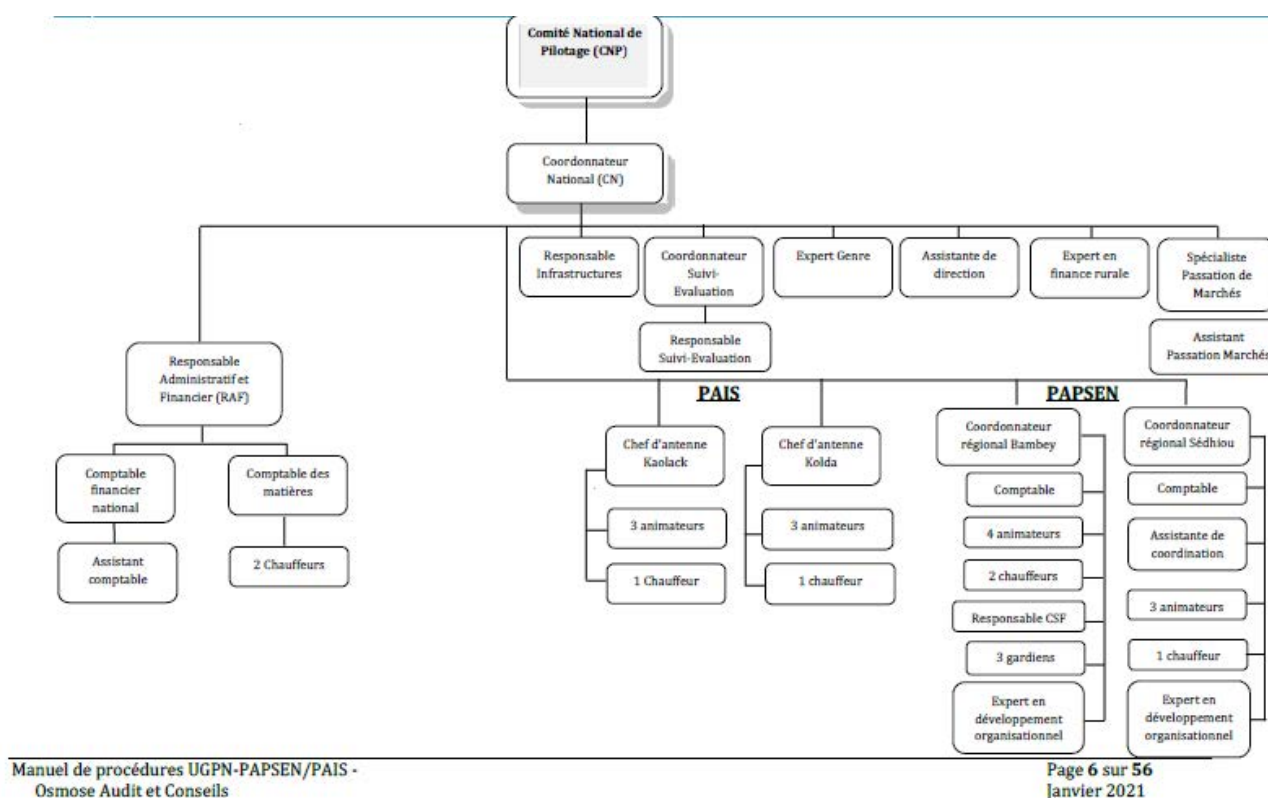
TO WHAT EXTENT DID THE MANAGEMENT AND STEERING BODIES ENSURE THAT THE ACTIVITIES OF THE TWO PROJECTS PROCEEDED SMOOTHLY?

The national steering committee (*Comité de Pilotage* - SC) guides the execution of the two projects and approves activity plans, budgets and annual reports. Their execution is the responsibility of the national Programme Management Unit (PMU) and the two regional Programme Management Units working with MAER departments and agencies, the ISRA, decentralised agricultural services and local administrations.

The national PMU coordinates and executes the activities of the two projects directly and through collaboration protocols signed with farms and decentralised agricultural services. The project coordinator is assisted by the training officer, the monitoring expert, the administrative expert and an outreach expert. In addition, PMU experts funded by PAPSEN and PAIS include a gender and organisational development expert, a procurement expert in charge of the tender office and her assistant, an infrastructure expert, a rural finance expert, two monitoring and evaluation experts and an assistant manager. The two regional centres and their related departmental antennas have a leader and one or more animators in the case of PAIS. The staff are supported by a driver and a general servant. The execution of activities requires close cooperation with decentralised agricultural services, as the projects are **understaffed**. Therefore, the work of the project staff focuses on strategic direction (planning, institutional agreements, supervision, communication), administration, coordination and monitoring of field activities (monitoring and evaluation missions carried out by contracted experts).

⁴² 1 euro is equivalent to 655.957 CFA francs

Diagram 1. PAPSEN / PAIS organisational chart



Given the variable capacity of available experts (among other things, PAPSSEN has one agent or animator per region - i.e. one per department - against three for PAIS), the two projects are **heavily dependent on** local technical services and agricultural agencies. This situation makes **alignment of the two projects with national and local agricultural policy priorities inevitable**. The project's contribution to their strengthening was limited - apart from the case of the ISRA and the STC - to training technicians and members of ADF pre-selection committees directly involved in project activities. Therefore, PAPSSEN and PAIS **did not affect** the decision-making and operational mechanisms of the assisted agricultural administrations, which follow their own criteria and regulations in their collaboration with the two projects. This approach is in line with the strategy of the two Senegalese agricultural policy assistance projects, but its automatic execution reduces the innovative value of international cooperation initiatives.

The commitment of the Senegalese administrations in ensuring the appropriateness of project-related decisions, and of Italian Cooperation in validating them, strongly impacted the timing of activities, particularly those concerning the awarding of external contracts. The national PMU consistently rescheduled **delayed** actions, but in the absence of direction from the national steering committee, which approves annual plans proposed by the PMU, is **powerless to change the course of events**. In practice, each operational unit of the project, whether national, regional or departmental, develops its own modus vivendi with the administrative authorities and the relevant geographically decentralised technical services, since it is not in a **position to impose its vision of the project on its partners**.

The **increased frequency of** visits to project sites in the southern region allows for more contact with farmers. This is reflected in a **closer and more responsive** partnership with beneficiaries and, ultimately, faster response times to their requests. The difficulties mentioned in the previous paragraph were encountered in working with the banks that allocate ADF credits. Their strategy, based on the **financial reliability of** credit recipients, overrides the technical considerations of ADF representatives. Therefore, project guidance flowing from the national steering committee is mediated and aligned with the priorities of project partners. This is the case with the distribution of tractors and

seed, but also with the selection of horticultural farm sites in the central regions, the creation of the Naatangué farms and the allocation of ADFs. In this way, projects ultimately circulate technologies promoted by national policies, whose execution is often mediated by contingent priorities that take precedence over the long-term objectives identified during the NRC's collaboration with the ISRA at the start of the PAPSEN project.

At the micro level, this approach tends to endorse **uniform solutions** which are not always appropriate for the context (mechanisation, drip irrigation, seed multiplication for the ISRA, Naatangué farms etc), with initiatives that are redundant or not dimensional to producers' needs. Many assisted farmers and ADF beneficiaries pointed out that the contributions made by the projects (in concrete terms, the extension of fencing for farms, seed multiplication, the size of warehouses) are **very different** from the objectives of their production plans. The planning of project activities ends up incorporating such technologies, because they allow the technical expertise of farms to be mobilised and thus strengthen their use on the ground, rather than on the needs verified in the direct relationships established with farmers during the process of identifying their needs. Decision-making autonomy and the promotion of an approach specific to the projects is most evident in initiatives to strengthen producers' associations, particularly those that support the autonomy of women farmers.

In this context, the collaboration of decentralised agricultural services and local authorities was positive, for example facilitating the creation of municipal gender equality committees and, of course, confirming the reliability of women's groups in EIGs, which have often been involved in previous development projects. This is clearly important, because it entails an effort by both parties (decentralised agricultural services and EIGs) to enhance **grassroots participation in** targeting technical assistance to farmers. The involvement of agricultural organisations such as EIGs, cooperatives and local associations makes it possible to gather the views of beneficiaries and subsequently **calibrate interventions to their needs and capacities**. This bottom-up participation was particularly useful in steering the hydro-agricultural upgrading of water regulation in the southern valleys (by including these in municipal development plans and supporting them with other actions that reinforce the contribution of the beneficiaries).

The **coexistence** of a top-down strategy and the inclusion of beneficiaries is evident in the contextualization of activities, which has reaped benefits despite delays caused by the differences in approach. A case in point is the collaboration between the ADF funding of the Malifara banana farm (Sédhiou) and the women's group of the Fan Soutoutou EIG, which is starting production in the same area with a two-tier cultivation system (arboriculture and horticulture). In this instance, the assignment of credit to a farmer who is technically and economically well off and with a clear commercial orientation responds to the *top-down* needs of the bank that supports him, but the farmer was able to join an action initiated by a local group that has adopted the contents of the PAIS awareness-raising campaign.

In general, the execution of the two projects was in line with Senegal's agricultural policies, which is consistent with its conception, but **it was unable** to guide decisions on the basis of a vision and innovative technical inputs of its own design. In fact, initiatives aimed at strengthening fruit and vegetable and rice value chains promote **technologies which were already mentioned in the action plans of the decentralised agricultural services**. The added value of these initiatives lies above all in the valorisation of knowledge created thanks to collaboration with the NRC, and in the strengthening of producers' associations. These inputs produced **limited effects** because the institutional partners of the two projects played a decisive role in guiding the production choices of the beneficiaries. This is evident in the pace of implementation of work to create horticultural farms in the central regions, and in the selection of ADF beneficiaries in the south, which were both subject to administrative vicissitudes that the adoption of a results-based mode of intervention - appropriate for a project - would have avoided.

The two projects' achievement of results is dependent on adapting their implementation to the **priorities of the farms and the decentralised agricultural services**. The problem that arises from this approach is the **fragmentary nature of the activities carried out** on the ground, and therefore the delay in strengthening value chains. These activities, moreover, should also develop **their own governance based on participation and self-regulation, i.e. partially detached from the work of local authorities**, which in this context should act more as supervisors and observers than as decision-makers on technical and economic issues.

To maintain control over the situation, the two projects carried out numerous missions to monitor the sites and coordinate with local authorities. These activities are **severely hampered**, firstly by the inadequate number of supervisors, and secondly by logistical difficulties. Local agents and project animators do not have their own suitable means of transport (motorcycles) and must rely on decentralised agricultural services or public transport. This is particularly evident in the central regions, due to the inadequate staffing of PAPSEN.

The same can be said for training activities. The lack of specialists - or at the very least, of reference criteria formulated to reinforce the training strategies of the partners - means the two projects are forced to rely on collaboration with agricultural agencies that clearly have **their own agendas based on their own competencies**. For example, the training modules in the central regions have mobilised the following collaborations.

Membership of trainers by topic	
Topic	Trainers
Drip irrigation and fertilisation system	CDH/ISRA
Management of crop perimeters	CDH/ISRA
Agricultural good practice	CDH/ISRA
Phytosanitary good practice	CDH/ISRA
Irrigation network management	CDH/ISRA
Production of seed and horticultural plants	CDH/ISRA
Co-construction	BAME/ ISRA
Gender and organisational management	BAME/ ISRA

In practice, the PAPSEN project catalysed collaboration between decentralised agricultural departments and other agricultural agencies, **without reworking its strategy** to ensure the efficiency of this process, for example, by building capacity and assisting these organisations in reworking their priorities and modes of action.

One way for the two projects to complete the agricultural assistance value chain would have been for the NRC to strengthen knowledge management in order to capitalise on lessons learned and make them available for agricultural policymaking. In practice, the project's strategy was limited to strengthening the capacity of some regional and departmental agricultural service cadres, both technically and in terms of subsidy management, and working with agricultural agencies at the local level under memoranda of understanding that cover the provision of monitoring and support services but not **their institutional strengthening**.

5.5 Impact

Summarised judgement of impact

The project's impact was variable, due to the fact that the availability of innovation depended not on the execution of a coherent technology transfer plan, but rather on the specific availability of capacity and inputs, which, as noted above, are largely dependent on agricultural policy and the priorities of state agricultural services. The strengthening of grassroots organisations and some local agricultural services (such as the

establishment of gender equality committees and ADF project pre-selection committees) has enabled more coherent distribution of the technology made available by the two projects, but has not resolved the underlying problems caused by institutional issues which are largely outside the scope of PAPSEN and PAIS. The efforts made in this regard are still insufficient, especially in the centre of the country. The resulting inadequate calibration of technology transfer and the lack of alternative options or appropriate comparisons of their costs and benefits are a characteristic feature of PAPSEN and PAIS and lead to crop choices over-reliant on centralised decisions that are poorly grounded in farmers' real situations. Collaboration with agricultural agencies replicated these problems, in that it further fragmented the implementation of actions and made it difficult to integrate these into the structuring of value chains.

Despite the efforts of the PMU and its representatives in the centre, the south and individual regions, the lack of coherence and of a unified vision proposing a comprehensive route of adaptation to and adoption of innovation, from research to production, has limited the impact of the technologies promoted. The fruit and vegetable and cereal/rice value chains struggle to integrate, and the benefits gained by producers are subject to the hazards of changes in input distribution and the technical assistance capacities of the agricultural services. The market components introduced by the PAIS project in particular can only be fully exploited by extremely well-organised EIGs and agricultural entrepreneurs, i.e. the beneficiary groups least directly affected by food insecurity.

WHAT ECONOMIC, SOCIAL, ENVIRONMENTAL AND POLITICAL EFFECTS HAVE THE INITIATIVES PRODUCED IN THE SHORT TERM, AND WHAT TRANSFORMATIVE PROCESSES HAVE BEEN INITIATED?

Technology transfer and capacity building of producer organisations and fruit and vegetable and rice supply chains have produced **numerous positive impacts** in terms of productivity and income generation. These results are **still limited**, due to the fact that most of the production activities started or re-started in 2019⁴³. On the other hand, combining different actions on the same farms produced **cumulative results**. This is the case of the rice-growing perimeters of Casamance, which have benefited or are benefiting from hydro-agricultural work for water regulation on rice farms in the valleys, with improved water regimentation and the introduction of the transplant technique, and at the same time from access to improved seed, fertilisers and in some cases agricultural machinery. The **combination** of these factors increased productivity from 1-1.5 t/ha to 2-4 t/ha, to the point that farmers in these EIGs achieved surpluses that allowed them to move from self-consumption to market supply.

Problems were encountered in equipment management, with **additional costs** for repairs and the use of external services when tractors fail. The fact remains that technological change is occurring and is compatible with the needs of women, freeing up work time to pursue other activities, including selling their crops.

In the same supply chain, the grain warehouses and mill visited increased their activities. If anything, representatives of the EIGs that operate grain warehouses complain about the complexity of procedures for accessing ADF credit and innovation, which limits the growth of their market. Similar problems were encountered by seed producers, or rather seed multipliers, who see a potentially growing market (intensification of access to production inputs) but complain of limitations due to a **lack of coordination** between access to basic seed (and therefore to multiplication), access to credit (which finances this activity) and to customers (who also depend on credit). Ultimately, farmers in the south value the innovations promoted by the projects and expose themselves to the risks inherent in technological transition because they see the opportunities created by the construction of the Senegambia Bridge and the resulting access to the metropolitan market.

⁴³ Rice production in the south of the country began in the early years of PAPSEN implementation.

In the central regions, the situation for producers is **more uncertain**, as the water economy presents greater problems. In fact, supplier contracting during the installation phase and climate variation adversely affected well construction and operation of drip systems. In the centre, PAPSEN assists 807 farmers, of which 287 are men and 520 women. These farmers are distributed on 18 farms (3 priority farms and 15 demonstration farms) with a total area of 90 ha. Each male farmer has an average of 500 m² and female farmers 250 m². Production focuses on onions, tomatoes and lettuce, as, for example, on the farms of Talagne, Mbassis and Darou Fanaye. The highest productivity is recorded in the farms of Touba Toul, Mbassis and Sambé.

These companies have **done well**, selling onions, tomatoes and peanuts with prices in the upper range (onion 250 - 400 CFA francs/kg and peanut 600 - 700 CFA francs/kg). The smooth functioning of the EIGs of Touba Toul and Tallègne allowed these organisations to fund religious ceremonies. A farmer from Touba Toul reported earning 280,000 CFA francs from onion production, and a woman from Bambeye Sérère stated that with the income generated from fruit and vegetable production, she is contributing to her family's livelihood for the first time.

The construction of irrigation systems and the control of pests (nematodes) are the **main technical problems** for farms in the centre of the country. New wells are sealed without the pumping system being tested. In addition, the cost of water extraction in the centre ranges from 100 to 200 CFA francs/m³, confirming the view of farmers interviewed on the pilot farms: that the cost of irrigation is relatively high. This has prompted some farmers to maintain manual watering systems or abandon fruit and vegetable production, as is the case with the women at the Darou Fanaye and Mbassis farms in central Senegal. Damage to wells and water pipes, blackouts of photoelectric systems and pump failures (or insufficient size) deprived Touba Toul and Mbassis farmers of water for many days, compromising the growth of their vegetables. On the farms of Darou Fanays and Mbassis, poor workmanship in the leveling and installation of irrigation networks caused blockages in the water flow and therefore the abandonment of part of the plots.

In addition, nematodes are particularly prevalent in soils on farms in Darou Fanaye, Mbassis, and to a lesser extent Sambé, and agricultural services do not have the technical capacity to assist farmers in this area. In Kaolack, where the water table varies from a few metres to several tens of metres deep, the problem of water economy is relevant but less intense than in the regions of Thiès, Diourbel and Fatick (where boreholes are up to 100 m deep); however it is more problematic than in the Sédhiou and Kolda regions, where the farms visited have wells 3 to 8 m deep. On the other hand, some farmers have shied away from adopting the drip system because its maintenance costs balance out the benefits of more efficient water use, and continue to use the traditional manual irrigation method. In this case there has been a lack of comparative demonstrations that would have allowed the development of an **intermediate technology** based on the use of furrows and moving sleeves, which is a viable alternative to the drip system without excessive pumping costs. The same is even more true in the south, where the water table of the farms visited lies at a depth of 3-8 metres.

Other **technical issues** limiting the impact of the project relate to the **sizing of installations**. For example, crop storage warehouses that improve the commercial positioning of horticultural farms in the centre are smaller than optimal in the case of Touba Toul and Mbassis. On the other hand, in Tallègne and Sambé, the availability of warehouses built by the Programme d'Appui aux Filières Agricoles (PAFA) makes it easy to preserve the harvest until the market price becomes favorable (the price of onions varies from 150 - 400 CFA francs/kg). A design problem was found on some farms, such as Tockorag, where the fencing is not based on a well-installed foundation wall.

Tables 1 and 2 in Appendix 7 show the production values of farms in the centre.

The horticultural farm of Touba Tul (Table 1), recorded highly variable onion productivity, depending on the agricultural year (from 25 t/ha in 2014/2015 to 7 t/ha in 2016/2017 and 14 t/ha in 2018/2019);

peanut production also recorded alternating results, varying between 2 and 4 t/ha from year to year in the same period. Tomato recorded the most satisfactory results, maintaining a yield of 37 t/ha in 2017/2018 and 2018/2019. Farou Danaye Diop farm produced 3 t/ha of onions in 2015/2016 and nothing the following year, due to the non-availability of seeds and agricultural inputs.

The crop accounts of Touba Tul farm (Table 2) show that a 446 m² plot of onions generated a harvest worth €549 with input costs of €154, or an income of €349 (+ €38.11 corresponding to labour provided by EIG members and casual workers) in the 2018/2019 trading year, which means a potential added value of €8,842/ha (including €855/ha of labour). This value is purely **indicative**, as it does not take into account factors that influence large-scale production: regular access to irrigation water, availability of skilled labour, control of pest outbreaks, and management of commercial risks.

We note the **extreme variability** in productivity by year and farm. This situation confirms that the technology introduced is unable to control the environmental factors (drought) and organisational issues (operation of pumping systems and access to agricultural inputs) that affect crop growth. These problems were felt less in the south, where farmers interviewed report fairly homogeneous productivity gains - solely dependent on the amount of technical assistance received - but also experience problems of access to inputs and crop marketing, depending on the distance from urban markets.

The mechanisation of agricultural work is the sector in which **inadequacies** in planning and methods of intervention had the greatest impact. On many of the farms visited (where, in any case, the projects have not yet started work in this field) it is common to find machinery which is discarded or cannibalised, due to poor maintenance and the lack of repair capacity in these regions.

One producer stated that a breakdown resulted in her tractor being taken to the city for repair work and the sourcing of replacement parts, forcing her to rely on replacement mechanisation services in the middle of the growing season. This problem is extremely common, because the project covers a very large geographical area and therefore the farms are distant from towns.

The same concerns noted for drip systems also apply to mechanisation. The premise of comparing different solutions and managing environmental risk is **insufficiently** developed by the two projects. The impact of this unsatisfactory approach is greatest in the centre, where the water economy is more problematic and producer associations less cohesive. On the other hand, the south suffers from its greater distance from urban markets and therefore higher risk post-harvest. The construction of grain warehouses helps to solve the second problem, but location is clearly crucial in this regard.

Because the various actions of the two projects have different geographical distributions, the value chain approach is often implemented **incompletely** as it does not eliminate the hiatus between production and post-harvest. The implementation of institutional strengthening initiatives, first and foremost the elaboration of local development plans and the construction of tracks in Sédhiou, should remedy these problems, but their success depends on an understanding with the decentralised agricultural services, which tend to impose their centralised criteria for agricultural development.

Interviews with EIG members revealed that their participation in projects is often a **continuation of other initiatives** resulting from collaboration with agricultural projects by Caritas, PAFA (Agricultural Chain Support Programme), the Senegalese Red Cross, World Vision, FAO, the Diourbel Agro-forestry Project etc. For example, in the centre of the country, World Vision is active in Bambeye Serere, the Projet de Promotion Féminine with the EIG Jef Je of Lambaye, ADI with the EIG Ngom-Ngom, PAFA and Caritas with the EIG Sant Yalla de Talegne, the Agro-forestry Project with the farms of Darou Fanaye and Khoube, PAFA with the Sambe farm, Caritas, FIDEC and World Vision with Jam Bougoul of Mbassis, and the Red Cross with the EIG Taku Ligueye of Touba Toul. The two projects were therefore able to benefit from their expertise and the execution of

complementary activities to diversify and strengthen agricultural productivity. In this sense, the actions of PAPSEN and PAIS leverage already-established core organisational capacities and contribute to the achievement of **mutually reinforcing** effects.

5.6 Sustainability

Summarised judgement of sustainability

The two projects have contributed a great deal to the creation and introduction of innovation in agriculture, and markedly less to the creation of conditions that enable its sustainability. Collaboration with agricultural services and farms fragmented the interventions, thereby lessening their joint impact and focusing on technical and economic goals, but without removing the institutional constraints that affect their success. A clearer view of rural development issues in the south limits the negative consequences of this approach; these, however, are more substantial in the centre, where the problems of water economics are greater and producer associations weaker. On the other hand, where these two constraints have been removed, sustainability is extremely high, as shown by the propensity for reinvestment among agricultural entrepreneurs and women's EIGs in the south.

TO WHAT EXTENT HAVE THE EXPECTED RESULTS BEEN ACHIEVED IN A SUSTAINABLE MANNER?

The use of knowledge and innovation resulting from the collaboration between the NRC and the ISRA, and the continuation of the results obtained by PAPSEN and PAIS, are hampered by the **failure to resolve some strategic issues of Senegalese agricultural policy** and the consequent suboptimal collaboration between the two projects and the MAER's agricultural services. These problems are highlighted by the fact that after the partners left, some demonstration farms in the centre reduced their operations, and the infrastructure that had been installed began to deteriorate. The situation is better in the south, where the actions of DRDRs and SDDR are more flexible and open to input from beneficiaries.

PAPSEN and PAIS invested in capacity building (ISRA, STC, gender equality and ADF project pre-selection committees, technical training etc), but even in this context there has been no modification of state action, whose emphasis on grant distribution as a driver of local development becomes more **inadequate every day**. Nevertheless, this conflicts with the two projects' strategy of focusing on initiative and agricultural associations. Their involvement in the *governance* mechanisms of technology transfer and fruit and vegetable and cereal production, as well as seed and mechanisation, not to mention trade in agricultural inputs, has been insufficient. In practice, upgrading *governance* requires **greater decision-making autonomy for value chains** (self-regulation), and therefore a less hands-on role of guidance and oversight in technical and operational decisions by agricultural services.

Increased yields have allowed many farmers to reinvest in the purchase of production inputs. Deficiencies in mechanisms for input delivery, training and technical assistance are **barriers to the sustainability of** such investments. The cumbersome nature of agricultural credit and insufficient local technical capacity increase the risks faced by producers and **discourage investment and the expansion of successful farming systems**. The two projects duly worked to address these issues, but in **too limited** a way to achieve structural results that remove constraints limiting the sustainability of new technologies. Certain evident technical and organisational obstacles exist, particularly in the central regions, which, although identified by the NRC studies, were then **underestimated** and inadequately addressed during the execution of the activities.

Collaborations established by EIGs with other initiatives mean that some of the **negative impacts of these deficiencies can be limited**, but they also mean that farmers who were better placed at the beginning of the initiatives received more input and made better use of it. The intervention mechanisms of international cooperation allowed for some timely collaborations, which, in the case

of MASHAV, ended prematurely. On the other hand, they have not yet tackled the problems inherent in the role that decentralised authorities and agricultural services assign to development cooperation agencies, which are seen rather as **humanitarian aid bodies** whose **interventions are targeted to solving specific problems rather than integrated into the formulation of agricultural policy**.

The proposed technologies, based on the studies of the NRC in collaboration with the ISRA, seek to create crop systems adapted to the environment, in particular thanks to the hydro-agricultural upgrading of water regulation in the valley farms, the regulation of water, and the use of cultivars better adapted to local climatic conditions, as well as the introduction of agro-ecological and socio-economic analysis and cartography to support local planning and thus the integration of initiatives geared to strengthening value chains. Such improvements are conducive to the sustainability of intensive production systems, necessary to improve the food security of rural populations. On the other hand, the development of technical alternatives for different production conditions has been **partially achieved**, due to the **prevalence of centralisation** in production decisions (MAER, decentralised agencies and agricultural services). The link with research, the creation of demonstration sites and pilot farms, and producer organisation did not fill this gap, which, in fact, is due to the project's strategy of proposing innovations borrowed from agricultural institutions and thus taking on their priorities rather than addressing beneficiaries' need for knowledge in order to make informed choices.

5.7 Visibility

Summarised judgment of visibility

The two projects systematically carried out activities to enhance the visibility of the Italian contribution to agricultural development in the assisted areas. The project documents and reports mention the role played by Italian Cooperation in funding their activities, even though its logo does not appear on the front of all documents (particularly PAPSEN's annual reports). Infrastructure visited during the survey has signs referencing the Italian-Senegalese projects and collaboration. It should be noted that representatives of farmers' groups as individual beneficiaries of project grants are able to recognise PAPSEN and PAIS as the source of the Italian-funded aid.

TO WHAT EXTENT WAS THE INITIATIVE ACCOMPANIED BY AN EFFECTIVE COMMUNICATION CAMPAIGN TO PROMOTE THE AIMS OF THE PROJECT?

PAPSEN and the NRC carried out **numerous communication activities**, especially the PAPSEN/NRC component, to publicise the innovative technologies developed in collaboration with the ISRA.

The NRC created two websites: www.papsen.org, www.papsenpais.org, and <http://www.cnrweb.tv> for videos, which publicise the results of studies carried out and provide thematic maps of the sites proposed for implementation of the projects. The same institute also organised and took part in conferences in which the results of the studies were discussed. The NRC BEI therefore plays an **auxiliary role** in the dissemination of PAPSEN's past activities, even after its initial contribution has ended. This support also applies to ongoing collaborative work between the NRC and the two projects, and thus has **limited validity** with regard to their subsequent initiatives as a whole.

Both the NRC and the PMU produced outreach materials for communication and training. But knowledge management was found to be **inadequate**, as the projects **did not develop a comprehensive strategy** that included all communication and training activities. Awareness raising through decentralised agricultural services and radio broadcasts mobilised farmers to approach the agricultural services in order to submit their needs to the projects. Communication at local level was mainly ensured by the participation of farmers' associations, which involved their members in the

definition of activities. In fact, these associations, being already in contact with the decentralised agricultural services, were the most direct link with the two projects.

5.8 General criteria: gender equality

The project integrates with the Senegalese National Strategy for Equity and Gender Equality (SNEEG), as it seeks to contribute to the economic empowerment **of women in the** target areas. Female participation in the activities of the two projects is based on the strengthening of their associations and the consequent enfranchisement of their working groups within EIGs and other local organisations. Awareness-raising sessions were held prior to the creation of municipal gender equality committees in the south. Their work is carried out within local administrative structures, and therefore contributes to decision-makers' awareness of the role women can play in agricultural production, **facilitating their access to ADF credits**. This approach allowed female farmers to access their own income and to **decide the crops grown** on the allocated land. The projects did not influence national policy, and therefore legal limitations on women's involvement in agriculture persist.

Women are highly active in producer associations in the south, where they often hold the positions of president and treasurer of EIGs. They play a **central role** in the management of land resources, thanks to the hydro-agricultural upgrading of water regulation for rice farms in the valleys and irrigated perimeters. Women and young people are also well-represented in EIGs in the centre (although their presence at the decision-making level is often symbolic, due to socio-economic dynamics). The introduction of mechanisation and water economy systems reduces their workloads, and production surpluses allow them to generate income and thus have a greater influence on family and production decisions through their investments. However, delays in the implementation of the two projects' activities **disincentivised** women's participation in the management of horticultural farms in Darou Fanaye Diop and Bambey Sérère. This situation also reflects the insufficient participation of women in the management of EIGs in the centre, which also occurred on farms in Lambaye, Khoubé and Darou Marnane. Obviously, these results are a reflection of PAPSEN's **inadequate efforts** to strengthen producer associations and the dispersion of resources in various actions without having created the conditions that would allow them to be efficiently employed.

6. Conclusions, lessons learned and best practices

6.1 Conclusions

6.1.1. Relevance

As stated in the "Three-year Planning and Steering Document 2017-2019", Senegal is a priority country for Italian Cooperation, which has significantly increased its activities in the country in recent years. This special focus was reaffirmed by coordination work within the EU, which led to the "Joint European Strategy Document for Senegal 2018-2023". The sector strategy for agriculture and rural development defined by Senegal and supported by the coordination of European member states identified an overall objective for this sector aimed at improving the food security of the population.

The PAPSEN and PAIS projects contribute to poverty reduction by means of agricultural modernisation. They assist decentralised agricultural departments in the implementation of development policy in areas of high rural poverty. They aim to remove constraints that limit productivity growth by promoting innovation. The projects facilitate the adaptation and adoption of innovative technologies on two production chains: fruit and vegetables, and cereal and rice. In fact, removing the constraints that hinder increased crop yields requires the combination of multiple interventions by the individual farmer, and at the same time the resolution of numerous gaps which

limit integration in the value chain. The strategy of the two projects is complementary in both geographical and operational terms. Their efforts are focused on technology transfer in the fruit and vegetable (centre and south) and cereal and rice (south) value and production chains. The PAPSEN project includes an initial component, under the responsibility of the NRC, to assist the research activities of the Senegalese Institute of Agricultural Research (ISRA) and to increase demonstrations to farmers in order to create and transfer innovative knowledge and technologies.

The projects collaborate with the decentralised agricultural agencies and services of the Ministry of Agriculture and Rural Equipment (MAER), which they involve in the planning and implementation of field activities, and with farmers' associations, which enable the mobilisation of beneficiaries. The Italy-Senegal cooperation programme includes a donation component to fund the management of the project and the implementation of support activities to farmers, and a credit component to fund investment in the agricultural sector. The project activities focus on strengthening and transferring technology to producers, while contributing to a limited extent to building the capacity of agricultural institutions and support services. This strategy is flawed in that the limited capacities and resources of local agricultural services force the two projects to adapt their activities to the contingent priorities of MAER and the assisted decentralised agricultural services, limiting the use of knowledge and technologies resulting from studies and research carried out in collaboration with the NRC.

6.1.2. Coherence

The two projects are consistent and integrated with Senegal's agricultural policy and with the priorities of Italian Cooperation in the country, as well as with the 2019-2021 three-year planning document and the Guidelines for the Development of Rural Agriculture and Food Security (2012) of the DGCS (Directorate General for Development Cooperation). The Italian Agency for Development Cooperation (AICS) participated in joint planning by the EU, undoubtedly after the elaboration of the two projects, but in any case is a point of reference for implementation and coordination with the other member states. Participation in (and coordination of, since 2019) the relevant donor group (rural development) also enables coordination with other non-European countries and multilateral agencies.

6.1.3. Efficiency

PAPSEN and PAIS rely on a single Project Management Unit (PMU), organised on the ground by means of Central and Southern Units and regional antennas which collaborate closely with the decentralised agricultural services. The resources available for field activities are very limited, especially in departments in the central regions assisted solely by PAPSEN.

The agreement between Artigiancassa (taken over by Cassa Depositi e Prestiti as of January 2016) and the Senegalese Ministry of Finance regarding the financing of the PAPSEN project was signed in 2012, and that for PAIS in 2015. The project management or steering committee (SC) guides and supervises the PMU, which in turn ensures the coordination of PAPSEN and PAIS with the MAER and the decentralised agricultural services. The complexity of PAPSEN's coordination with its local counterparts delayed the start of field activities. The NRC conducted most of its activities between 2015 and 2016. Preliminary work to identify sites and beneficiaries and establish pilot and demonstration farms in the centre slowed the delivery of aid to farmers, which PAPSEN began in 2016 and PAIS effectively in 2017. Collaboration with Senegalese agricultural agencies and MAER regional and departmental offices mobilises additional professional resources for setting up and monitoring activities, but ultimately further fragments the projects' interventions to cater for the contingent priorities of these bodies, and therefore limits their joint impact on the fruit, vegetable and rice value chains. The Senegalese procedures for awarding contracts and the Italian Cooperation processes for approving the various phases of tenders created delays in the execution of the two projects; this was further affected by the COVID-19 pandemic in 2020.

The most serious delays concern the building of infrastructure, which is subject to laborious bidding and monitoring procedures, and the allocation of credits to producers (Agricultural Development Funds or ADF), which is also subject to laborious pre-selection work carried out by departmental committees set up by the PAIS. This process is prior to the economic and financial evaluation of applications by the lender banks, which in turn is slowed by their own internal procedures. This situation confirms the lack of independence of the two projects, which end up acting as operational components of the Senegalese agricultural administration. The result of this was that PAPSEN had spent 18% of its available budget at the end of 2019, PAIS 9%, and PAPSEN/NRC 100% of available funds, while the ADFs, which began in 2018, had distributed approximately €0.4 million in credits by the end of 2020.

The lengthy process of recruiting and contracting experts to carry out field activities, and often the lack of qualified personnel, limited the topics covered by training and technical assistance. These gaps caused projects to become even more dependent on the capacities of the local institutions, and therefore more aligned with their priorities.

PAPSEN developed a manual for monitoring and evaluating its results in 2017, but this was not implemented. The manual was revised in 2020 and, late in the same year, the PMU was joined by a monitoring expert. The planning and monitoring of the two projects focuses on the awarding and execution of contracts rather than the results of their activities. Monitoring and evaluation visits to project sites produce accurate information which is not used to calculate indicators. So the information collected and the indicators calculated are not used for the decision making and orientation of the projects.

This situation has prevented the results obtained so far being used to formulate content for communication campaigns and to publicise the innovations and good practices produced. After the PAPSEN/NRC collaboration ended, communication of the two projects was limited to raising awareness and promotion among potential beneficiaries. Articles have been published in newspapers and radio and video broadcasts have been made. PAIS created a website, which is no longer active. The PMU is waiting to start the process of creating an official website linked to the MAER site.

The NRC carried out an intense communication campaign, organising and taking part in conferences to share research results and publicising the studies carried out and the cartography produced within the PAPSEN project through internal websites. PAPSEN and PAIS conducted radio information campaigns on project activities which raised awareness among producers in the targeted regions and stimulated their requests for assistance. On the other hand, the planning of activities incorporated the priorities of MAER and decentralised agricultural services, the result of which was geographical dispersion and thematic fragmentation of the interventions carried out, departing from the expectations created by the information campaign.

The projects allocate the AICS an expert fund and an on-site direct management fund to provide technical assistance for initiatives. The PAPSEN project employed an expert from Italian Cooperation from the outset. The PAIS project has been more uneven. The PAIS expert fund was not used, and in 2019 it was converted to a fund for direct on-site management, following an AICS resolution not to use missions but local contracts in the various locations. Since 2018, the experts have been managed by the single on-site fund for technical assistance at the AICS headquarters in Dakar. Directly managed on-site funds were used to contract Italian and Senegalese experts for technical and administrative work, and other expenses related to initial PAPSEN/NRC activities, funding agreements, logistics and office costs.

6.1.4. Effectiveness

Research conducted by the NRC in collaboration with the ISRA produced approximately 50 agro-environmental and socio-economic studies and mission reports and some forty thematic maps for the territorial planning of the two projects' interventions. The partnership focused on strengthening research planning, particularly in the areas of land use, variety improvement and multiplication, and conducting joint studies. The delays in building infrastructure and identifying beneficiaries did not allow for trials of water-saving and agricultural mechanisation practices. The NRC advised PAPSEN (in the central regions) on the strengthening of the ISRA's capacities, including equipment for laboratories (e.g. the refrigerated chamber), the refurbishment of the experimental farm of the *Centre National de Recherches Agronomiques* (CNRA) and the creation of the Service and Training Centre (STC), and contributed to the creation of the Sédhiou and Kolda laboratories.

The PAPSEN project improved equipment in the central laboratories (e.g. the refrigerated chamber), refurbished the experimental farm of the *Centre National de Recherches Agronomiques* (CNRA), created the Service and Training Centre (STC), and contributed to the creation of the Sédhiou and Kolda laboratories, with assistance from the NRC. The project established 3 pilot irrigated horticultural farms, selected 70 sites for the creation of demonstration irrigated horticultural farms (5 ha each), of which 15 are functioning, trained 1,054 farmers (including 628 women) and assisted 807 farmers (including 520 women). Refurbishment work is largely underway or is yet to begin. The 3 pilot farms in Mbassis, Touba Toul and Darou Fanaye Diop do not yet have photovoltaic systems to drive the submersible pumps in the boreholes. The other 55 demonstration farms (out of a total of 70 demonstration farms) are not yet operating due to the delay in procurement of the photovoltaic systems that drive the submersible pumps. In some cases, the facilities constructed are inadequate, particularly in terms of irrigation infrastructure (wells yet to be completed) and storage facilities (insufficient size). Assistance to producers on pilot and demonstration farms included training and the provision of seed, machinery, and fertilisers. The project contributed to the elaboration of Local Development Plans in 21 municipalities and built 7 cereal warehouses of the 10 planned; it has also planned and is completing the construction of 100 km of tracks to link the production areas to the market in the south of the country.

The PAIS project has created local gender equality committees, strengthened producers' associations, particularly women's groups, through training events, and supported agricultural officials in a number of processes instrumental to the execution of project activities. It identified 16 valleys and began work on the development (4 valleys) and rehabilitation (12 valleys) of lowland soils (hydro-agricultural upgrading of water regulation in rice fields). The project set up departmental committees for pre-selection of ADF projects, forwarded 338 funding requests to banks (1,932,237 euros), of which 136 were approved (404,009 euros), supporting both infrastructure creation (fencing, irrigation work, poultry houses, warehouses, service buildings) and production (purchase of machinery, equipment and inputs, crop advances for seed production, labour costs).

The PAPSEN project has planned and is in the process of completing the construction of 100 km of tracks to connect the production areas to the market. Assistance to farmers included training and the distribution of machinery, equipment, seed and fertilisers.

Knowledge created by the NRC with the ISRA for technology transfer was employed partially by the two projects. For example, the identification of horticultural farm sites in the centre and the selection of technologies to be transferred to farmers are aligned with the priorities of the MAER and the decentralised agricultural services, which are often decided in response to contingencies and emergency situations.

6.1.5. Impact

The fruit and vegetable and cereal-rice producers experienced variable increases in crop yield and revenue. The combination of different actions, such as the hydro-agricultural upgrading of water regulation on farms (i.e. the basis for the improvement of the water economy), training and the supply of seed, machinery and fertilisers, as well as the establishment of a sub-chain for rice seed, increased horticultural yields and doubled - and in some cases tripled - rice yields. This growth shows considerable annual variation across the central regions, due to incomplete or inadequate water systems and farmers' dependence on regular supplies of subsidised inputs. The projects have continued or fostered collaboration between farmers and other development initiatives, with positive outcomes in terms of diversifying income sources. The most significant results were achieved in the south, where increased rice production by assisted women farmers not only met their own consumption needs but, for the first time, provided a surplus crop whose sale generated monetary income. Fruit and vegetable production increased, although the inadequacy of irrigation systems led to losses in some farms of the centre, and restrictions imposed by the COVID-19 pandemic caused batches of produce to perish.

The greatest difficulties encountered in adopting innovative production techniques are access to water, which many farmers in the central regions consider too expensive, and inadequate maintenance and repair of farm equipment. This situation indicates that the transfer of these technologies has been set up in a simplistic, or rather *top-down*, manner, lacking adequate trialling or at least comparative field demonstrations that would provide farmers with the knowledge they need in order to choose the options most appropriate to their abilities and needs. Indeed, the drip irrigation systems proposed have unbudgeted repair costs, in part resulting from the use of water pipes that are not always suitable. Their economic viability compared to other systems, particularly in the south where the water table is shallow, is questionable. In the absence of mechanical and repair services in the vicinity, the provision of machinery has resulted in its abandonment and cannibalisation, forcing farmers to turn to private mechanical services.

Access to ADF credits has stimulated diversification and intensification of crop production, although delays, and guidance in the absence of adequate sector studies (or rather, reference business plans) have produced side effects that limit its impact. Delays in the granting of ADF credits have often forced recipients to limit crop advances and consequently expansion. The allocation of funds without adequate accompanying measures, such as training and technical assistance, has limited the efficient use of inputs purchased with these funds. Lastly, the scattered nature of activities across the territory, coupled with the delays affecting activities, impacts the projects' ability to work together to integrate value chains and remove the constraints that limit agricultural productivity. In practice, those farmers who are best equipped technically and economically are able to overcome these shortcomings, while those who need help the most are discouraged and forego assistance from the project, which therefore has a marginal effect on food insecurity and rural poverty.

6.1.6. Sustainability

The continuation of PAPSEN and PAIS outcomes depends on a number of conditions over which the projects have little influence. Assistance to the MAER focused on building a certain amount of technical capacity to support the implementation of agricultural policy. In effect, this policy guides the choices of stakeholders in the value chains supported by the projects by limiting their capacity for self-regulation.

This situation also influences the transfer of technology from the ISRA to farmers by encouraging the dissemination of innovations whose viability has not been proven on the ground. The sustainability of project-related agricultural innovation therefore depends on redirecting agricultural

policy towards greater self-regulation of value chains. The strengthening and aggregation of producer associations, especially in the central regions, is a complementary aspect of this redirection.

The decisions of ADF lender banks are based on economic and financial calculations which overestimate risk due to insufficient knowledge of the factors that influence profitability in new business sectors and geographical areas. Conducting studies and gaining contextual knowledge are essential to reduce financial risk and increase efficiency. The creation of these conditions is necessary in order to better calibrate the financing of agricultural investment and to improve the alignment of funded production plans to market demand.

6.1.7. Communication and visibility

The PAPSEN/NRC component has been the most active in the area of communication. The NRC publicised the results of research and studies conducted with the ISRA. The websites created by the NRC remain active and provide access to the studies and cartography created in the early years of PAPSEN and PAIS, as well as the NRC's recent contribution to technical assistance in the south of the country. Their value in terms of the orientation of technical assistance has been partial, because use of this information base competes with the pre-eminence of the priorities of MAER and the decentralised agricultural services in guiding decision-making in the two projects. Outreach work conducted in the assisted regions encouraged participation by farmers, especially in the south. The PMU has systematically ensured the visibility of the role played by Italian Cooperation in funding PAPSEN and PAIS by means of posters and signs affixed to the main works carried out. Ultimately, the communication and visibility of the two projects helped bring them closer to the beneficiaries. However, the lack of an organic approach to monitoring and communication meant that the circulation of project results was inadequate and, therefore, the dissemination of lessons learned and their consideration in strategic guidance and activity planning was extremely limited.

6.1.8. General aspects: gender equality

PAIS, and to a lesser extent PAPSEN, encouraged the empowerment of women, who are the main stakeholders in Senegalese agriculture. The creation of Local Gender Equality Committees, support for women's sections of EIGs and training on gender issues have made it possible to valorise female enterprise in the renewal of farming practices, with positive results in terms of participation in their families' crop choices and agricultural productivity. The work of the two projects had a positive impact on women's participation in the management of agricultural production, following the formulation of a gender-equality strategy and subsequent detailed action plan(2017) by a female Senegalese expert. This work involved the organisation of local committees and the execution of systematic activities in this area, with notable results in the training and empowerment of members of women's EIGs, particularly in the south, where farmers have begun the transition from self-consumption to commercial production.

6.2 Best practices and lessons learned

6.2.1 Best practices

The activities carried out under the two projects highlighted the following best practices.

Technology transfer value chain. Integration between applied research or experimentation and field demonstrations facilitates the sustainable adoption of innovation, as long as there is no attempt to impose predetermined technology packages. To reap the benefits of this approach, comparative testing of various technologies, including traditional techniques, should be carried out, so as to take into account the varying capacities and starting points of individual farmers.

Territorial planning. Carrying out territorial studies (agro-ecological and socio-economic) allows the constraints and conditions that determine the success of technology transfer to be identified. The validation and dissemination of such studies is an integral part of territorial planning, as it valorises the contribution of beneficiaries in defining objectives and methods of intervention.

Empowerment of women. The organisation of women farmers valorises the role they play in this sector, raising them from providers of family labour to protagonists in crop choices. Strengthening them must therefore include building technical capacity, but also building the management capabilities of women's associations.

6.2.2 Lessons learned

In terms of lessons learned, the evaluation team believes that, for the continuation of the two projects or for future interventions to be planned in the same area, it is useful to consider the aspects described below.

Strategic setup. An approach not exclusively based on alignment with national agricultural policy, but rather on the development by project managers of its own strategic vision, facilitates the transfer of innovative technology - the added value of international cooperation - to farmers.

Strengthening of and participation in producer associations. Strengthening the management capacities of beneficiaries' associations increases their weight in directing and implementing project activities geared to technology transfer. It encourages the involvement of vulnerable groups who are often excluded from such initiatives due to their difficulties in dialogue with technical services and their propensity for risk.

7. Recommendations

In conclusion, the evaluation team makes the following general recommendations. More specific recommendations are provided in Appendix 8.

- 1 *AICS, PMU. Results-based project management.* Review the logical frameworks of projects so that their indicators (no more than ten *core indicators* for use in strategic planning and communication) measure progress toward achieving outcomes and objectives, i.e. project-induced changes in beneficiaries' activities, conditions and context. Develop specifications for each indicator with the baseline data collection plan, and train staff to collect data.
- 2 *AICS, PMU. Link monitoring and communication.* Use *key indicator* values for institutional (annual reports) and external (circulation among partners and beneficiaries) communication. Use indicator values in communication campaigns to ensure they are shared with all stakeholders (upstream and downstream accountability of projects).
- 3 *AICS. Fruit and vegetable and rice value chains.* Discussion with other donors involved in funding Senegal's food security regarding the requirements for the self-regulation of agricultural value chains, in a participatory approach to *governance* which reduces the influence of subsidies in guiding farmers' choices. The results of such discussions should contribute to the formulation of a common position in discussions with the MAER on the role played by subsidies in directing agricultural production.
- 4 *PMU. Strengthening the technology transfer chain.* Carry out demonstrations of technologies and production innovations which allow comparison between proposed technologies. Support field demonstrations with success stories and exchange and discussion between farmers. Systematically include the elements that determine the success of technology

transfer (capitalisation of best practices, comparative trials, results-oriented training) in technical assistance actions.

- 5 *MAER, PMU in collaboration with banks.* Systematise the experience of farmers' credits and develop sector studies, or rather, *business plans*, for reference when calculating the risks of activities to be financed.

- 6 *PMU. Training aimed at ownership of knowledge by beneficiaries.* Establish criteria to which training activities must adhere. These should include: (a) the development of a trainer's manual and concise documentation (posters, operational guides) for use in teacher training and field demonstrations, and (b) a requirement that beneficiaries formulate an agenda or plan for using the skills and knowledge acquired. In this way, it will be possible to target training to concrete objectives, plan assistance to the beneficiaries and measure the level of their learning.

- 7 *PMU. Expert mobilisation plan.* Develop a training and technical assistance plan that outlines the skills required to implement the technologies promoted by the two projects. This plan should define the skills of experts contracted directly by the projects and those required of the staff of partner agricultural agencies. Include these specifications in memoranda of understanding with the agencies mentioned.

- 8 *AICS, MAER. Building capacity for the repair of agricultural machinery and equipment.* Create a network of mechanics who can repair farm machinery and distributors of parts located close to users, as an alternative to the mere distribution of machinery. In the event that a training programme for mechanics cannot be implemented, strengthen or create mechanisation services. The density of the mechanisation network should be based on thematic studies and mapping and therefore benefit from the reactivation of the Geographic Information System developed by the NRC at the start of the PAPSEN project.

- 9 *AICS, PMU, MAER. Organisational strengthening and gender equality.* Develop or implement (in collaboration with other initiatives) training modules on results-oriented management, targeting EIG leaders and particularly female leaders.

ANNEXES

ANNEX 1: I Terms of Reference



*Ministero degli Affari Esteri
e della Cooperazione Internazionale*

MINISTERO DEGLI AFFARI ESTERI E DELLA COOPERAZIONE INTERNAZIONALE

DIREZIONE GENERALE PER LA COOPERAZIONE ALLO SVILUPPO

Ufficio III

Sezione Valutazione

TERMINI DI RIFERIMENTO

PER LA VALUTAZIONE INDIPENDENTE DEL

Programma Paese Settoriale – Agricoltura e Sviluppo Rurale in Senegal (2014-2018)

Valutazione d'impatto

(SENEGAL)

(FOOD)

AID N. (9577, 10424)

Contesto e oggetto della valutazione

Il settore agricolo ricopre un ruolo fondamentale nello sviluppo economico dei paesi dell'Africa Occidentale contribuendo in Senegal per circa il 10% al PIL totale e impiegando oltre il 50 % della popolazione attiva. Le condizioni di vita delle popolazioni residenti in ambiente rurale sono tuttavia ancora contraddistinte da un consistente livello di povertà che colpisce circa il 56,5% delle famiglie. Si tratta principalmente di donne, giovani e piccoli agricoltori che sopravvivono grazie ad un'agricoltura di sussistenza praticata su appezzamenti di dimensioni ridotte e, per queste fasce della popolazione, l'agricoltura costituisce la base delle attività produttive e la fonte quasi esclusiva delle entrate delle famiglie.

Lo sviluppo del settore agricolo occupa quindi un'importanza considerevole nelle politiche governative di sviluppo economico e lotta alla povertà. Inoltre l'aumento delle produzioni e dei rendimenti agricoli, attraverso lo sviluppo dell'irrigazione, il miglioramento delle capacità tecniche e la meccanizzazione, permette di sostenere le politiche nazionali di autosufficienza alimentare. Il Senegal ha pertanto sottoscritto una serie di impegni internazionali a sostegno della produttività agricola e elaborato un quadro normativo e operativo di riferimento volto a darne applicazione.

A livello nazionale, il Senegal, conformemente agli impegni internazionali assunti in sede NEPAD e CEDEAO ha finalizzato l'elaborazione e l'implementazione (2011– 2015) del proprio Programma Nazionale di Investimenti in Agricoltura (PNIA), che si articola attorno a sei assi tematici: (i) miglioramento della gestione dell'acqua, (ii) sviluppo sostenibile dell'agricoltura, (iii) ottimizzazione della gestione delle risorse naturali, (iv) sviluppo delle filiere agricole e promozione dei mercati, (v) prevenzione e gestione delle crisi alimentari e altre calamità naturali e (vi) rafforzamento istituzionale.

Nel 2012, a seguito delle elezioni presidenziali, lo sviluppo del settore agricolo è stato infatti inserito nelle priorità della Strategia Nazionale di Sviluppo Economico e Sociale del Senegal 2013/2017 (SNDES). Il rilancio del settore agricolo è stato riconfermato come prioritario per lo sviluppo economico e sociale del paese all'interno del Piano Senegal Emergente 2014/2018 (PSE), nuovo documento di strategia economica del governo senegalese, e poi ridefinito nelle sue componenti all'interno del Programma di Accelerazione della Cadenza per l'Agricoltura Senegalese - 2014/2017 (PRACAS).

La strategia della Cooperazione italiana in Senegal, Paese considerato prioritario, è volta a contribuire al raggiungimento della sicurezza alimentare in una logica di sviluppo concertato a livello locale, migliorando i rendimenti delle produzioni risicole e orticole e promuovendo lo sviluppo economico locale attraverso il sostegno all'imprenditoria rurale. Essa risponde anche alla necessità di una concentrazione settoriale per favorire la concertazione dell'intervento in ambito programmazione congiunta UE, dove si prevede che le iniziative italiane convergano all'interno dei settori agricoltura, protezione sociale, eguaglianza di genere e sviluppo della piccola e media impresa. Gli obiettivi specifici della Programmazione congiunta, condivisi anche dall'Italia, dirigono le azioni verso il supporto alla produzione sostenibile attraverso l'utilizzo efficace e la preservazione delle risorse naturali, alla riduzione della vulnerabilità estrema all'insicurezza alimentare, al miglioramento della *governance* nella gestione dei fattori di produzione.

Il sostegno al PNIA attraverso un credito d'aiuto di 30 milioni di euro, e al PRACAS con un credito d'aiuto di 15 milioni di euro, oltre a rafforzare in Senegal il tradizionale impegno dell'Italia nel settore agricolo, ha reso il nostro Paese uno dei principali donatori in questo settore.

Le due iniziative oggetto della valutazione si sviluppano tra il 2013 ed il 2021 e sono correlate con il Programma Paese Italia-Senegal 2014-2016, che non sarà però oggetto della presente valutazione. Gli Obiettivi di sviluppo sostenibile di riferimento sono due: il n. 1 (Porre fine a ogni forma di povertà

nel mondo); il n° 2. (Porre fine alla fame, realizzare la sicurezza alimentare e una migliore nutrizione e promuovere l'agricoltura sostenibile). Il finanziamento delle iniziative da valutare avviene tramite il canale bilaterale con una parte a dono ed una a credito.

Le iniziative PAPSEN e PAIS rientrano nell'ambito dell'azione della Cooperazione Italiana nel settore "Agricoltura e Sicurezza Alimentare", considerato prioritario in Senegal, e proseguono il sostegno alle associazioni di donne agricoltrici e piccoli agricoltori, con l'obiettivo di migliorare produzioni, e rendimenti agricoli in orticoltura e risicoltura per aumentare i redditi connessi.

Le due iniziative da valutare (elencate in ordine cronologico) perseguono i seguenti obiettivi generali:

- 1) il progetto **PAPSEN** ha come obiettivo l'intensificazione e la diversificazione delle produzioni agricole (con particolare riferimento alle colture orticole e alla risicoltura), la promozione della meccanizzazione agricola e lo sviluppo delle piccole imprese rurali, con il conseguente miglioramento dei redditi, della sicurezza alimentare e dello sviluppo economico locale. Sono interessate due componenti geografiche: le tre regioni centrali di Thiès, Diourbel e Fatick e le due regioni meridionali di Sédhiou e Kolda (Casamance).
- 2) Il progetto **PAIS** intende rafforzare ed estendere l'intervento di assistenza della Cooperazione italiana nel settore dello sviluppo rurale in alcune regioni di concentrazione del Programma PAPSEN. Più precisamente, interviene nelle regioni di Kaolack, Sédhiou e Kolda.

Ulteriori dettagli relativi al Programma oggetto di valutazione, incluso l'elenco dettagliato dei beneficiari, sono forniti nelle allegate schede descrittive. Si noti che, ove non diversamente segnalato, le informazioni fornite nelle schede, inclusi i beneficiari, sono relative a quanto previsto nella fase di disegno degli interventi. Si segnala inoltre che a partire dal 1 gennaio 2016 le competenze operative che prima facevano capo al MAECI sono state trasferite ad AICS.

I documenti di progetto del Programma da valutare sono allegati alla lettera di invito. Nella fase di *Desk Analysis*, potrà essere fornita ulteriore documentazione.

Utilità della valutazione

La valutazione dovrà verificare l'impatto dell'azione italiana nel settore dello sviluppo rurale in Senegal, per confermare la validità delle iniziative ed evidenziare le eventuali buone pratiche da replicare o eventuali lezioni da apprendere.

Si dovranno evidenziare i risultati raggiunti e le raccomandazioni emerse rivolte ai principali attori coinvolti e ai partner che operano nell'ambito dello sviluppo, al fine di orientare in Senegal le future strategie ed iniziative del settore, nel quale l'impegno dell'Italia sarà ancor più profilato in considerazione del ruolo rilevante attribuito al nostro Paese nell'ambito della Strategia e della Programmazione congiunta dell'UE in Senegal.

La verifica dell'impatto degli interventi valutati sull'emancipazione economica femminile potrà favorire la focalizzazione di ulteriori attività anche a tale fine.

Più in generale, anche attraverso le lezioni apprese e le raccomandazioni, la valutazione fornirà indicazioni utili atte ad indirizzare al meglio i futuri finanziamenti di settore e a migliorare la programmazione politica dell'aiuto pubblico allo sviluppo.

La diffusione dei risultati della valutazione permetterà inoltre di rendere conto al Parlamento circa l'utilizzo dei fondi stanziati per l'Aiuto Pubblico allo Sviluppo ed all'opinione pubblica italiana circa la validità dell'allocazione delle risorse governative disponibili in attività di cooperazione. I risultati della valutazione e le esperienze acquisite saranno condivise con le principali Agenzie di

cooperazione e con i partner anch'essi tenuti a rendere conto ai loro Parlamenti ed alle loro opinioni pubbliche su come siano state utilizzate le risorse messe a loro disposizione. La valutazione favorirà anche la "mutual accountability" tra partner in relazione ai reciproci impegni.

Infine, mediante il coinvolgimento del Paese partner in ogni fase del suo svolgimento, la valutazione contribuirà al rafforzamento della capacità in materia di valutazione.

Obiettivi ed ambito della valutazione

La valutazione, tenendo in conto anche gli indicatori contenuti nel quadro logico di ciascun progetto/programma, dovrà esprimere un giudizio sulla rilevanza degli obiettivi dei progetti/programmi da valutare nonché sull'efficacia, efficienza, impatto e sostenibilità degli interventi valutati.

Per quanto riguarda l'utilizzo di indicatori qualitativi e quantitativi, si dovrà fare presente la disponibilità (o meno) di baseline per il raffronto e descrivere le modalità utilizzate per il reperimento (o rilevamento diretto) di dati e la loro analisi. Si dovrà anche fornire spiegazione dell'influenza di fattori esterni quali il contesto politico, le condizioni economiche e finanziarie sulla realizzazione delle iniziative e l'ottenimento dei risultati.

Al fine di valutare l'impatto degli interventi, ancora in corso, si dovranno descrivere i cambiamenti già in atto (previsti e non) e quelli prevedibili sul contesto sociale, economico e ambientale, nonché sugli altri indicatori di sviluppo, evidenziando in che misura gli stessi siano attribuibili all'intervento ed analizzare i meccanismi che hanno già determinato o potranno in futuro determinare l'impatto.

Si valuterà inoltre se e in che misura il sistema di monitoraggio e valutazione d'impatto, previsti nell'ambito degli interventi, rispondano adeguatamente alle esigenze di accountability, sia verso le istituzioni partner, che verso l'opinione pubblica italiana.

L'esercizio di valutazione dovrà anche verificare in che misura l'azione della Cooperazione Italiana stia contribuendo alle politiche, strategie e programmi nazionali, ed al raggiungimento degli MDGs/SDGs indicati nella documentazione di progetto.

Si valuterà, in particolare, in che modo ed in che misura i progetti abbiano modificato, e si prevede che modificheranno in futuro, il contesto in una direzione di maggiore equità e giustizia sociale e l'influenza sulle tematiche trasversali (tra cui diritti umani, uguaglianza di genere, disabilità e ambiente).

In particolare, si verificherà quali effetti, diretti ed indiretti, gli interventi abbiano avuto e presumibilmente avranno sulla condizione femminile, nonché se, come preventivato, siano stati e verranno evitati effetti negativi, anche involontari, sull'ambiente e se ve ne siano stati (o saranno) di positivi, in particolare legati alle pratiche agricole e irrigue.

La valutazione dovrà accertare se e in che misura le attività siano state realizzate in coordinamento con le altre iniziative nel settore, anche di altri finanziatori, all'interno dello stesso Paese e secondo il principio della complementarietà.

La valutazione dovrà tenere conto degli effetti sinergici sia positivi che negativi tra i vari progetti oggetto della valutazione, al fine di evidenziare eventuali effetti aggiuntivi creatisi grazie al loro operare congiunto.

La valutazione esaminerà anche il grado di logicità e coerenza del design del progetto e ne valuterà la validità complessiva.

Le conclusioni della valutazione saranno basate su risultati oggettivi, credibili, affidabili e validi tali da permettere alla DGCS ed all'AICS di elaborare misure di management response. Il rapporto finale di valutazione dovrà inoltre evidenziare le lezioni apprese, rilevare eventuali buone pratiche, fornire raccomandazioni utili per la realizzazione delle fasi successive del progetto.

Il team di valutazione potrà suggerire e includere altri aspetti congrui allo scopo della valutazione.

Criteri

I criteri di valutazione si fondano sui seguenti aspetti:

- **Rilevanza:** Il team di valutazione dovrà verificare in che misura le iniziative tengano conto del contesto specifico, delle priorità e delle politiche del Paese e della Cooperazione Italiana. La valutazione stimerà in che misura gli obiettivi dei progetti sono coerenti con le prerogative e le esigenze dei beneficiari. Nel valutare la rilevanza dell'iniziativa, si considererà: 1) in che misura gli obiettivi dell'iniziativa sono validi; 2) in che misura sono coerenti; 3) la percezione dell'utilità dei progetti da parte dei beneficiari.
- **Efficacia:** La valutazione misurerà il grado e l'entità dell'eventuale raggiungimento degli obiettivi previsti dell'iniziativa ed i suoi risultati diretti ed immediati. Nel valutare l'efficacia sarà utile: a) considerare se gli obiettivi, generale e specifico, siano stati chiaramente identificati e quantificati, b) verificare la coerenza delle caratteristiche progettuali con il relativo obiettivo generale e specifico, c) verificare in che misura gli obiettivi siano già stati raggiunti, d) analizzare i principali fattori che hanno influenzato il raggiungimento o meno degli obiettivi.
- **Efficienza:** La valutazione analizzerà se l'utilizzo delle risorse sia stato ottimale per il conseguimento dei risultati del progetto. Si valuteranno l'efficienza economica, la tempistica e l'efficienza delle modalità operative di gestione dell'intervento.
- **Impatto:** Si analizzeranno gli eventuali effetti già visibili delle iniziative, positivi e negativi, previsti o imprevisti o prevedibili, in un ambito più ampio e con un termine più lungo rispetto ai risultati diretti ed immediati. Nel valutare l'impatto si considereranno quindi gli effetti in ambito sociale, economico ed ambientale, nonché relativi alle tematiche più importanti: benessere delle comunità, diritti umani, uguaglianza di genere etc
- **Sostenibilità:** Si valuterà la sostenibilità dei benefici dell'iniziativa nel tempo, sia quelli già prodottisi che quelli che potranno derivarne in futuro.

Quesiti valutativi

Gli obiettivi della valutazione dovranno essere tradotti in quesiti valutativi che faranno riferimento prevalentemente ai criteri OCSE-DAC ed altri eventuali criteri ritenuti rilevanti.

I quesiti valutativi dovranno essere formulati soprattutto in funzione dell'utilità della valutazione.

Si segnala che le domande relative all'efficacia, dovranno basarsi sul livello dei risultati (outcome) e degli impatti specifici, anziché su specifici output e sull'impatto globale. Una parte dei quesiti dovranno essere del tipo causa-effetto.

Per quanto riguarda la valutazione dell'efficienza, si valuterà la tempistica sia in termini generali (formulazione-approvazione-definizione e finalizzazione strumenti attuativi), sia a livello di singole procedure (nulla osta su gare, approvazione varianti, ecc)

Inoltre, alcune domande dovranno essere indirizzate anche a tematiche trasversali (povertà, diritti umani, questioni di genere o ambientali etc.).

In ogni caso, i quesiti (principali e supplementari) dovranno essere formulati quanto più possibile in maniera dettagliata, facendo riferimento alle specifiche caratteristiche degli interventi, in forma chiara e con un taglio operativo che tenga anche conto della concreta possibilità di darvi una risposta.

Principi generali, approccio e metodologia

a) La valutazione deve essere in linea con i più elevati standard internazionali di riferimento e tenere conto delle rilevanti linee guida della Cooperazione Italiana.

Le valutazioni realizzate dalla DGCS si basano sui seguenti principi: utilità, credibilità, indipendenza, imparzialità, trasparenza, eticità, professionalità, e sugli approcci del “do not harm” e leave no-one behind.

La valutazione deve essere condotta con i più elevati standard di integrità e rispetto delle regole civili, degli usi e costumi, dei diritti umani e dell'uguaglianza di genere.

Le tematiche trasversali (tra cui diritti umani, genere, disabilità, ambiente) dovranno avere la dovuta considerazione ed i risultati della valutazione in questi ambiti dovranno essere adeguatamente evidenziati, tenendo conto della loro trasversalità.

b) Per valutare quanto gli interventi abbiano inciso sulla capacità, da un lato di concedere i diritti umani e dall'altro di pretenderne la fruizione, si utilizzerà lo Human Rights Based Approach.

Più in generale, il team di valutazione userà un Results based approach (RBA) che comprenderà l'analisi di varie fonti informative e di dati derivanti da documentazione di progetto, relazioni di monitoraggio, interviste con le controparti governative, con lo staff del progetto, con i beneficiari diretti, sia a livello individuale sia aggregati in focus group. A questo scopo, il team di valutazione intraprenderà una missione in *Senegal*.

Il processo di valutazione dovrà essere “*utilisation focused*”, vale a dire che l'enfasi principale verrà posta sull'uso specifico dei risultati ottenuti soprattutto in termini di riorientamento e correzione delle metodologie e delle attività.

c) Il team di valutazione dovrà adottare metodologie sia qualitative che quantitative in modo tale da poter triangolare i risultati ottenuti con l'utilizzo di entrambe le modalità metodologiche anche al fine di identificare le più appropriate da utilizzare. Il team di valutazione dovrà tenere conto degli obiettivi che la valutazione si propone nonché delle dimensioni e caratteristiche degli interventi. Si dovrà esplicitare quali metodi si utilizzano sia per la valutazione che per la raccolta dei dati e la loro analisi, motivando la scelta e chiarendo le modalità di applicazione degli stessi.

In ogni caso, le metodologie utilizzate dovranno essere in accordo con tutti i principi enunciati in precedenza nei punti a e b. In particolare, la prospettiva di genere dovrà sempre essere integrata (alla luce del tipo di intervento valutato) e con modalità che dovranno essere indicate nella proposta tecnica presentata (ad esempio, la presenza nel team di personale di sesso femminile o comunque esperto in materia di genere, raccolta ed analisi dei dati in maniera disaggregata per genere etc.).

Nella fase di avvio della valutazione, i valutatori dovranno:

- 1- elaborare la teoria del cambiamento, compatibilmente con le modalità di impostazione iniziale dell'intervento;
- 2- proporre le principali domande di valutazione e le domande supplementari, in maniera puntuale e tenendo conto delle caratteristiche specifiche dell'intervento;
- 3- elaborare la matrice di valutazione, che, per ciascuna delle domande di valutazione e domande supplementari che si è deciso di prendere in considerazione, indichi le tecniche che si intendono utilizzare per la raccolta dei dati e fornisca altre informazioni quali i metodi di misura, eventuali indicatori, la presenza o meno di dati di base e quanto altro opportuno in base alle esigenze della valutazione;

- 4- stabilire le modalità di partecipazione degli stakeholder alla valutazione con particolare attenzione ai beneficiari e ai gruppi più vulnerabili (in particolare madri nubili, minori e disabili).

Coinvolgimento degli stakeholder:

I metodi utilizzati dovranno essere il più partecipativi possibile, prevedendo in tutte le fasi il coinvolgimento dei destinatari “istituzionali” della valutazione, del Paese partner, dei beneficiari degli interventi ed in generale di tutti i principali stakeholder.

Il team di valutazione dovrà coinvolgere gli stakeholder nella realizzazione della valutazione realizzando attività formative di capacity building volte a migliorare la capacità valutative del Partner.

Oltre ai beneficiari delle iniziative e agli enti esecutori (specificati nelle schede di dettaglio) i principali stakeholder da coinvolgere nella valutazione sono:

- il Ministero dell'Economia, delle Finanze e del Piano senegalese⁴⁴
- IFAD e FAO
- Cooperazione Belga –ENABEL
- Cooperazione Canadese-CIDA-ACD (Canadian International Development Agency – Agence Canadienne de Développement)
- AFD
- AECID
- CNR (Consiglio Nazionale delle ricerche)
- Banque Agricole (ex CNCAS)
- Autorità locali (Prefetti e/o Governatori)
- Ministero dell'Ambiente, in particolare la Direction des Eaux et Forêts, Chasses et de la Conservation des sols (DEFCCS)¹

Qualità della valutazione:

Il team di valutazione userà diversi metodi (inclusa la triangolazione) al fine di assicurare che i dati rilevati siano validi.

La valutazione dovrà conformarsi ai *Quality Standards for Development Evaluation* dell'OCSE/DAC.⁴⁵

Profilo del team di valutazione

Il servizio di valutazione dovrà essere svolto da un team di valutazione, composto da almeno 3 membri, incluso il team leader, il quale sarà il referente della DGCS per l'intera procedura e parteciperà alle riunioni e workshop previste dal piano di lavoro.

Il team leader dovrà avere i seguenti requisiti minimi:

- Diploma di laurea triennale;

⁴⁴ Si noti che il ministero dell'Economia e Finanze è stato suddiviso in due entità a seguito dell'insediamento del nuovo governo: Ministero delle Finanze e del Budget (apre i conti bancari, ordina le spese nell'ambito dei progetti, tiene la contabilità, conduce gli audit) e Ministero dell'economia, del piano e della cooperazione (firma gli accordi, segue le nuove progettazioni, fa le valutazioni a mid term, determina le UGP)

⁴⁵ <https://www.oecd.org/development/evaluation/qualitystandards.pdf>

- Padronanza della lingua italiana, parlata e scritta⁴⁶;
- Padronanza della lingua francese, parlata e scritta;
- Esperienza in attività di valutazione di iniziative di cooperazione allo sviluppo (almeno 3 anni);
- Esperienza in coordinamento di team multidisciplinari (almeno 1 anno).
- Conoscenza approfondita della gestione del ciclo del progetto e dei progetti di cooperazione allo sviluppo.
- Conoscenza degli strumenti e modalità di intervento della cooperazione italiana.

Ciascuno degli altri due membri obbligatori del team dovrà possedere i seguenti requisiti minimi:

- Diploma di laurea triennale;
- Padronanza della lingua francese, parlata e scritta (limitatamente ad uno dei due membri obbligatori);
- Padronanza della lingua inglese, parlata e scritta (limitatamente ad uno dei due membri obbligatori);
- Esperienza in attività di valutazione di iniziative di cooperazione allo sviluppo (almeno 1 anno);
- Conoscenza della gestione del ciclo del progetto e dei progetti di cooperazione allo sviluppo.

Il team di valutazione dovrà inoltre disporre delle seguenti competenze, che potranno essere possedute da uno o più membri obbligatori o aggiuntivi:

- Competenza nei settori sviluppo rurale, agricoltura e sicurezza alimentare;
- Conoscenza del Paese e del contesto istituzionale;
- Padronanza di lingue/idiomi veicolari delle regioni interessate.
- Competenza in interviste, ricerche documentate ed altre tecniche di raccolta dati e in materia di analisi dei dati;
- Competenza adeguata in tematiche di genere ed altre tematiche trasversali;
- Ottime capacità analitiche, redazionali e di presentazione dei dati.

Il team di valutazione potrà includere esperti locali in qualità di membri del team stesso.

Prodotti dell'esercizio di valutazione

Gli output dell'esercizio saranno:

- Un Inception Report di max 12 pagine, da sottoporre all'approvazione della DGCS entro la scadenza concordata in occasione dell'incontro di avvio della valutazione (generalmente 20-30 giorni) presso la DGCS.
- Un Rapporto finale, di max 50 pagine, in formato cartaceo rilegato in broccia, 10 copie in lingua italiana, 10 copie tradotte in lingua inglese e 10 in lingua francese, e su supporto informatico in formato Word e Pdf (max 3Mb). La traduzione dovrà essere di un livello qualitativo professionale. Le copie dovranno essere dotate di copertina plastificata e contenere indicazione del titolo dell'iniziativa anche nella parte laterale.
- Un Summary Report di max 15 pagine, 10 copie in lingua italiana, 10 copie tradotte in lingua inglese e 10 in francese, comprensivo di quadro logico, griglia dei risultati del progetto e sommario delle raccomandazioni. La traduzione dovrà essere di un livello qualitativo professionale. Le copie dovranno essere dotate di copertina plastificata e contenere

⁴⁶ Per padronanza si intende, qui come in seguito, una conoscenza della lingua in questione al livello C del QCER (non sono richiesti formali attestati)

indicazione del titolo dell'iniziativa anche nella parte laterale. Il Summary Report dovrà contenere anche elementi di infografica.

- Documentazione fotografica (in alta definizione) sull'iniziativa valutata e sul suo contesto, a sostegno delle conclusioni della valutazione e brevi interviste/testimonianze di attori chiave: controparti governative e locali, altri partner, beneficiari (tutto in formato digitale).
- Workshop di presentazione del rapporto finale presso il MAECI-DGCS.
- Workshop di presentazione del rapporto finale nel Paese.

SEGUONO:

- **Schede descrittive dei singoli progetti**
- **Disposizioni gestionali e piano di lavoro**
- **Formato suggerito del Rapporto di valutazione**

MINISTERO DEGLI AFFARI ESTERI E DELLA COOPERAZIONE INTERNAZIONALE

DIREZIONE GENERALE PER LA COOPERAZIONE ALLO SVILUPPO

SCHEDA DESCRITTIVA

TITOLO DELL'INIZIATIVA	<u>PAPSEN - Programma d'Appoggio al Programma Nazionale di Investimenti in Agricoltura in Senegal – PNIA</u>		
PAESE	Senegal		
LINGUA	francese		
DURATA INIZIALMENTE PREVISTA	dal 15/10/2012 al 31/12/2015		
DURATA EFFETTIVA	dal 01/01/2014 al 31/12/2021 (data fine prevista)		
CANALE DI FINANZIAMENTO	bilaterale		
TIPOLOGIA	credito d'aiuto e dono		
BUDGET TOTALE	EURO	<u>32.555.011</u>	
	di cui:		
	Credito d'aiuto	Euro 30.000.000	
	Finanziamento a dono Fondo esperti	Euro 486.000	
	Fondo in gestione in loco	Euro 525.700	
	Contributo a dono al CNR (ex art. 18)	Euro 1.543.311	
ENTE ESECUTORE:	Ministero dell'Agricoltura e dell'Equipaggiamento Rurale del Senegal ⁴⁷		
OBIETTIVI DEL MILLENNIO MDG1			

⁴⁷ attraverso i suoi dipartimenti ed agenzie selezionati in funzione delle capacità tecnico-operative richieste dalla tipologia delle attività:

- DRDR: Directions regionales de developpement rural (di Sedhiou, Kolda, Kaolack)
- DBRLA : Direction des Bassins de Rétention et des Lacs artificiels
- ANIDA : Agence National pour l'Insertion et le Developpement Agricole
- PNAR : Programme National pour l'autosuffisance en riz
- Coordinatrice cellula genere del MAER
- ISRA : Istituto Nazionale di Ricerca Agricola;
- Unità di Gestione del Programma.

Progetto “PAPSEN - Programma d’Appoggio al Programma Nazionale di Investimenti in Agricoltura in Senegal – PNIA” – AID 9577

Contesto dell’iniziativa

Il Programma Indicativo 2010 –2013 della Cooperazione Italiana in Senegal includeva l’agricoltura fra i settori prioritari di intervento, facendo della concentrazione territoriale in determinate regioni del Senegal (regioni centrali intorno a Dakar, Thiès, Diourbel e Kaolack e regione meridionale della Casamance con la regione di Sédhiou) uno dei criteri di definizione degli interventi di sviluppo assieme alla metodologia d’intervento basata sullo sviluppo locale e sulla decentralizzazione e all’empowerment delle donne.

Nel 2010, il Governo Italiano ha accolto la richiesta del Governo del Senegal di assistenza al PNIA, segnalando la volontà di sostenere l’impegno del Paese nel settore agricolo attraverso un credito d’aiuto di 20 milioni di euro, poi aumentato a 30 milioni di Euro, per includere la realizzazione di attività nell’orticoltura irrigua nelle regioni centrali di Thiès, Diourbel e Fatick e della regione meridionale di Sédhiou e della vicina Kolda. In questo modo il programma si è concentrato in zone già caratterizzate da una presenza italiana importante sia come cooperazione bilaterale che come cooperazione decentrata. Si sono tenute in conto anche le condizioni molto favorevoli delle regioni di Thiès, Diourbel e Fatick, in virtù della presenza di falde idriche in grado di permettere l’irrigazione e della prossimità del mercato e del centro logistico di Dakar e della zona delle Niayes, da sempre zona di eccellenza per l’orticoltura e la frutticoltura in Senegal.

Il Programma di Accelerazione della Cadenza dell’Agricoltura Senegalese –PRACAS, articolato sul precedente PNIA, è diventato in tempi più recenti il programma di riferimento di PAPSEN, avendo come obiettivo, tra gli altri, l’aumento della produzione di riso per il raggiungimento del fabbisogno nazionale. Negli ultimi decenni il fabbisogno del Senegal in cereali, tra i quali il riso è maggiormente consumato, è stato infatti coperto solo parzialmente dalla produzione nazionale.

Obiettivi

L’obiettivo generale è contribuire al raggiungimento dell’Obiettivo del Millennio per lo Sviluppo O1 T1, che prevede di dimezzare la povertà entro il 2015, attraverso il sostegno all’agricoltura irrigua, allo sviluppo dell’imprenditoria rurale e la promozione dello sviluppo economico locale.

L’obiettivo specifico è incrementare i redditi agricoli delle popolazioni rurali di selezionate Regioni del Paese attraverso la diversificazione delle produzioni agricole, la diffusione di pratiche colturali moderne, principalmente l’irrigazione, e il miglioramento delle capacità tecniche e imprenditoriali degli agricoltori implicati.

Finanziamento

Il finanziamento italiano si articola in:

1. una componente a credito d’aiuto di 30 Milioni di Euro
2. una componente a dono in gestione diretta di Euro 1.011.700 suddivisa in un Fondo esperti per l’assistenza tecnica e un Fondo in Loco per il supporto al funzionamento delle Unità di gestione del Programma
3. una componente a dono di Euro 1.543.311 affidata (ex art. 18 del Regolamento di Esecuzione della Legge 49/87) al CNR (Dipartimento Agroalimentare e gli Istituti che lo compongono) per il cofinanziamento di un programma di assistenza specialistica, trasferimento, formazione e ricerca del valore complessivo di Euro 2.204.730.

Strategia di intervento

Dal punto di vista strategico e metodologico, come suggerito dal Programma Indicativo di Cooperazione 2010-2013 per il Senegal, il programma PAPSEN persegue l’obiettivo di concentrazione territoriale e settoriale.

PAPSEN recepisce anche gli orientamenti contenuti nelle linee guida della Cooperazione Italiana riguardo a genere, sviluppo e riduzione della povertà.

La dimensione di genere sottende all'intera programmazione dell'iniziativa, quale linea di orientamento nell'identificazione del campo di azione. Le attività agricole su cui si mira ad influire riguardano le donne, che rappresentano l'80% degli addetti sia per l'orticoltura a Thies, Diourbel e Fatick che per la coltura del riso e l'orticoltura in Casamance. Anche nella componente di sostegno allo sviluppo economico locale, una particolare attenzione viene rivolta all'inclusione delle tematiche di genere in tutti i meccanismi di rappresentazione a livello locale sia all'interno delle collettività locali sia nelle organizzazioni di produttori.

Il Programma recepisce e applica gli impegni assunti dall'Italia in materia di efficacia dell'aiuto e si allinea alle priorità identificate dai programmi settoriali nazionali e le priorità di sviluppo identificate a livello locale dalle collettività locali e dai servizi tecnici governativi. Risponde anche alla necessità di una concentrazione settoriale in vista del completamento del processo di divisione del lavoro iniziato in ambito UE, che vede le iniziative italiane progressivamente rafforzarsi all'interno dei settori agricoltura, protezione sociale, uguaglianza di genere e sviluppo della piccola e media impresa.

Nell'identificazione e realizzazione delle attività, il programma continua ad applicare l'approccio già sperimentato in altre iniziative, di assicurare la partecipazione della società civile (organizzazioni contadine e associazioni di donne) e delle collettività locali di cui si continua a perseguire il rafforzamento secondo la metodologia già applicata in precedenza da diversi programmi finanziati dalla Cooperazione Italiana in Senegal, e sperimentata con successo nel campo dello sviluppo rurale integrato.

PAPSEN prevede, infine, una cooperazione triangolare fra Senegal, Cooperazione Italiana e Cooperazione Israeliana per le attività nella zona centrale ove il MASHAV ha di fatto apportato la sua expertise nel settore dell'irrigazione a goccia fino al 2015.

Risultati da conseguire

I risultati attesi e le attività previste per il loro raggiungimento possono essere raggruppati in funzione delle due componenti geografiche nelle quali è strutturato il programma: una prima componente in cui si prevede l'intervento nelle regioni centrali di Thies, Diourbel e Fatick, centrata sullo sviluppo dell'ortofrutticoltura irrigua, con la collaborazione tecnica della cooperazione israeliana; una seconda componente relativa all'intervento nella regione di Sedhiou e nelle zone adiacenti della regione di Kolda basata soprattutto sul supporto alla risicoltura, all'ortofrutticoltura, alla piccola meccanizzazione e allo sviluppo locale partecipativo. In ambedue le componenti, il contributo dato dal CNR e ISRA (Istituto Senegalese di Ricerca Agricola) per l'assistenza tecnica e la ricerca è stato determinante nel periodo 2013-2016. La strategia di intervento e la metodologia realizzativa differiscono nelle due componenti solo laddove, nella componente 1, è prevista la partecipazione del MASHAV per l'assistenza tecnica e la formazione.

1) Risultati attesi per la Componente 1 (regioni centrali di Thies, Diourbel e Fatick)

- La produzione ortofrutticola è aumentata e diversificata grazie alla messa a coltura di 400 ettari irrigui suddivisi in piccole aziende comunitarie di 5-20 ettari con appezzamenti di 500/1000 m2 equipaggiati con impianti di irrigazione a goccia, recinzione perimetrale, piste d'accesso, sistemi di pompaggio con serbatoi e magazzini prodotti e attrezzi.
- La capacità tecnica e imprenditoriale degli agricoltori (in maggioranza donne) e del sistema nazionale agro-silvo-pastorale della ricerca e dell'assistenza ai produttori è rafforzata grazie alla realizzazione di un programma di assistenza tecnica e di formazione basato sulla creazione di un Centro di servizi e formazione di riferimento, sulla presenza di un dispositivo di assistenza tecnica sul terreno e sulla realizzazione di un programma di ricerca-sviluppo di supporto.

2) Risultati attesi per la Componente 2 (regione di Sedhiou e nelle zone adiacenti della regione di Kolda)

- La produzione agricola e i rendimenti di riso, ortaggi e frutta nelle regioni di Sedhiou e Kolda sono incrementati grazie all'aumento delle superfici coltivate a riso di 4.000 Ha, all'incremento delle rese unitarie del riso da 1,00 a 1,4 t/ha e alla messa a coltura di 100 ettari irrigui per l'orticoltura e la frutticoltura
- Il processo di sviluppo economico locale imperniato sulle collettività locali di Sedhiou è sostenuto grazie al miglioramento della rete di piste rurali e all'esecuzione di un programma di realizzazione di infrastrutture socio-comunitarie e di conservazione e commercializzazione dei prodotti agricoli.
- Le capacità tecniche e gestionali degli agricoltori (in maggioranza donne), delle collettività locali di Sedhiou e delle zone limitrofe di Kolda sono rafforzate per mezzo di un programma di formazione e assistenza tecnica alla gestione delle sistemazioni irrigue, alle tecniche colturali moderne, dei membri delle collettività locali e di assistenza alla formulazione dei piani locali di sviluppo.

Beneficiari e altri principali stakeholder

I beneficiari diretti dell'iniziativa sono:

- Gli agricoltori (in maggioranza donne), le loro famiglie e le Organizzazioni Contadine (OP), i Gruppi di Interesse Economico (GIE) e i Gruppi di Promozione Femminile (GPF) per un totale di 40.000 abitanti per le regioni a nord (Thiès, Diourbel, Fatick) e 350.000 abitanti (totalità della popolazione rurale della regione di Sedhiou più una parte di quella di Kolda) nelle regioni a sud, che parteciperanno e beneficeranno delle attività del programma di sviluppo rurale, di formazione e di promozione dello sviluppo economico locale.
- Le Comunità Rurali e i Comuni che assieme alla Regione avranno la possibilità di realizzare iniziative da loro identificate nei Piani di Sviluppo Locale e potranno beneficiare delle attività di rafforzamento delle capacità previste nella componente di formazione.
- I servizi tecnici e del sistema della ricerca nazionale agro-silvo-pastorale dello Stato coinvolti che beneficeranno di un sostegno in termini di assistenza tecnica e dei mezzi necessari per accrescere le loro capacità ed efficacia nel sostenere i produttori agricoli.

I beneficiari indiretti dell'iniziativa sono:

- Le popolazioni rurali delle regioni implicate nella realizzazione del programma stimate in circa 3.000.000 persone.
- I servizi tecnici dello Stato non direttamente implicati nel progetto ma che potranno operare in un contesto istituzionale più efficiente a livello locale.
- I partner economici e di sviluppo della Regione che potranno trarre beneficio dal miglioramento delle capacità produttive e di amministrazione della Regione di Sedhiou.

Oltre ai beneficiari e al Ministero senegalese dell'Agricoltura, ente esecutore del programma, i principali stakeholder delle iniziative includono: il Ministero delle Finanze e del Budget, coinvolto in quanto membro del Comitato di Pilotaggio del Progetto, e imprese private, selezionate attraverso specifiche gare d'appalto.

Sviluppi recenti

Il 9/11/2018, su richiesta del Ministero dell'Economia senegalese, la Cassa Depositi e Prestiti ha concesso una proroga per l'utilizzo della linea di credito fino al 31/12/2021.

MINISTERO DEGLI AFFARI ESTERI E DELLA COOPERAZIONE INTERNAZIONALE

DIREZIONE GENERALE PER LA COOPERAZIONE ALLO SVILUPPO

SCHEMA DESCRITTIVA

TITOLO DELL'INIZIATIVA	PAIS - Programma Agricolo Italia Senegal		
PAESE	Senegal		
LINGUA	francese		
DURATA INIZIALMENTE PREVISTA	36 mesi credito d'aiuto + 12 mesi dono		
DURATA EFFETTIVA	dal 18/02/2015 al 31/12/2021 (data fine prevista))		
CANALE DI FINANZIAMENTO	bilaterale		
TIPOLOGIA	credito d'aiuto e dono		
BUDGET TOTALE	EURO	16.400.000	
	di cui:		
	Credito d'aiuto	Euro 15.000.000	
	Finanziamento a dono ex art. 15	Euro 1.200.000	
	Finanziamento a dono Fondo esperti	Euro 50.000	
	Fondo in gestione in loco	Euro 525.700	
	Finanziamento a dono Fondo in loco	Euro 150.000	
ENTE ESECUTORE:	Ministero dell'Agricoltura e dell'Equipaggiamento Rurale del Senegal ⁴⁸		
OBIETTIVI DEL MILLENNIO MDG1			

⁴⁸ attraverso i suoi dipartimenti ed agenzie selezionati in funzione delle capacità tecnico-operative richieste dalla tipologia delle attività:

- DRDR: Directions regionales de developpement rural (di Sedhiou, Kolda, Kaolack)
- DBRLA : Direction des Bassins de Rétention et des Lacs artificiels
- ANIDA : Agence National pour l'Insertion et le Developpement Agricole
- PNAR : Programme National pour l'autosuffisance en riz
- Coordinatrice cellula genere del MAER
- ISRA : Istituto Nazionale di Ricerca Agricola;
- Unita di Gestione del Programma.

Progetto “PAIS - Programma Agricolo Italia Senegal” – AID 10424

Contesto dell’iniziativa

L'insicurezza alimentare è un problema cronico in Senegal e, nonostante gli sforzi del Governo del Senegal, i bisogni in cereali non sono coperti dalla produzione nazionale.

Successivamente all'approvazione del programma Paese Italia Senegal 2014/2016, su richiesta del Governo del Senegal l'Italia ha deciso il finanziamento del progetto PAIS, iniziativa che, come il precedente programma PAPSEN, si inserisce in modo coerente nelle strategie settoriali già elaborate negli ultimi anni dal Governo del Senegal e dai paesi donatori per il miglioramento della situazione alimentare e della produzione agricola nel Paese.

Come il programma PAPSEN, è coerente anche con i principi di concentrazione territoriale e settoriale del Programma di Cooperazione Italia-Senegal 2014/2016 e rispetta le raccomandazioni delle linee-guida della Cooperazione Italiana per l'agricoltura, la lotta alla povertà, l'empowerment delle donne, l'ownership democratica e l'ambiente e i principi delle dichiarazioni di Roma, Parigi, Accra e Busan sull'efficacia dell'aiuto e dello sviluppo.

Obiettivi

L'obiettivo generale è contribuire al miglioramento della sicurezza alimentare delle popolazioni delle regioni d'intervento del programma di cooperazione Italia - Senegal in una logica di sviluppo concertato a livello locale e sostenibile.

Gli obiettivi specifici sono:

- sostenere la sovranità alimentare del Senegal attraverso il miglioramento sostenibile delle produzioni della risicoltura pluviale.
- sostenere l'intensificazione sostenibile dell'agricoltura attraverso l'empowerment delle donne e dei giovani disoccupati nella risicoltura pluviale, l'orticoltura, la trasformazione post-raccolta e la commercializzazione dei prodotti agricoli.
- rafforzare le competenze tecniche dei beneficiari e degli attori del progetto.
- appoggiare la governance istituzionale e degli altri attori dell'agricoltura sostenibile e della sicurezza alimentare a livello centrale e locale.

Finanziamento

Il contributo finanziario italiano per la realizzazione delle attività del PAIS ammonta a **16.200.000 €** suddivisi tra:

- un contributo a credito d'aiuto di **15.000.000 euro** con la durata di tre anni per le attività del programma, erogato al Ministero dell'Economia, delle Finanze e del Piano, in rappresentanza del governo del Senegal, per mezzo di Artigiancassa, istituzione finanziaria italiana incaricata dell'erogazione del credito d'aiuto, e gestita dal MAER, Organismo Esecutivo.
- un contributo a dono ex art. 15 di **1.200.000 euro** con la durata di un anno per le attività del programma, erogato al MEFP, in rappresentanza del governo del Senegal, e poi gestito dal MAER⁴⁹

Strategia di intervento

I principi di base per la realizzazione del Programma sono:

⁴⁹ Il progetto PAIS prevede altri 1.800.000 euro a dono, relativi al secondo e terzo anno del PAIS, che sono stati distribuiti sui progetti annuali PAIS PLUS

- coerenza con le strategie internazionali e nazionali in materia di sviluppo. partenariato e efficacia dell'aiuto
- coerenza con il processo di divisione del lavoro e di programmazione congiunta UE/Stati membri, con la strategia e i programmi agricoli UE e armonizzazione con i programmi di altri partner allo sviluppo
- coerenza con le linee guida e gli indirizzi programmatici della Cooperazione Italiana
- approccio partecipativo
- concentrazione territoriale nelle stesse regioni d'intervento delle altre iniziative della Cooperazione italiana.
- sinergia ed integrazione tra le diverse iniziative della Cooperazione Italiana in Senegal

Risultati da conseguire

I risultati che ci si attende dalla realizzazione del progetto PAIS sono:

- 1- La produzione di riso pluviale è intensificata qualitativamente e quantitativamente in maniera sostenibile
- 2- La produttività agricola è migliorata grazie all'empowerment delle donne produttrici e dei giovani agricoltori nella risicoltura, l'orticoltura, la trasformazione post-raccolta e la commercializzazione dei prodotti agricoli per mezzo della costituzione di Fondi Agricoli di Sviluppo.
- 3- Le competenze tecniche dei beneficiari e degli altri attori del progetto sono rafforzate.
- 4- La governance dell'agricoltura sostenibile e della sicurezza alimentare da parte degli attori istituzionali, della società civile, delle organizzazioni di agricoltori e delle collettività locali a livello centrale e locale è rafforzata e capace di capitalizzare efficacemente gli interventi realizzati dal PAPSEN e dal PAIS.

Beneficiari e altri principali stakeholder

I beneficiari diretti sono stimati in 500 comunità implicate nell'intervento per un totale di 200.000 persone, le cui associazioni, gruppi di donne e organizzazioni di agricoltori e agricoltrici, beneficeranno degli investimenti per il miglioramento sostenibile della produzione agricola, dell'assistenza tecnica, della formazione e del sostegno alla governance del settore agricolo.

Da segnalare che PAIS prevede che le donne rappresentino almeno il 50 % dei beneficiari delle sue attività.

I principali beneficiari indiretti saranno le popolazioni delle zone rurali d'intervento stimate in 1.408.855 abitanti (2013).

Oltre al Ministero dell'Agricoltura, in quanto ente esecutore, l'altro principale stakeholder istituzionale è il Ministero senegalese dell'Economia, delle Finanze e della Pianificazione, coinvolto in quanto membro del Comitato di Pilotaggio del Progetto (lo stesso di Papsen ma senza la Cooperazione israeliana) e imprese private, selezionate attraverso specifiche gare d'appalto.

Sviluppi recenti

Su richiesta del Ministero dell'Economia senegalese, la Cassa Depositi e Prestiti ha concesso una proroga per l'utilizzo della linea di credito fino al 31/12/2021.

DISPOSIZIONI GESTIONALI E PIANO DI LAVORO

<i>Desk Analysis</i>	Esame della documentazione riguardante il progetto. Dopo la firma del contratto la DGCS fornirà al team di valutazione ulteriore documentazione relativa all'iniziativa oggetto della valutazione. Il team incontrerà i rappresentanti degli uffici della DGCS, gli esperti/funzionari dell'Agenzia e gli altri stakeholder rilevanti.
<i>Inception report</i>	Il team dovrà predisporre l'Inception Report completo di approfondita descrizione dello scopo della valutazione, dei quesiti valutativi, specifici e dettagliati, dei criteri e degli indicatori da utilizzare per rispondere alle domande, delle metodologie che si intendono utilizzare per la raccolta dei dati, per la loro analisi e per la valutazione in generale, della definizione del ruolo e delle responsabilità di ciascun membro del team di valutazione, del piano di lavoro comprensivo del cronoprogramma delle varie fasi e dell'approccio che si intende avere in occasione delle visite sul campo. L'Inception Report sarà soggetto ad approvazione da parte della DGCS.
<i>Field visit</i>	Il team di valutazione visiterà i luoghi dell'iniziativa, intervisterà le parti interessate, i beneficiari e raccoglierà ogni informazione utile alla valutazione. Il team di valutazione si recherà sul campo per un periodo stimato di almeno 30 giorni complessivi (la durata effettiva sarà determinata dall'offerente). Il suddetto periodo dovrà essere coperto da almeno uno dei tre membri obbligatori. La presenza in loco del team leader, anche per un periodo circoscritto, è incentivata con l'attribuzione di relativo punteggio in sede di valutazione dell'offerta tecnica (Piano di lavoro).
<i>Bozza del rapporto di valutazione</i>	Il team predisporrà la bozza del rapporto di valutazione, che dovrà essere inviata per l'approvazione da parte della DGCS.
<i>Commenti delle parti interessate e feedback</i>	La bozza di rapporto sarà sottoposta ai soggetti interni alla DGCS, i rappresentanti dell'Agenzia e altri eventuali stakeholder. Commenti e feedback saranno comunicati ai valutatori invitandoli a dare i chiarimenti richiesti e fare eventuali contro-obiezioni. Ove ritenuto utile, possono essere organizzati anche incontri di discussione collettiva.
<i>Workshop presso la DGCS</i>	Si terrà un Workshop per la presentazione da parte del team della bozza del rapporto di valutazione, per l'acquisizione di commenti e feedback da parte dei soggetti coinvolti nel programma, utili alla stesura del rapporto definitivo.
<i>Rapporto finale</i>	Il team di valutazione definirà il rapporto finale, tenendo conto dei commenti ricevuti e lo trasmetterà alla DGCS, per l'approvazione finale. Al rapporto saranno allegati i TOR, le raccolte analitiche e complete dei dati raccolti ed elaborati, gli strumenti di rilevazione utilizzati (questionari etc.), i documenti specifici prodotti per gli approfondimenti di particolari tematiche o linee di intervento, le fonti informative secondarie utilizzate, le tecniche di raccolta dei dati nell'ambito di indagini ad hoc, le modalità di organizzazione ed esecuzione delle interviste, la definizione e le modalità di quantificazione delle diverse categorie di indicatori utilizzati, le procedure e le tecniche per l'analisi dei dati e per la formulazione delle risposte ai quesiti valutativi, inclusa la Matrice di Valutazione. Il rapporto dovrà evidenziare eventuali opinioni discordanti nel team di valutazione e può includere commenti di stakeholder.
<i>Workshop in loco</i>	Il team organizzerà, in coordinamento con la DGCS, un Workshop in loco per la presentazione alle controparti del rapporto finale di valutazione. I costi organizzativi (incluso affitto della sala, catering, eventuali rimborsi per lo spostamento dei partecipanti locali) saranno integralmente a carico dell'offerente. Le modalità organizzative di massima del seminario dovranno essere illustrate nell'offerta del concorrente e concordate in tempo utile nel dettaglio con la DGCS.

FORMATO SUGGERITO DEL RAPPORTO DI VALUTAZIONE

<i>Rilegatura</i>	In brossura con copertina plastificata recante l'indicazione del titolo dell'iniziativa anche nella parte laterale
<i>Carattere</i>	Arial o Times New Roman, corpo 12 minimo
<i>Copertina</i>	Il file relativo alla prima pagina sarà fornito dall'Ufficio III della DGCS.
<i>Lista degli acronimi</i>	Sarà inserita una lista degli acronimi.
<i>Localizzazione dell'intervento</i>	Inserire una carta geografica relativa alle aree oggetto dell'iniziativa.
<i>Sintesi</i>	Quadro generale che evidenzia le principali risultanze, i punti di forza e di debolezza del progetto. Max 4 pagine per ciascun intervento, con focus sulle lezioni apprese e raccomandazioni.
<i>Contesto dell'iniziativa</i>	<ul style="list-style-type: none"> - Situazione Paese (Max 2 pagine), basata su informazioni rilevate da fonti internazionali accreditate. - Breve descrizione delle politiche di sviluppo attive nel Paese e della sua situazione politica, socio-economica, culturale ed istituzionale. - Analisi della logica dell'iniziativa. - Stato di realizzazione delle attività del progetto.
<i>Obiettivo</i>	<ul style="list-style-type: none"> - Tipo di valutazione - Descrizione dello scopo e dell'utilità della valutazione.
<i>Quadro teorico e metodologico</i>	<ul style="list-style-type: none"> - I criteri di valutazione. - La metodologia utilizzata e la sua applicazione, segnalando le eventuali difficoltà incontrate. - Le fonti informative e loro grado di attendibilità.
<i>Presentazione dei risultati</i>	Elenco dei quesiti valutativi e relative risposte, adeguatamente documentate e commentate, seguito da una sintesi riepilogativa di tutte le risposte che ne faciliti la lettura e metta in evidenza i punti salienti.
<i>Conclusioni</i>	Le conclusioni, tratte dai risultati, dovranno includere un giudizio chiaro in merito a ciascuno dei criteri di valutazione.
<i>Raccomandazioni</i>	Le raccomandazioni, indirizzate a destinatari istituzionali, dovranno essere volte al miglioramento dei progetti futuri e delle strategie
<i>Lezioni apprese</i>	Osservazioni, intuizioni e riflessioni generate dalla valutazione, non esclusivamente relative all'ambito del progetto, ma originate dai findings e dalle raccomandazioni. Esse devono poter essere utilizzate per informare le decisioni e le azioni da intraprendere, diffondere la conoscenza e rafforzare la legittimazione e la responsabilizzazione dei portatori di interesse.
<i>Allegati</i>	Devono includere i ToR, la lista completa dei quesiti valutativi, la lista delle persone intervistate e ogni altra informazione e documentazione rilevante.

ANNEX 2: List of evaluation questions, relevant indicators and sources

Evaluation questions and sub-questions	Indicators	Responses	Sources
<u>Relevance</u>			
<i>D.1. Relevance. To what extent did the projects facilitate adequate responses to issues associated with achieving Millennium Development Goal no.1, poverty reduction?</i>			
<i>D.1.1. To what extent have the initiatives affected poverty reduction now and can affect it going forward?</i>	<ul style="list-style-type: none"> • Link between inefficient agricultural production and poverty in the area covered by initiatives, by public stakeholders • Link between agricultural production and poverty in the region, in local development policy documents and scientific literature 	The PAPSEN and PAIS projects intervened to support farmers by providing equipment, inputs and technical assistance that increase the efficiency of agricultural production and encourage crop diversification. Recipients of this aid increased vegetable and rice productivity by between 50% and 200%. The development objective of the two projects is to ensure food security and reduce rural poverty. Many farmers have moved from subsistence to production surpluses that allow them to sell part of their harvest on the market, resulting in the creation of monetary income. The limited number of beneficiaries - in the range of hundreds in each region - makes these results insufficient to achieve significant results in terms of poverty reduction.	<ul style="list-style-type: none"> • Local CSOs and national NGOs • Local development policy documents and scientific literature
<i>D.1.2. To what extent are factors that generate poverty in the region considered in the initiatives?</i>	<ul style="list-style-type: none"> • Presence of factors not considered in the initiatives among the causes of poverty in the region 	The two projects are based on studies that identified limiting factors in the socio-economic development of the assisted regions. In particular, the projects' strategy identified the main limiting factors as insufficient access to innovation, limitations on access to infrastructure, improved seed and markets, weak research and technical assistance services to farmers, insufficient farmer organisation, and the marginalisation of women in crop management. These factors are a drag on long-term efficiency gains even when, for example, the government provides production inputs that have an immediate effect on production.	<ul style="list-style-type: none"> • Local development policy • Main stakeholders
<i>D.2. Relevance. To what extent are interventions, defined in the context of the Millennium Development Goals, still relevant in the context of the Sustainable Development Goals?</i>			
<i>D.2.1. How do the project objectives contribute to the SDGs?</i>	<ul style="list-style-type: none"> • Link between project goals and the SDGs 	The objectives of the two projects are to increase agricultural production and farmers' income by directly contributing to the achievement of Sustainable Development Goals (SDGs) no. 1. Defeat poverty: End poverty in all its forms, everywhere; and no. 2. Eliminate hunger: End hunger, achieve food security and improve nutrition and promote sustainable agriculture. The hydro-agricultural upgrading of water regulation for the rice farms of the valleys, based on the NRC's local studies, promotes the integrated management of the water basins and thus contributes to SDG no. 13. Fight climate change: Take urgent action to combat climate change and its impacts.	<ul style="list-style-type: none"> • Project documents

Evaluation questions and sub-questions	Indicators	Responses	Sources
		In addition, the projects' inclusive approach and promotion of eco-friendly agricultural technologies indirectly contribute to the achievement of objective no. 5. Gender equality: Achieve gender equality and empower all women and girls.	
<i>D.3. Relevance. To what extent are the two interventions compatible with the goals of government rural development policy?</i>			
D.3.1. To what extent do the two interventions improve national agricultural policy resources?	<ul style="list-style-type: none"> Objectives aligned with national interventions and policies Additional technical and financial resources provided by the interventions contribute to national policies and are managed by the stakeholders of these policies 	The two projects work with the national and local agencies of the Ministry of Agriculture and Rural Equipment, assisting them in identifying problems and in the planning and execution of interventions. The projects strengthened the operations of the agency responsible for agricultural research in infrastructure, programme development, the organisation of research and field trials, and the transfer of results to farmers. Assistance from the project was particularly intensive in the area of agricultural policy implementation through collaboration with national, regional and departmental agencies, but was not directly involved in agricultural policymaking. On the other hand, the project's collaboration with the agricultural agencies allowed the latter to take ownership of the results of studies and field activities and use them to improve the implementation of the country's agricultural policies.	<ul style="list-style-type: none"> Project documents National policy documents
D.3.2. To what extent did government stakeholders and representatives (at national and local level) participate in the conception and design of the two programmes?	<ul style="list-style-type: none"> Participation of ministries and agriculture departments in project formulation Participation of ministries and agriculture departments in project guidance Participation of ministries and agriculture departments in the implementation of activities 	The two projects were designed and their activities planned in close collaboration with the Senegalese national and local agricultural authorities. The national and local management units of the two projects act within and in close coordination with the relevant agricultural authorities involved in the planning, execution and supervision of action. The Senegalese authorities are particularly involved in the selection of beneficiaries, both for technical assistance and input supply, and in the selection of recipients of Agricultural Development Funds (ADF). The crop options supported by the projects are the result of the NRC's collaboration with the ISRA and the two projects' ongoing collaboration with ISRA, ANIDA, PNAR, and regional (DRDR) and departmental (SDDR) agricultural services. This collaboration produces annual project plans and budgets and the awarding of grants and credits. In practice, the two projects act as tools to assist the Senegalese agricultural services and agencies in the implementation of the country's agricultural policy.	<ul style="list-style-type: none"> Representatives of ministries and technical services Agricultural planning documents
<u>Coherence</u>			
<i>D.4. Coherence. To what extent are the two initiatives compatible with the intervention of cooperation stakeholders involved in the country's agricultural development?</i>			
D.4.1. To what extent are the two projects compatible with the	<ul style="list-style-type: none"> Common objectives between the initiatives considered and 	The two projects represent the main interventions of Italian Cooperation in Senegal. Their close integration with the work of the Department of Agriculture and Rural Equipment limits collaboration with other development initiatives. Integration with the	<ul style="list-style-type: none"> Project and Italian

Evaluation questions and sub-questions	Indicators	Responses	Sources
other initiatives of Italian Cooperation in Senegal and in the region?	<p>other Italian Cooperation projects in the region</p> <ul style="list-style-type: none"> • Synergy between the initiatives and other Italian Cooperation projects in the region • Situations of potential conflict and competition between the initiatives and other Italian Cooperation projects in the region 	<p>other components of the two projects enabled the identification of problems to be addressed and consequently the technical choices and areas of intervention for the two projects. For example, the study of vegetable varieties, the strengthening of basic seed production and the establishment of demonstration plots form the basis of the seed production and technical assistance to farmers carried out by the two projects. The BEI continued its collaboration with the ISRA after the end of the PAPSEN/NRC project and collaborates with the two projects within the new programme funded by Italian Cooperation: Projet Papsen Pais Assistance & Recherche - Casamance Sénégal - PP AT & RD, in the areas of applied research (demonstrations), organisation and technical assistance for farmers in the south in terms of soil rehabilitation (hydro-agricultural upgrading of water regimentation) in the valleys.</p>	<p>Cooperation documents</p> <ul style="list-style-type: none"> • Documents of the various projects
D.4.2. To what extent have the two projects contributed to the definition or promotion of the intervention strategies of Italian Cooperation?	<ul style="list-style-type: none"> • Technical input or information provided within the framework of the initiatives to the AICS office in Dakar • Technical input or information provided within the framework of the initiatives to AICS or DGCS 	<p>The two projects continue a previous initiative and are the result of an Italian Cooperation intervention strategy aimed at reducing poverty through the improvement of agricultural production, which is the main livelihood of rural populations, the poorest in the country. The pursuit of this goal aims to reduce rural deprivation and thus urbanisation and outward migration flows. The results of these interventions have not directly influenced the strategies of Italian Cooperation, as their highly technical content limits their relevance in other sectors.</p>	<ul style="list-style-type: none"> • AICS documents
D.4.3. To what extent have the initiatives influenced Italian foreign policy and cooperation between Italy and Senegal?	<ul style="list-style-type: none"> • Recognition of the initiatives by the Senegalese authorities at national level 	<p>The two projects constitute a central element of cooperation between Italy and Senegal. They are consistent with the goals of improving food security, reducing rural poverty and the resulting migration flows. Assistance in the implementation of the country's agricultural policies is in line with the method of aid credit chosen for their implementation, which promotes the role of agricultural institutions in the guidance of the two projects and therefore strengthens the execution of their policy. This approach is consistent with the framework of institutional cooperation between Italy and Senegal.</p>	<ul style="list-style-type: none"> • Representatives of ministries
D.4.4. To what extent have the initiatives influenced cooperation between Italy and the countries of the region, particularly action to improve living	<ul style="list-style-type: none"> • Variation of migrant flows to Italy from the regions, according to local authorities and local NGOs 	<p>The two projects work to improve living conditions, combat rural poverty and reduce migration. They are aimed at making farmers in marginal areas self-sufficient and promoting their access to the market in order to generate income. The technical orientation of the projects has the potential to affect the food security of direct beneficiaries and to produce multiplier effects through the dissemination of improved agricultural practices, reaching a larger number of indirect beneficiaries.</p>	<ul style="list-style-type: none"> • Official statistics • Representatives of local authorities and NGOs

Evaluation questions and sub-questions	Indicators	Responses	Sources
conditions, combat poverty and manage migration?			
D.4.5. To what extent have the initiatives influenced the formulation of intervention strategies by the EU and other partners of Italy?	<ul style="list-style-type: none"> • Adoption of lessons learned from the project by initiatives promoted by the EU or member states • Recognition of initiatives by international cooperation stakeholders involved in the same sector (EU, FAO, NGOs, AFD, etc.). 	The two projects are carried out independently of those of the EU and Italy's other partners. Their concertation takes place indirectly through Italian Cooperation's participation in the coordination committee for interventions on food security. The initial collaborative agreement with the Israeli MASHAV, which assisted the ISRA in the horticultural sphere, helped to identify pilot farms in the centre of the country, but did not continue due to the agency's withdrawal at the start of the activities, due to non-project related issues. Collaboration on the food security committee avoids duplication and focuses each donor's efforts on independent territorial objectives. There was no direct collaboration between the two projects and other initiatives.	<ul style="list-style-type: none"> • Official EU and member state documents • Programme indicatif national (EU)
Effectiveness			
<i>D.5. Effectiveness. To what extent were the planned project activities implemented?</i>			
D.5.1. To what extent were the expected outcomes achieved?	<ul style="list-style-type: none"> • Extent to which result indicators identified in the logical frameworks have been achieved • Changes in agricultural production at the regional level • Changes in agricultural production by direct beneficiaries • Extent to which technical innovations proposed by the initiatives have spread in the assisted regions 	<p>The two projects helped transfer innovation to producers in the central and southern regions in fruit and vegetable (centre and south) and rice (south) production. The activities carried out allowed producers to be provided with various services, from soil rehabilitation (hydro-agricultural upgrading of water regulation) to farming equipment, training and technical assistance, and to strengthen their associations and their relations with the agricultural authorities. ADFs also provided low-interest loans to fund investment. Activities implemented include:</p> <p>A. PAPSEN</p> <p>1. Central region</p> <ul style="list-style-type: none"> - Strengthening the start-up of the Service and Training Centre (STC) in Bambey, including infrastructure, laboratories, research and study programmes, demonstration plots and basic seed production - Development of 15 pilot irrigated horticultural farms: Thiès: 5 sites, Diourbel 7, Fatick 3 farms (58 farmers) and 3 emergency farms (with a total area of 90 ha), which increased their production of onion, tomato, peanut, bell pepper, okra etc. There are 807 beneficiaries, of which 287 are men and 520 are women, with individual plots of 500 m² and 250 m² respectively. - Support and strengthening of the organisational capacities of the EIGs of 3 pilot sites (Touba-Toul Darou-Fanaye, Mbassis): 5 committees formed - Training and technical assistance 	<ul style="list-style-type: none"> • Project documents • Ministry of Agriculture technical staff and local NGO representatives

Evaluation questions and sub-questions	Indicators	Responses	Sources
		<p>2. Southern region</p> <ul style="list-style-type: none"> - Rehabilitation of irrigation perimeters and execution of hydraulic works in the Djambana and Samiron valleys - Development of 100 km of rural tracks: Sédhiou 45 km, Goudomp and Bounkiling 55 km - 7 of 10 cereal banks built in the departments of Sédhiou (Saré Djimbi, Sakar, Bamacounda) and Goudomp (Kaour, Djimbana, Kougne, Baghère) - distribution of machinery, equipment, seed and fertilisers to farms - technical assistance and farmer training - Training and technical assistance <p>B. PAIS</p> <ul style="list-style-type: none"> - Training and technical assistance - Distribution of seed and fertilisers to farms - Improved seed multiplication by companies and EIGs on behalf of the ISRA - Implementation of 10 horticultural farms in Naatangué (Kaolack) - Drafting of local development plans for 21 municipalities: Department of Sédhiou 6, Goudomp 7, Bounkiling 8 - 338 ADF projects forwarded to banks (1,932,237 euros), 136 funded (404,009 euros). Interest rate: 6.5% per annum up to 500,000 CFA francs; 5.5% above 500,000 CFA francs. <p>These results are partial from a quantitative perspective. Unit production has increased but targets in terms of production areas and number of beneficiaries are lower than expected. The pilot farms have started production, but only a portion of those planned are operating. The rehabilitation of tracks and the hydro-agricultural upgrading of water regulation for rice farms in the valleys are still in progress, and therefore the results of the other capacity-building activities are still partial. Investment facilitated through AFD projects is ongoing.</p>	
D.5.2. What obstacles have been encountered?	<ul style="list-style-type: none"> • Obstacles encountered, according to project staff • Obstacles encountered, according to national and local project partners • Obstacles encountered, according to technicians who 	<p>The two projects accumulated delays due to the complexity of the procedures for selecting beneficiaries and tendering for grants by the Senegalese authorities, and their approval by Italian Cooperation. Collaboration with the Israeli agency MASHAV did not materialise.</p> <p>At the local level, the Project Management Units were undersized in terms of training, technical assistance and activity monitoring. The association with the decentralised agricultural services did not solve the problem, because they too are insufficiently</p>	<ul style="list-style-type: none"> • Project Management Unit • National and local partners • AICS representatives

Evaluation questions and sub-questions	Indicators	Responses	Sources
	monitored the projects on behalf of the AICS (Dakar and Rome)	equipped with capacity and means. Collaboration with farmers' associations produced partial results, because these depend, particularly for the distribution of subsidies, on the agricultural services, whose weakness and slowness affect production decisions (e.g. delays in the distribution of production inputs).	
D.5.3. What solutions were adopted to ensure the effectiveness of interventions?	<ul style="list-style-type: none"> • Actions identified and implemented to overcome emerging barriers 	<p>The two projects coordinate their work with that of the agricultural services. This has benefits in terms of contextualizing assistance to farmers and integrating it with other agricultural policy initiatives. On the other hand, the weakness of the Senegalese institutions is reflected in the fragmentary nature and the delays accumulated by the two projects. This is evident in the limited distribution of ADF credits and delays in the construction of infrastructure/rehabilitation of irrigation perimeters and hydro-agricultural upgrading of water regulation for rice farms in the valleys.</p> <p>From a technical perspective, the formulation of the activities of the two projects benefited from the technical guidelines developed by the ISRA with the assistance of the NRC, which contribute to increasing production efficiency (e.g. use of improved seed).</p>	<ul style="list-style-type: none"> • PMU • National and local partners • AICS representatives
D.5.4. To what extent have increasing and improving agricultural production, promoting local economic development and improving food security and farm incomes contributed to the goal of poverty reduction?	Variation in the poverty index in the regions assisted by the projects	<p>The results achieved by the two projects are clear. Beneficiaries have increased productivity by up to 200%, but are still too few to make a systematic impact on food security in the assisted communities. In addition, the adoption of innovative techniques has been partial, due to delays and inadequacies in the technical assistance provided to farmers. Those with more experience and means took full advantage of project innovations, but numerous others continued to use traditional, labour-intensive and inefficient techniques because they were reluctant to take the risks involved in technological intensification. This is evident in some ADF beneficiaries, who prioritised material investment (infrastructure, equipment, inputs) over training and were therefore unable to renew their farming systems.</p> <p>Women's associations, particularly EIGs, which cultivate rice, show a high level of commitment and, in fact, those that completed the hydro-agricultural upgrading of water regulation for rice farms in the lowlands of the valleys have doubled or tripled their unit yields.</p>	<ul style="list-style-type: none"> • Stakeholders • Official statistics and academic studies
D.5.5. To what extent has the modernisation of agricultural production, through support for the	<ul style="list-style-type: none"> • Increase in integrated fruit/vegetable enterprises • Increased area and yield of rain-fed rice cultivation 	Demonstration farms in the centre and vegetable/fruit ADFs in the south have experienced productivity increases, contributing to food self-sufficiency and surplus production for the market. In doing so, they have generated monetary income which the beneficiaries have reinvested or intend to reinvest, at least partially. Positive results were also obtained by ADF beneficiaries in terms of support for post-harvest	<ul style="list-style-type: none"> • Project reports • Official statistics • Beneficiaries

Evaluation questions and sub-questions	Indicators	Responses	Sources
establishment of integrated fruit/vegetable farms, the intensification of rain-fed rice growing, redevelopment of the valleys and increased infrastructure availability, creation of horticultural irrigation perimeters, and provision of agricultural inputs, contributed to poverty reduction?	<ul style="list-style-type: none"> Increased area of irrigated perimeters Increased access to agricultural inputs 	<p>processing and grain marketing. They have increased sales volume and are intent on investing further to expand their production capacities and their market.</p> <p>It should be noted that the initiatives produced greater quantitative results in the case of the most technically and economically equipped farmers. The contribution of the two projects to poverty reduction is therefore very limited.</p>	
D.5.6. To what extent has the technical assistance and training provided by the two projects contributed to increased agricultural production and thus poverty reduction in the areas covered by the projects?	<ul style="list-style-type: none"> Quantity and quality of assistance provided to beneficiaries Quantity and quality of training for beneficiaries 	<p>The human resources of the regional Project Management Units and local branches are insufficient, in both quantitative and technical terms, to cover the areas of intervention. Facilitators vary from 1 to 3 per department and, except in a few cases, lack specialist training to adequately support the transfer of technology to farmers. DRDRs and SDDR are also inadequately staffed. The contracting of external experts has produced uneven outcomes, as their technical capabilities are extremely variable. As a result, training activities produced uneven results and monitoring of beneficiaries was insufficient. The very orientation of the project to support initiatives and organisations already assisted by the Ministry of Agriculture contributes to these weaknesses, since it limits interventions to strengthen previous or ongoing actions whose design is unrelated to the project. The result of this is that the provision of equipment is not supported by the creation of capacity to maintain and repair it, leading to equipment failure and abandonment. The same is true for the provision of inputs. Their effect is partial and temporary in the absence of a generalised improvement in beneficiaries' capacities and in solving the underlying issues of rural development.</p>	<ul style="list-style-type: none"> Project reports Beneficiaries
<i>D.6. Effectiveness. To what extent did the management and steering bodies ensure that the activities of the two projects proceeded smoothly?</i>			
D.6.1. To what extent did the management bodies (particularly the	<ul style="list-style-type: none"> Presence of a functioning monitoring mechanism with easily usable data 	<p>The national PMU and its local branches carried out the project activities with the support of the Senegalese agricultural authorities, national agencies, DRDRs and SDDR. This method of intervention facilitated contextualisation and access to</p>	<ul style="list-style-type: none"> Project Management Unit

Evaluation questions and sub-questions	Indicators	Responses	Sources
PMU) ensure the effectiveness of interventions?	<ul style="list-style-type: none"> • Presence of internal communication mechanisms • Lack of barriers related to communications and relationships among the PMU stakeholders of the interventions • Lack of internal conflict in the PMU • Presence of project staff on the basis of need 	<p>beneficiaries, but resulted in systematic delays and limited technology transfer. The PMU and the antennas strengthened the execution of agricultural policies without influencing their orientation, ultimately resulting in piecemeal interventions motivated by the needs of the moment (as with the distribution of machinery, equipment and agricultural inputs). Use of the outcomes of NRC studies therefore produced partial results, because it had to take into account the priorities of the moment and had insufficient capacity to put the data to use in a comprehensive manner. Annual planning set unrealistic goals which were consistently missed. The development of the PAPSEN monitoring and evaluation manual has not produced clear results, in that annual reports do not present values for project indicators. Instead, they consist of technical-administrative accounts of activities carried out, and lack numerical reference to progress made towards the achievement of project results. Procedures for allocating ADFs turned out to be highly complex, despite the training given to members of the pre-selection committees and the assistance provided to EIGs and entrepreneurs; the number of projects approved and credits awarded is very limited.</p> <p>In general, it can be concluded that the PMU acted as executor of the project activities without providing alternatives to initiatives prioritised by the agricultural authorities. Depending on the degree to which they adhered to the innovative directions identified at the outset of the project by the collaboration between the NRC and the ISRA, the project activities contributed or otherwise to technology transfer, or were limited to providing subsidies to farmers.</p>	<ul style="list-style-type: none"> • Project documents
Efficiency			
<i>D.7. Efficiency. To what extent were resources used in a way that facilitates the effectiveness of the action over time and in the manner intended?</i>			
D.7.1. To what extent was the start-up and implementation of initiatives affected by administrative delays?	<ul style="list-style-type: none"> • Delays in the start of activities compared to the schedule • Delays in report approval procedures • Delays in the transfer of financial resources • Delays in acquiring equipment • Delays in the arrival of equipment at the site of use 	<p>The complexity of the administrative procedures of Senegalese agricultural authorities greatly affected the pace of implementation of the two projects' activities. These delays were compounded by the need for authorisation by Italian Cooperation for interventions and the various stages in the awarding of contracts, further lengthening the time required for execution. Since many activities require expertise not possessed by the agricultural authorities, the awarding of contracts such as the acquisition of materials and services took months, and ultimately caused the project to accumulate delays of several years. The organisation of the pilot horticultural farms, the rehabilitation of irrigation perimeters, the hydro-agricultural upgrading of water regulation for rice farms in the lowland valleys, the construction of infrastructure and - above all - the allocation of ADF credits were the activities most affected by</p>	<ul style="list-style-type: none"> • PMU • AICS representatives • Relevant ministries • Project documents

Evaluation questions and sub-questions	Indicators	Responses	Sources
	<ul style="list-style-type: none"> • Delays in mobilising project staff • % of expenses ineligible or contested • Mobilisation of additional resources • Implementation of additional activities 	<p>administrative delays. The result was that other activities which should have enhanced these investments were further delayed. Ultimately, the two projects' lack of administrative autonomy resulted in the adoption of procedures that conflict with the need for flexibility that justifies the use of an initiative. Even when the facilitators and their local counterparts assured the involvement of the beneficiaries, they found that the implementation of the agreed activities was beyond the control of the two projects.</p> <p>Where it would have been possible to integrate the interventions of PAPSEN and PAIS in Sédiou and Kolda, i.e. with training to guide investment prior to the provision of credit, this was not done. Delays in the granting of credits also led to delays in ancillary activities such as access to agricultural inputs. In practice, administrative difficulties meant that the opportunity to efficiently integrate the various activities of the two projects was lost.</p>	
<i>D.8. Efficiency. To what extent did the planned modes of intervention (aid credit and donations) prove to be adequate with regard to achieving the expected objectives and results?</i>			
D.8.1. To what extent did the various modes of intervention generate different problems and solutions in implementing the initiatives?	<ul style="list-style-type: none"> • Difference between credit and gift initiatives regarding: • Delays in the start of activities compared to the schedule • Delays in report approval procedures • Delays in the transfer of financial resources • Delays in acquiring equipment • Delays in the arrival of equipment at the site of use • Delays in mobilising project staff • Emergence of obstacles in the implementation of activities 	<p>The different modes of intervention have a high degree of compatibility but require robust planning, partner coordination and monitoring work. Given the structural weaknesses of the project strategy and the PMU in these areas, the individual activities were carried out largely independently, and their schedules allowed for limited integration. On the one hand, the direct subsidies provided by the project were targeted at the most vulnerable beneficiaries and women's associations within EIGs. On the other hand, ADF credits mostly benefited the most technically and economically well-off farmers, because of the economic risks and the need to provide collateral. Technical assistance and training depended on the mobilisation of experts and logistical resources, leading to systematic delays, as was also the case for the distribution of machinery and inputs, which depended on the availability of the Ministry of Agriculture and its agencies. The same happened with ADF credits, which were largely delayed, due to the procedures of the Senegalese authorities and, of course, the banks, which lacked references for lending to new customers in new non-traditional activities in the assisted areas. The intervention methods of the two projects therefore suffered from the lack of a management system that was appropriate to the needs of a project and its alignment with the capacities and priorities of local institutions.</p>	<ul style="list-style-type: none"> • PMU • AICS representatives • Relevant ministries • Project documents

Evaluation questions and sub-questions	Indicators	Responses	Sources
	<ul style="list-style-type: none"> • Identification and adoption of solutions to identified obstacles 		
D.8.2. To what extent did these methods allow or facilitate the initiation of adequate appropriation of the projects themselves by local stakeholders?	<ul style="list-style-type: none"> • Difference between credit and gift initiatives regarding: • Involvement of local stakeholders in the direction and political leadership of initiatives • Involvement of local public-sector stakeholders in the implementation of activities • Involvement of local private-sector stakeholders in the implementation of activities • Involvement of NGOs and non-state stakeholders in the implementation of activities • The use of support and technical assistance from other stakeholders not directly involved in the management of the project • The mobilisation of additional resources for the implementation of activities • The effective achievement of the outcome indicators identified in the logical framework of the projects 	Strengthening farmers' associations was effective in the case of women's groups. These benefited from project guidance and motivations for self-reliance and economic consolidation, aspects that made these groups cohesive. This situation facilitated the appropriation of the innovations brought by the project in horticulture, rice farming and post-harvest activities. A high degree of appropriation is also found among farmers who are recipients of ADFs, whether in fruit and vegetable production, seed production or post-harvest processes. A considerably lower level of appropriation is seen by other parties, such as local authorities benefiting from infrastructure or responsible for technical assistance and the management of procedures for the awarding of subsidies and ADF credits. Their reliance on higher authorities and the complexity of procedures limit their commitment to resolving the issues that shaped the project and putting its results to use.	<ul style="list-style-type: none"> • PMU • AICS representatives • Relevant ministries • Project documents • NGOs and non-state stakeholders
<i>D.9. Efficiency. To what extent was the integration of research work and</i>	<ul style="list-style-type: none"> • Results of research work • Input from research adopted as part of the project implementation 	The collaboration between the NRC and the ISRA produced many positive results, such as studies carried out jointly and the involvement of farmers in field demonstrations. The results of these activities were partially used in the orientation of the two projects' activities - since this also integrated the priorities of the agricultural authorities, which	<ul style="list-style-type: none"> • Project Management Unit

Evaluation questions and sub-questions	Indicators	Responses	Sources
<i>cooperation with third-country bodies to support local stakeholders able to influence the relevance and effectiveness of actions?</i>	<ul style="list-style-type: none"> • Input from research adopted as part of local development policy formulation and in agricultural development policy • Added value brought to the projects by research 	<p>were developed independently of the research results - focusing on the organisation of pilot irrigated vegetable farms in the central regions, hydro-agricultural upgrading of water regulation for the soils of rice farms in the Casamance valleys, and the promotion of improved seed and crop diversification with the introduction of horticulture in the south. The NRC continues to collaborate with the ISRA and PAPSEN thanks to a new project funded by Italian Cooperation in the south (Projet Papsen Pais Assistance & Recherche - Casamance Sénégal - PP AT & RD). On the other hand, this initiative has developed its own local network of agricultural advisors (relais) and working groups - different to that of the PAPSEN project (EIGs, cooperatives, associations) and PAIS (EIGs, entrepreneurs). The same occurred in the centre of the country, where the actions of PAPSEN could only be integrated with those of the Israeli MASHAV at the beginning of the project, for the identification of pilot horticultural farms. These farms catalysed the collaboration of other initiatives (IFAD, FAO, NGOs) and collaborate with Senegalese agricultural agencies (ANCAR, ANIDA, ISRA) for supervision and technical assistance to production. The actions carried out in the south have triggered numerous collaborations with agricultural agencies (ANCAR, ANIDA, PNAR, DBRLA) while collaborations with private bodies have not yet started, due to the delay in launching these initiatives (e.g. ADF funding began in 2019). However, each initiative set up these collaborations independently, except for seeking concurrence between ADF projects and PAPSEN's technical assistance and grants in Sédhiou and Kolda. In these cases too, delays accumulated by the projects ended up limiting collaborations, which were in their early stages at the time of the evaluation. Value chain integration, in particular, was affected by delays, as ADF funds that finance post-harvest activities lagged behind the funding of seed purchase and harvest costs, limiting the efforts of multipliers, processors and traders. In addition, assistance to rice and horticultural farmers in the south does not coincide with the geographical distribution of seed production and post-harvest activities. Integration between these activities and the strengthening of rice production from a value chain perspective has therefore not yet occurred.</p>	<ul style="list-style-type: none"> • Relevant ministries • NGOs and non-state stakeholders
<u>Impact</u>			
<i>D.10. Impact. What economic, social, environmental and political effects have the projects produced in the short term, and what transformative processes have been initiated?</i>			
D.10.1. What economic, social,	<ul style="list-style-type: none"> • Changes in the legal framework governing 	Technology transfer and assistance to farmers generated immediate effects in terms of agricultural production and income generation. These advances are still limited to	<ul style="list-style-type: none"> • Project documents

Evaluation questions and sub-questions	Indicators	Responses	Sources
environmental and political effects have the projects produced in the short term, and what transformative processes have been initiated at the national level, particularly with respect to increased agricultural productivity, food security and poverty reduction, through the implementation of the initiatives?	<p>agriculture and agricultural development</p> <ul style="list-style-type: none"> • Mobilisation of new stakeholders from civil society, the private sector or the public sector in initiatives to disseminate the technologies and production methods promoted by the interventions • New businesses started in the regions, in connection with the interventions or adopting their technical proposals • Changes in land management in the areas affected by the initiatives • Changes in the management of agricultural activities in the areas affected by the initiatives 	<p>assisted farmers, and have not yet produced multiplier effects at regional and national levels. Increases in rice productivity in the range of 50%-200% have been reported. Some producers have been able not only to meet their own food needs but sell the surplus of their harvest on the market. The most significant achievements were made by women in EIGs and entrepreneurs who produce seed and carry out post-harvest activities. They expanded their market and made investments using the income from the first crop seasons assisted by the projects. The combination of PAPSEN activities (technical assistance and input provision) and ADF credits resulted in multiplier effects with greater productivity and income gains from individual interventions. The limited size of individual initiatives and the small number that have reached maturity have not allowed multiplier effects to be produced at regional and national level. On the policy side, there is a lack of systemisation of success stories that can be used to stimulate action by agricultural decision makers.</p> <p>The main transformational processes initiated by the projects are as follows:</p> <ul style="list-style-type: none"> - strengthening the ISRA's research and outreach capabilities, establishing the Service and Training Centre, establishing the Ngom Ngom model farm - creation of mechanisms - farmers' training camps, demonstration plots - for the dissemination of innovative technologies - distribution and multiplication of improved seed - empowerment of women in agricultural production - improvement of agricultural soil management by means of hydraulic work that increases fertility - strengthening of local organisations (LDPs) and farmers' associations (EIGs), training and assistance to their members in agricultural production - strengthening post-harvest processes with the construction of warehouses and credit for the grain trade <p>Improvement in the capacities of regional and departmental agricultural services has been extremely limited, due to the complexity of their procedures, which limit the dynamism of services.</p>	<ul style="list-style-type: none"> • Civil society representatives • Local authorities and technical services • Relevant ministries • PMU
D.10.2. Which elements promoted by the projects have been incorporated into national policies	<ul style="list-style-type: none"> • New agricultural development policies adopted based on the projects' contribution in terms of learning and new 	<p>The projects did not directly influence national policies, but contributed to their implementation. The strengthening of the ISRA and the availability of pilot farms and demonstration plots made the transfer of innovation to farmers possible. The projects involved a range of local stakeholders in testing, technology adoption and assistance to farmers. The results of this involvement have been extremely variable, due to the</p>	<ul style="list-style-type: none"> • National policy documents • Relevant ministries

Evaluation questions and sub-questions	Indicators	Responses	Sources
(practices, modes of action, stakeholder involvement, technologies etc)?	<p>technical and land development proposals</p> <ul style="list-style-type: none"> • New public initiatives launched to follow up on initiatives considered at the local level, particularly in the areas of agriculture and land management 	<p>weaknesses of local agricultural institutions and authorities. The latter maintain a centralistic approach which leverages the distribution of subsidies. Their involvement in technology transfer is more intense in the south, where EIGs and farmers' groups are better organised. These innovative elements coming from below clash with the <i>top-down</i> approach of Senegalese agricultural policy. Therefore, improvements made at the level of individual farmers or producer groups have not affected the provision of assistance services, which lack the human and material resources to systematically support agriculture.</p>	
D.10.3. What economic, social, environmental and political effects have the initiatives produced in the short term, and what transformative processes have been initiated in local settings through the implementation of the initiatives?	<ul style="list-style-type: none"> • Changes in the production structure at local level • Changes in living conditions (income, availability of services, capacity of local stakeholders, etc). 	<p>Producers and their associations have taken steps to benefit from project services and resources by accessing moderately innovative technologies. Increased productivity by beneficiaries is the main economic effect of the projects. The effects of the project on the organisation of technical assistance services are less significant, being limited to the creation of the pilot horticultural farms in the centre and the temporary strengthening of the work of national agencies such as the ISRA and the PNAR. There has been minimal impact on the work of decentralised agricultural services (DRDR and SDDR) which, as part of the subsidy distribution system, are aligned entirely with agricultural policy and have not been able to change their methods of intervention or expand their services. The organisation of farmers has therefore partially remedied the lack of qualified technicians able to collaborate with the decentralised agricultural services.</p>	<ul style="list-style-type: none"> • Public administrators • NGOs and civil society • Beneficiaries
D.10.4. What effects have the projects had on the advancement of women's empowerment, both economically and socially?	<ul style="list-style-type: none"> • Improving the degree of economic empowerment for female beneficiaries of the projects • Assignment of operational responsibilities to female beneficiaries by the projects' management teams • Involvement of disadvantaged categories of women in project activities (female heads of household, widows etc). 	<p>The projects invested in the organisation of women through the EIGs, who are therefore the greatest beneficiaries of the projects. This progress has been significantly more intense in the south, where the rice groups in EIGs consist entirely of women. The same process has been initiated with regard to horticultural production - whose groups of beneficiaries are often mixed, and in some cases female only - with similar benefits, albeit to a lesser degree, due to the greater delay in the execution of these interventions. Women's empowerment initiatives have strengthened the management of women's groups and facilitated their access to production inputs and ADF credits. In addition, technology transfer in both rice farming and horticulture has increased efficiency, with reduced unit workloads and increased production. These achievements have enabled women to create income and manage it independently, thus promoting further investment in the rehabilitated land.</p>	<ul style="list-style-type: none"> • Project documents • Beneficiaries

Evaluation questions and sub-questions	Indicators	Responses	Sources
D.10.5. What indirect effects attributable to the projects are observable in relation to equality, human rights and empowerment?	<ul style="list-style-type: none"> • Adoption of categories related to the right to food security in agricultural development policy and local development plans • Adoption of equality- and empowerment-related categories in agricultural development policy and local development plans • Presence of reflections on the issue of equality and empowerment rights within the two programmes 	<p>Women's participation in project activities is based on their self-organisation within EIGs and other local organisations. Awareness-raising sessions were held prior to the creation of municipal gender equality committees in the south. Their work is carried out within local administrative structures, and therefore contributes to the awareness of decision-makers of the role that women can play in agricultural production, facilitating their access to ADF credits. This approach allowed women to access their own income and decide which crops to grow on the allocated land. The projects did not influence national policy, and therefore legal limitations on women's involvement in agriculture persist.</p>	<ul style="list-style-type: none"> • National policy documents • Local development plans • Public administrators • NGOs and civil society
D.10.6. What technological innovation processes have occurred at the local level as a result of the projects?	<ul style="list-style-type: none"> • Adoption of new technologies promoted within the projects by local economic stakeholders (private companies and public enterprises) • New service facilities associated with the production activities and technologies covered by the initiatives 	<p>The projects promoted collective and individual technologies simultaneously. In the former, Local Development Plans have been implemented and producers' associations have been strengthened, in particular by empowering women in agricultural production, as well as organising pilot farms and rehabilitating rice fields in the valleys. These innovations allow the transfer of technologies within the framework of integrated land management by enabling adaptation to the climate conditions of farms and the socio-economic circumstances of farmers.</p> <p>From a technical perspective, innovations focused on the multiplication and use of improved seed for vegetable cultivars and rice and other short-cycle cereals suited to the climate conditions of the lowlands.</p> <p>In the case of seed, the availability of basic short-cycle Nerica rice seed adapted for the climate of the south allowed both the valorisation of the best farmers (companies and EIGs) for seed multiplication from pre-basic seeds, and the use of multiplied seed to increase the environmental adaptation of crops and thus productivity. This was particularly important in some horticultural farms (onion, tomato, banana) and for lowland rice production in the valleys. In contrast, the ISRA did not make pre-basic rice seed adapted to upland rice farming available, and therefore the distribution of improved seed in these areas was much more sparse.</p> <p>The promotion of water economy entailed the adoption of water management systems in rice fields that ensure uniform water coverage and increase the length of the growing</p>	<ul style="list-style-type: none"> • Representatives of private and public companies • Project documents

Evaluation questions and sub-questions	Indicators	Responses	Sources
		<p>season and the efficiency of production inputs (dams and irrigation chambers, seedling transplantation). Machinery distribution, on the other hand, encountered numerous difficulties related to the lack of agricultural mechanisation services and therefore mechanics capable of repairing such equipment. The establishment of horticultural farms in the centre (PAPSEN) and the south (PAIS/ADF) has shown extremely variable results, depending on the initial capabilities of farmers. Training and technical assistance depended on the capacities of agricultural departments, which are highly variable. Some ADFs focused on purchasing equipment without considering access to training and, given the weakness of technical assistance services, ended up continuing with traditional farming practices despite increased availability of water and access to improved seed. This approach to production intensification has therefore had a variable impact on productivity, as confirmed by the fact that many EIGs are turning to private mechanisation services to work their land.</p> <p>The extraction of water from open wells and boreholes using pumps powered by solar panels without batteries, elevated water containers, and underground piping have increased the efficiency of irrigation. The use of drip irrigation systems in association with these pumps is more appropriate for the needs of horticultural farms in the centre (boreholes 30+ metres deep) than those in the south (3-6 metres deep). In this context, farmers may prefer furrows combined with movable tubing and/or sleeves, which require lower initial investment and avoid the costs of maintenance and repair for drip system tubing (often made of materials that are affected by temperature and susceptible to puncture by rodents).</p> <p>Where the projects have been less innovative has been in the distribution of agricultural inputs. These interventions, combined with training and technical assistance, have reinforced the results of technology transfer but have not optimised outcomes, due to insufficient distribution of inputs and thus suboptimal use of the same.</p>	
D.10.7. What effect did the COVID19 pandemic have on project activities?	<ul style="list-style-type: none"> • Delays in carrying out scheduled activities • Possible reprogramming of the schedule of activities • Modification of activities due to pandemic response measures (specifically 	<p>The response to the COVID-19 pandemic resulted in delays and suspension of the two projects' activities. The slowing in the pace of work by agricultural authorities resulted in a similar slowing by project staff, who are closely connected with and subject to Ministry of Agriculture regulations. Training activities and ADF project selection committee meetings were suspended during 2020 and resumed at the end of the year, albeit at a slow pace. The PMU did not organise the usual missions to monitor and assess field activities from April 2020 onward.</p>	<ul style="list-style-type: none"> • Project documents • PMU

Evaluation questions and sub-questions	Indicators	Responses	Sources
	meetings, outreach activities etc). • Activities definitely cancelled		
<u>Sustainability</u>			
<i>D.11. Sustainability. To what extent have the expected results been achieved in a sustainable manner?</i>			
D.11.1. To what extent did the initiative encourage the implementation of mechanisms to mobilise resources and relevant stakeholders that would ensure the durability of the results achieved?	<ul style="list-style-type: none"> • Presence of organisational and economic mechanisms that allow for the continuity of the work initiated by the projects • Specific organisational and economic strategies adopted by the stakeholders involved in the initiatives to facilitate their continuity 	The projects implemented activities that contribute to the strengthening of horticultural and rice production chains in the areas of intervention. These activities strengthen existing capabilities and introduce innovations to increase their efficiency. In particular, the promotion of horticulture diversifies agriculture by valorising labour and land potential for income generation rather than solely self-consumption. The mobilisation of farmers has been one of the notable achievements in terms of women's empowerment. On the other hand, insufficient staff available for training and the inadequate number of workers assigned to technical assistance slowed the change and consequently the local appropriation of new technologies. NRC studies provided an objective information base for the identification of suitable areas and the removal of production constraints. These were only partially used, due to overlapping agricultural policy priorities and the consequent consideration of non-technical factors in the selection of beneficiaries and intervention sites. Access to credit favoured farmers who are better off and more integrated into business dynamics. Therefore, the creation of conditions that allow the continuity of the project's outcomes has been piecemeal, marked by some failures and many delays, and has not produced systematic results that are mutually reinforcing, either in terms of geographical coverage or the integration of production chains. In some cases, the difficulties encountered by EIGs ended up discouraging the use of innovation, so producers employed project inputs within the framework of traditional agricultural practices that were labour-intensive and inefficient.	<ul style="list-style-type: none"> • Project documents • National and local authorities • Beneficiaries
D.11.2. What strategies and actions have been put in place to promote economic, social, environmental and political sustainability?	<ul style="list-style-type: none"> • Specific strategies adopted by the stakeholders involved in the projects to foster the continuation or development of economic, social, environmental and political conditions that allow for the 	The projects' strategy is to create and transfer innovation from applied research to farmers. They addressed some critical production constraints in a manner that strengthened and energised the horticultural and rice value chains. Strengthening producer associations and access to inputs and finance contributed to the success of this strategy. The planning of project activities within agricultural policy was not able to influence the functioning of the agricultural services - apart from the NRC's initial contribution to strengthening the ISRA - so the weakness of the technical assistance	<ul style="list-style-type: none"> • Project documents

Evaluation questions and sub-questions	Indicators	Responses	Sources
	continuation of the work initiated	and training system allowed only partial exploitation of the potential of innovations. This situation has a direct impact on the rate of appropriation of innovations, but also on the prioritisation of interventions which, being essentially centralised, only partially draw on feedback from farmers. In particular, dependence on subsidies (machinery, equipment, seed, inputs, etc) ultimately leads production and the adoption of innovation towards goals that are poorly adapted to the local context. From this perspective, the projects' greatest contribution to the sustainability of outcomes is the strengthening of producers' associations and, in particular, the empowerment of the women who are their most dynamic members.	
<u>Visibility and communication</u>			
<i>D.12. To what extent was the initiative accompanied by an effective communication campaign to promote the aims of the project?</i>			
D.12.1. How and to what extent have communication and information management actions influenced the effectiveness of the projects and the amplification of their positive impacts?	<ul style="list-style-type: none"> • Communication and visibility actions implemented • Awareness of initiatives by direct project stakeholders 	The NRC accompanied its actions with numerous communication initiatives, such as the creation of two websites, www.papsen.org and www.papsenpais.org , which publicise the results of studies carried out and provide thematic maps of the sites proposed for implementation. It also organised and took part in conferences in which the results of the research were discussed. Both the NRC and the PMU produced outreach materials for communication and training. But knowledge management was found to be inadequate, as the projects did not develop a strategy that covered all their communication and training activities. Awareness raising through decentralised agricultural services and radio broadcasts mobilised farmers to submit their needs to the project. On the other hand, communication of the project at local level was mainly ensured by the participation of farmers' associations which, being already in contact with the agricultural services, constituted the most direct link with the two projects and involved their members in the identification of activities.	<ul style="list-style-type: none"> • Project documents • Beneficiaries • Local NGOs
D.12.2. To what extent has the visibility of Italian Cooperation been assured?	<ul style="list-style-type: none"> • Awareness of the projects by those involved in development cooperation with Senegal (civil society organisations, NGOs, international organisations, other donors) • Awareness of the projects by Senegalese government stakeholders and institutions 	The two projects systematically carried out initiatives to enhance the visibility of the Italian contribution to agricultural development in the assisted areas. Project documents and reports mention the role played by Italian Cooperation in financing the activities, although the logo does not appear on the front of all documents (especially on PAPSEN annual reports). Infrastructure visited during the survey has signs mentioning the Italian-Senegalese projects and collaboration. It should be noted that representatives of farmers' groups, as well as individual recipients of project grants, are able to recognise PAPSEN and PAIS as the source of Italy's funding.	<ul style="list-style-type: none"> • Beneficiaries • CSOs • International and bilateral cooperation organisations

Evaluation questions and sub-questions	Indicators	Responses	Sources
	involved in the management of rural development initiatives		

ANNEX 3: List of people and organisations consulted

Regions	Location	Name	Position	Organisation	Mail
Dakar	Dakar	A. Piermattei	Director	AICS	alessandra.piermattei@aics.gov.it
Dakar	Dakar	S. Bergamasco		AICS	silvia.bergamasco@aics.gov.it
Dakar	Dakar	M. Vacirca		AICS	marco.vacirca@aics.gov.it
Dakar	On distance	Sokhna Mbaye Diop	Gender expert	Ministry of Agriculture	soxou19@gmail.com
Kaolack	Kaolack	M. Massar Demba Ndiaye	Head of regional antenna Head of regional antenna	Antenna PAIS Kaolack	demba27m@gmail.com
Kaolack	Kaolack	M.me Rokhaya Diouf	Animator Kaolack and interim Guiguiné	Antenna PAIS Kaolack	rokhayadiouf77@gmail.com,
Kaolack	Kaolack	M. Ablaye Sène,	Animator of the department Nioro du Rip	Antenna PAIS Kaolack	japsene8858@gmail.com
Kaolack, Nioro du Rip	Municipality of Taïba Niassène, Wack Ngouna	President, members of GIE, animator of PAIS	President	GIE Wack Ngouna 2	
Kaolack, Nioro du Rip	Commune de Taiba Niassène, Keur Haire	M. Elhadji Thiam, membri del GIE	President	GIE Keur Haire	mamass_touba@yahoo.fr
Kaolack, Nioro du Rip	Paoskoto, Keur Malaw	President, Members of GIE	President	GIE Denta Keur Malao	
Kaolack	Kaolack	M. Abdullah Sandro	Deputy prefect	Prefecture of Kaolack	
Kaolack	Kaolack	Mignane Diouf	Director	SDDR di Nioro du Rip	sddrrkaolack@gmail.com
Kaolack, Kaolack	Keur Waly Ndiaye	M. Matar Ndiay	Owner	Peanut marketing company	
Kaolack, Kaolack	Sibassor	President of GIE, 5 workers	President of GIE	GIE Wa Daradji	
Kaolack, Guinguiné	Ndiago	M. Ndiol Fall	Owner	Multiplication of seed company	
Kaolack	Kaolack	Massar Demba Ndiaye	Head of regional antenna	Antenna of Kaolack of PAIS	

Regions	Location	Name	Position	Organisation	Mail
Kaolack	Kaolack	Pascal Séné	Head of Catholic schools	Diocese of Kaolack	
Kolda	Municipality of Kiro Yero Goka village Mbalo Kounda	Saleh Ouvalde	Village chief	GIE Diam Weli	
Kolda	Kolda	Ibranhim Ba	Director	DRDR Kolda	
Kolda	Tankanto Escale	Abdoulaye Sow	Mayor	Municipality of Tankanto Escale	layesow325@gmail.com
Kolda	Tancanto Escale, village Tancanto Mounde	M.me Dado Balde	President, Animator of the Project. Village chief. Supervisor and Site manager, member of GIE	GIE Tancanto Mounde	
Kolda	Diankankounda	Souleymane Baldé	President, Cooperative member	Agricultural Cooperative of Diankankounda	
Kolda	Municipality of Saré Bidji	Malang Mballo,	Mayor	Municipality of Saré Bidji	daanig@yahoo.fr
Kolda	Municipality of Saré Bidji	Amsatou Balde,	General Secretary of the Local Gender Committee, animator of PAIS	Municipality of Saré Bidji	baldeissaga264@gmail.com
Kolda	Saré Bidji, village Djoku Galla	Members of GIE, animator of the project	Managers of GIE	GIE Djoku Galla	
Kolda, Médina Yoro Foula	Municipality and village of Médina Yoro Foula	Assane Ba	Cooperative directors, President, General Secretary, cooperative member	Cooperative Les agropasteurs Medina Yero Foula	hassanebamf2018@gmail.com
Kolda, Médina Yoro Foula	Municipality of Médina Yoro Foula	Modou Samb	Prefect	Department of Médina Yoro Foula	
Kolda, Médina Yoro Foula	Sidja Abinou Sen	M. Djame Tine	Owner	Farm	
Dakar	On distance	André Dévaux	Task manager	EU Delegation of Dakar	Stephane.Devaux@ec.europa.eu

Regions	Location	Name	Position	Organisation	Mail
Kolda	Kolda	Assane Diouf	Animator, Departmental representative of PAIS	Antenna of Kolda of PAIS	lamanetoul11@gmail.com
Kolda	Kolda	Mamadou Baldé	Head of regional antenna	PAIS Antenna Kolda	baldemamadou126@gmail.com
Sédhiou	Badjimor	M.me Imelda Kouli	Presidente, Donne del GIE Samirong	GIE di Samirong	
Sédhiou	Municipality of Bambali, village Bamacounda	Mayor of Bamacounda	Mayor	Municipality of Bambalui	
Sédhiou	Municipality Balambi. Village Malifara	Owner of banana farm, GIE by women	Owner	Banana farm. GIE Fan Soutoura of Malifara	
Sédhiou	Municipality of Koussy. Village of Koussy	Momodou Lamin Sa	President, members of GIE, workers	Family GIE: 18 Persons	
Sédhiou	Sédhiou	Omar Mbengue	Director	DRDR	oumar.mbengue@agriculture.gouv.sn
Sédhiou	Sédhiou	Massylla Dia	Representative of CNR	Projet PapsenPais Assistance & Recherche - Casamance Sénégal (PP AT & RD) del CNR	
Sédhiou	Sédhiou	M. Pape Demba Diallo	Governor	Governor of Sédhiuou	
Sédhiou, Boukiling	Taiba Diassor, Municipality Diaroumé	Habid Cissé	President	GIE Soukali Mbay	
Sédhiou, Boukiling	Kouady, Municipality Boukiling	Tiguida Mandiang	President	GIE Kambin Kafoo	
Sédhiou, Boukiling	Bona, Municipality Bona	Ibrahima Diedhiou	President	Association ADESCAB	
Dakar	On distance	M. Waly Diouf	Director	PNAR	walydiouf@gmail.com
Dakar	On distance	M. Hatem Fellah	Chief agronomist	African Development Bank	h.fellah@afdb.org
Dakar	On distance	M. Youssoupha Gueye	Director	Direction des Bassins de Rétention et des Lacs artificiels (DBRLA)	youssouphagueye2017@gmail.com

Regions	Location	Name	Position	Organisation	Mail
Dakar	On distance	M. Sarr Makhfousse		FAO	Makhfousse.Sarr@fao.org
Dakar	Dakar	M. Ahmed Fall	National Coordinator	UGP PAPSEN/PAIS	adafallen@yahoo.com
Dakar	Dakar	El Haji Diop	S&E	UGP PAPSEN/PAIS	
Dakar	Dakar	M.me Mariam	S&E	UGP PAPSEN/PAIS	
Dakar	Dakar	M. Ahmad Djama Kobar	FAD	UGP PAPSEN/PAIS	
Kolda, Vélingara	Diguiraye, Municipality Némataba	Kalidou Mbaye,	Mayor	Municipality of Némataba,	kalidou.mbaye@yahoo.fr
Kolda, Vélingara	Diguiraye, Municipality Némataba	Bassirou Diallo	President of Work Monitoring Committee	Work Monitoring Committee	
Kolda, Vélingara	Linkiring, Municipality Linkiring	Mama Samba Baldé	President	Dry Grains Management Committee - 35 villages	bdaouda21@yahoo.fr
Kolda, Vélingara	Médina Gounass, Municipality Médina Gounass	Alpha Issaga Talla	President	Action de secours et Education pour le Developpemnt (ASED) - 50 GIE	
Kolda, Vélingara	Vélingara, Municipality Vélingara	Kadiatou Diallo	President	Cooperative FABO Deental - 11 Municipaities	
Kolda, Vélingara	Vélingara, Municipality Vélingara	Ndeye Marième Sonko	Animator, Departmental representative of PAIS	PAIS Antenna Kolda, Vélingara	sonkomarieme@yahoo.fr
Dakar	On distance	M.me Aminata Ndiaye Coly	Country representative, in charge of the Nutrition programme	UNICEF	andiayecoly@unicef.org
Sédhiou	On distance	M.me Mame Ndella Ngom	Project technical assistant	AICS Sédhiou	mame.ndellangom@aics.gov.it
Kaolack	On distance	M. Souleymane Diop	Regional Director	DRDR Kaolack	drdrkaolack@gmail.com
Florence	On distance	Andrea di Vecchia	Project coordinator	Istituto di Bio-economia (IBE)	andrea.divecchia@ibe.cnr.it

Regions	Location	Name	Position	Organisation	Mail
Florence	On distance	Sara Burrone	Development economist and South component	National Research Council (CNR)	
Florence	On distance	Patrizio Vignaroli	Project manager and Responsible for the Centre	National Research Council (CNR)	
Diourbel, Bambey	Sérère	Mayor, President, members of GIE	Mayor, President	GIE Ndiofor	
Diourbel, Bambey	Lambaye	President, Members of GIE	President	GIE Dieuf Dieul	
Diourbel, Bambey	Talagne	President, Members of GIE	President	GIE di Talagne	
Diourbel, Bambey	Sérère, Ngom-Ngom	President, Members of GIE	President	GIE di CNRA	
Diourbel, Bambey	Darou Fanaye Diop	Members of GIE, Imam, Village chief	President, Village chief	GIE Takku liguey	
Diourbel, Bambey	Tockorack	President, Members of GIE	President	GIE Andi Jubbo	
Diourbel	Patar	President, Members of GIE	President	GIE Takky liguey	
Diourbel	Sambé	President, Members of GIE	President	GIE Takky liguey	
Fatick, Gossas	Gossas	President, Members of GIE	President	GIE di Darou Marnane	
Fatick	Tataguine	President, Members of GIE	President	GIE Jam Bougoum Mbassis	
Thiès	Arrondissement Thiénaba, Touba Toul	President, Members of GIE	President	GIE Takku Liguey Soukalikou	

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ANNEX 5: PAIS and PAPSEN. Budget

Table 1 PAPSEN Funds transfer

A. PAPSEN funds transfer to Ministry of Finance of Senegal

Date	Item	Euro
Nov-13	1° tranche	1.146.696
Sept-15	2° tranche	2.081.207
Apr-19	3° tranche	3.772.047
Total		6.999.950
Interests		1.578
Total		7.001.528
	Total available for PAPSEN	3.180.386
	Expenses up to 31/12/2019	2.894.210
	Balance up to 31/12/2019	286.176
	Net cash up to 31/12/2019	4.105.637
	Balance up to 31/12/2019	3.821.142

B. PAPSEN funds transfer to Ministry of Finance and of the Budget / Cassa Depositi e Prestiti

Date	Item	Euro
	Advance Artigiancasse	315.520
12/2017	1° tranche	5 058 290
8/2020	2° tranche	14 860 775
	Total	20.234.585
	Total available	23.000.000

Table 2 Budget of PAPSEN up to 31/12/19

R	Item	Original Budget euro	Budget revised euro	%
A	Credit: MFB / CDP		23.000.000	76,67
Centro			8.000.000	26,67
Sud			15.000.000	50,00
B	Credit: MAER		7.000.000	23,33
1	Centre		2.650.000	8,83

1.1	Increase and diversification of the production of vegetables and fruit		2.650.000	8,83
2	South		4.350.000	14,50
2.1	Production improvement and of yields of rice and fruit and vegetables		950.000	3,17
2.2	Economic development and of local communities		2.000.000	6,67
2.3	Strengthening of technical and managerial capacities of farmers		1.300.000	4,33
2.4	Audit		100.000	0,33
	Total	30.000.000	30.000.000	100,00

Table 3 Budget execution of PAPSEN up to 31/12/19

R	Item	Budget euro	Expenses euro	Balance euro	% of availabilities	% of expenses
Credit	Management CDP / MFB	23.000.000	2.959.703	20.040.297	12,87	100,00
1	Centre	8.000.000	425.113	7.574.887	5,31	14,36
1.1	-					
1.2	Strengthening of technical and entrepreneurial capacities of the farmers	8.000.000	425.113	7.574.887	5,31	14,36
2	South	15.000.000	2.534.590	12.465.410	16,90	85,64
2.1	Support to the increase of production and of agricultural yields	10.500.000	2.388.927	8.111.073	22,75	80,72
2.1.1	Support for the development of rice production	5.400.000	732.542	4.667.458	13,57	24,75
2.1.2	Intensification of technical crop farming itineraries	3.100.000	1.656.385	1.443.615	53,43	55,96
2.1.3	Support for horticultural and arboreal supply chains	2.000.000	0	2.000.000	0,00	0,00
2.2	Support to local economic development and to local communities	4.500.000	145.663	4.354.337	3,24	4,92
3	-					
Credit	MAER management	7.000.000	2.322.973	4.677.027	33,19	100,00
1	Centre	2.000.000	1.794.093	205.907	89,70	77,23
1.1	Increase and diversification of the production of vegetables and fruit	2.000.000	1.794.093	205.907	89,70	77,23
1.2	-					
2	South	4.900.000	500.661	4.399.339	10,22	21,55
2.1	Support to the increase of production and of agricultural yields	4.900.000	500.661	4.399.339	10,22	21,55
2.1.1	Support for the development of rice production	1.500.000	389.200	1.110.800	25,95	16,75
2.1.2	Intensification of technical crop farming itineraries	2.000.000	0	2.000.000	0,00	0,00
2.1.3	Support for horticultural and arboreal supply chains	1.400.000	111.461	1.288.539	7,96	4,80
2.2	-					
3	Audit	100.000	28.219	71.781	28,22	1,21
Total	Total	3.000.0000	5.282.676	2.4717.324	17,61	100,00

Table 4 Budget execution of PAIS up to 31/12/19

R	Item	Availability euro	Expenses euro	Balance euro	% of availability	% of expenses
A	Dealer credit	15.008.237	1.257.260	13.750.977	8,38	96,79
1	Improvement of agricultural development production	5.302.910	228.372	5.074.538	4,31	17,58
1.1	Support for the rain fed rice cultivation in the region of Kolda	4.002.196	228.372	3.773.824	5,71	17,58
1.2	Intensification of technical crop farming itineraries	1.300.714	0	1.300.714	0,00	0,00
2	Establishment of agricultural development funds	6.003.295	0	6.003.295	0,00	0,00
2.1	Agricultural development funds	6.003.295	0	6.003.295	0,00	0,00
3	Strengthening of technical capacities of beneficiaries and other actors of the programme	3.702.032	1.028.888	2.673.144	27,79	79,21
3.1	Seeds and fertilizers	600.329	55.514	544.815	9,25	4,27
3.2	Seed Banks	200.110	0	200.110	0,00	0,00
3.3	Research and development in women and agriculture, mountain rice, post-harvest processing (ISRA)	600.329	100.055	500.275	16,67	7,70
3.4	Technical assistance and agricultural development training	900.494	577.438	323.056	64,12	44,45
3.5	Support activity for priority issues	1.400.769	295.880	1.104.888	21,12	22,78
B	Gift					
4	Strengthening the governance of sustainable agriculture and food security	65.036	41.747	23.289	64,19	3,21
	Total	15.073.272	1.299.007	13.774.266	8,62	100,00

Table 5 Budget of the item NRC/PAPSEN 2013-2016

R	Item	Total	Expenses	Balance	%
	Total	2.206.673	2.204.730	1.943	100
1	Contribution MAE	1.545.254	1.543.311	1.943	70
2	Contribution CNR	661.419	661.419	0	30

ANNEX 6: Funds ADF

Table 1. Credits ADF/PAIS requested and granted by financial institutions from 2019 to 2020 in Kaolack, Kolda e Sédhiou

Region	Department	Requested (n.)			Granted (n.)		
		Individual	GIE	Totale	Individuale	Individual	GIE
Kaolack	Nioro	35	43	Kaolack	Nioro	35	43
	Guinguinéo	12	4	16	Guinguinéo	12	4
	Kaolack	48	11	59	Kaolack	48	11
	Totale Kaolack	95	58	153	Totale Kaolack	95	58
Kolda	MYF	32	16	Kolda	MYF	32	16
	Vélingara	1	2	3	Vélingara	1	2
	Kolda	0	2	2	Kolda	0	2
	Totale Kolda	33	20	53	Totale Kolda	33	20
	Goudomp	59	26	85	Goudomp	59	26
Sédhiou	Boukiling	9	5	Sédhiou	Boukiling	9	5
	Sédhiou	23	10	33	Sédhiou	23	10
	Totale Sédhiou	91	41	132	Totale Sédhiou	91	41
Global total		219	119	338	Global total	219	119

Table 2. Credits FAD/PAIS requested and granted by financial institutions from 2019 to 2020 in Kaolack, Kolda e Sédhiou

Region	Department	Requested (euro)			Granted (euro)		
		Individual	GIE	Totale	Individuale	Individual	GIE
Kaolack	Nioro	96.803.193	315.120.040	411.923.233	26.958.835	54.074.750	81.033.585
	Guinguinéo	68.597.020	226.81.630	91.278.650	1.000.000	3.000.000	4.000.000
	Kaolack	14.270.0048	78.299.931	220.999.979	20.443.992	3.985.500	24.429.492
	Totale Kaolack	308.100.261	416.101.601	724.201.862	48.402.827	61.060.250	109.463.077
Kolda	MYF	156.312,38	159.916,81	31.6229,19	35.094,04	50.783,33	85.877,37
	Vélingara	13.171,60	20.578,47	33.750,06	4.168,46	4.720,40	8.888,85
	Kolda	0,00	13.034,39	13.034,39	0,00	0,00	0,00
	Totale Kolda	169.483,98	193.529,67	363.013,64	39.262,50	55.503,73	94.766,23
	Goudomp	61.496,37	99.762,01	161.258,38	8.537,14	34.110,47	42.647,61
Sédhiou	Boukiling	69.959,22	83.706,52	153.665,74	6.402,86	45.251,50	51.654,36
	Sédhiou	51.958,75	98.301,81	150.260,56	36.810,72	11.254,77	48.065,50
	Totale Sédhiou	183.414,34	281.770,34	465.184,68	51.750,72	90.616,74	142.367,47
Global Total		539.586.380	727.877.968	1.267.464.348	108.103.588	156.908.998	265.012.586

Euro 1 = F CFA 655,957

ANNEX 7: Pilot horticultural farms of the Centre. Vegetable production

Table 1. Production of the pilot farms in the Centre

Year	Crop	Total area Ha	Cultivated acreage m ²	Production Kg	Yield MT/Ha	Note
Farm of Touba Tul						
2014/2015	Onion	4	22.154	55.978	25,27	
	Okra	4	22.000	6.050	2,75	
2015/2016	Onion	4	21.512	42.578	19,79	
	Peanut	4	32.000	10.200	3,19	Drought
2016/2017	Onion	4	22.136	15.305	6,91	
	Peanut	4	22.136	5.204	2,35	
2017/2018	Tomato	4	2.200	8.137	36,99	
	Onion	4	20.000	36.724	18,36	
	Peanut	4	22.200	8.775	3,95	
2018/2019	Tomato	4	4.174	15.812	37,88	
	Onion	4	12.431	18.089	14,55	
	Peanut	4	20.584	4.127	2,00	
Farm of Darou Fanaye Diop						
2015/2016	Onion	5	10.400	2.656	2,55	Insufficient soil preparation
	Okra	5	13.600	5.449	4,01	
2016/2017	-					Lack of seeds and inputs
2017/2018	Onion	5	25.000			Late transplant (20/3/2018)
2018/2019	Peanut	5	25.000			Drought, interruption of pipes
Farm of Mbassis						
2016/2017	Okra	5	33.000	37.482	11,36	
2017/2018	Watermelon	5	16.500	7.500	4,55	
2018/2019	Tomato	5	35.000	15.554	4,44	
	Okra	5	30.360	41.938	13,81	
2018/2019	Watermelon	5	14.500			Problems with the purchase of fuel

Table 2. Cultural costs of onion production on the farm of Touba Tul, 2018/2019

Area:	m ²	450	
Production	Kg	800	
Yield	MT/Ha	17,78	
<i>Input</i>	<i>F CFA</i>	<i>Euro</i>	<i>euro/Ha</i>
Seeds	8.800	13,42	300,80
Fertilizers	3.500	5,34	119,63
Manure	20.000	30,49	683,63
Water	41.000	62,50	1.401,44
Sacks	3.000	4,57	102,54
Labour	25.000	38,11	854,53
Costs	101.300	154,43	3.462,58
Revenues	360.000	548,82	12.305,30
Profit	258.700	394,39	8.842,73

ANNEX 8: Specific recommendations

AICS. Setting up mechanisation activities. Contract a rural engineering expert to formulate a plan to build capacity for maintenance, repair and local spare parts distribution for farm equipment. Suspend the distribution of machinery until mechanics have been trained or agricultural mechanisation services have been established.

PMU. Works monitoring. Collaborate with the Office of Studies and Control (SAFI / SIQ) to develop a monitoring programme that ensures regular visits by its officers to monitor project works.

AICS. Testing of irrigation infrastructure and grain stores. Propose joint testing of work with the Senegalese Ministry of Finance. Contract an expert in hydraulic engineering and irrigation systems to test the hydro-agricultural upgrading of water regulation in the lowland valleys, improvement of irrigation perimeters, and testing of grain warehouses.

MAER, PMU, photovoltaic energy pumping systems. Collaborate with the Senegalese Ministry of Energy for the certification and, where necessary, pre-certification, of photovoltaic systems suitable for rural use.

AICS, MAER, PMU. PAPSEN Organisational chart. Identify technical assistance needs and review the project structure to ensure that a facilitator works in each department assisted by the project. Ensure that facilitators have motorcycles available to visit assisted farms.

PMU, in collaboration with banks. ADF credits. Ensure that less technically able recipients of ADF credits attend project training sessions for technologies financed by these funds.

AICS, PMU. Cartographic aids to land management. Discuss with the NRC BEI the reactivation of the Territorial Information System (TIS) developed during the PAPSEN/NRC project. Carry out mapping of the interventions executed and yet to be executed, in order to plan and systematically monitor their execution and strengthen local capacities for the territorial planning of agricultural and rural development.

ISRA, PMU. Comparative trialling of various methods of water management. Include a module on tube maintenance and repair in drip system training. Trial the drip irrigation system and propose it to farmers, while at the same time suggesting other intermediate technologies such as the use of tubes and irrigation sleeves.

AICS, PMU. Pest control. Discuss with the NRC BEI and the ISRA ways of collaborating in the testing and demonstration of nematode-control techniques and more generally pest control in fruit and vegetable crops.

PMU. Completion of work in the central regions. With the company responsible for monitoring works, discuss ways of completing the well drilling started in the following eight sites: Tawa Fall (drilling); Keur Yaba Diop (drilling) and the resumption of drilling in progress due to landslide on the first well; Ndoucoumane Fall (drilling); Lambaye (drilling); Tockorag (drilling); Khoubé (drilling); Ngogom (well rehabilitation); Sambé (completion of 2 wells). Ensure that drilling work begins in Ngohé.

