

## SENEGAL

### Agrifood System Change and PARI Research on Innovations

#### INTRODUCTION

Like all other African countries, Senegal committed to spend at least 10% of its national annual budget on agriculture following the Malabo Declaration in 2014 to boost agricultural growth and development. However, it has since only managed to reach this target once. On average, only 7.6% of the national budget has over the past 5 years been allocated to the agriculture sector. On the other hand, the agriculture value added growth rate shows significant fluctuations with only slight improvements in the past 5 years (see Figure 1). To further improve the performance of the agriculture sector, the country needs to widely translate the innovative initiatives that were developed as pathways to sustainable food systems transformation into actions (see Table 1). It is also important to revisit these and other current initiatives to draw lessons, as provided in this brief based on studies done under PARI, to guide future strategies.

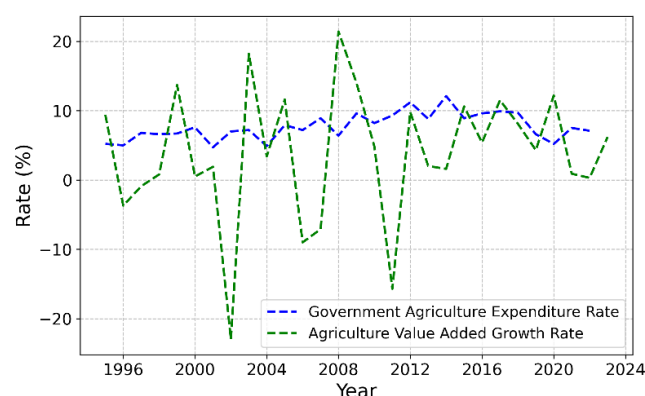


Figure 1: Trend of government agriculture expenditure and value added growth rate in Senegal<sup>1</sup>

Table 1. Summary of innovative pathways to sustainable food systems transformation for Senegal<sup>2</sup>

Category	Key Innovations	Implementation objectives/Strategies
Institution and policy frameworks	<ul style="list-style-type: none"> <li>Participatory governance mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>Enhance collaboration among stakeholders to minimise duplication of efforts and leverage on complementarities.</li> </ul>
	<ul style="list-style-type: none"> <li>Tax and financial policy reforms</li> </ul>	<ul style="list-style-type: none"> <li>Reduce tax on production factors and malnutrition treatment products</li> <li>Provide subsidies/tax and tariff breaks for innovative technologies in agri-food value chains</li> <li>Offer tax exemptions for youth-led rural start-ups and renewable energy inputs.</li> </ul>
	<ul style="list-style-type: none"> <li>Social protection and inclusive policies</li> </ul>	<ul style="list-style-type: none"> <li>Promote positive discrimination of youth and women in agri-food programs.</li> <li>Make social protection programs sensitive to nutrition and climate-smart agriculture to improve resilience and food security for vulnerable populations.</li> </ul>

<sup>1</sup> Source: Authors' illustration using data from <https://www.resakss.org/node/3>, accessed on 26 May 2025

<sup>2</sup> Source: [https://www.unfoodsystemshub.org/docs/unfoodsystemslibraries/national-pathways/senegal/2021-09-14-fr-feuille-de-route-du-senegal\\_senegal24072021-tmd-1.pdf?sfvrsn=317839f6\\_1](https://www.unfoodsystemshub.org/docs/unfoodsystemslibraries/national-pathways/senegal/2021-09-14-fr-feuille-de-route-du-senegal_senegal24072021-tmd-1.pdf?sfvrsn=317839f6_1), accessed on 11 March 2025



Technological innovations	<ul style="list-style-type: none"> <li>Climate-smart agriculture and agro-ecology</li> </ul>	<ul style="list-style-type: none"> <li>Mitigate climate risks</li> <li>Reduce environmental impact</li> </ul>
	<ul style="list-style-type: none"> <li>Food systems observatory</li> </ul>	<ul style="list-style-type: none"> <li>Monitor trends, drivers and performance of food systems</li> </ul>
	<ul style="list-style-type: none"> <li>Improve irrigation and water management systems</li> </ul>	<ul style="list-style-type: none"> <li>Enhance pastoral and fishery activities</li> <li>Enhance sustainable agricultural production</li> </ul>
	<ul style="list-style-type: none"> <li>Food processing technologies</li> </ul>	<ul style="list-style-type: none"> <li>Reduce post-harvest losses</li> <li>Improve market competitiveness by enhancing quality and shelf life of food products.</li> </ul>

## PARI CONTRIBUTIONS

The PARI research in Senegal relates to priorities as indicated by PARI Partners, and took note of initiatives of the Green Innovation Centers.

### Innovations in value chains

**Investing in transportation, storage and conservation innovations could significantly reduce post-harvest losses, boost domestic vegetable supply and make Senegal less dependent on imports.** Reducing on-farm vegetable losses by 30% could increase the annual value of vegetable supply by 45% which is equivalent to USD 72 million. This would translate to reducing the imports by 22% (127,000 tons annually) (Beye and Komarek, 2020). A critical step is establishing a cold chain between farms and markets. Currently, farmers are incurring losses due to a lack of cold or ventilated storage which forces them to quickly sell or consume their produce. Effective storage and conservation technologies can substantially curb these post-harvest losses. However, implementing these strategies will require careful financial planning. There is need to consider the costs for both farmers and the government to ensure these improvements are sustainable and beneficial for everyone.

**Senegal's commercial poultry sector has grown rapidly over 15 years, driven by increased production, investments, and successful business models** (Koki et al., 2022). One key model is integrated poultry farming, where producers operate under contract agreements with companies across the poultry value chain. Another approach involves diversification and reinvestment. Farms have expanded into areas like vegetable gardening, tree farming, construction and telecommunications. This diversification helps spread risk and creates additional income streams making the farms more resilient. Many farms have also benefited from customer loyalty, particularly from a few major

buyers and adjusted production levels to meet demand during peak consumption periods. Technical innovations have also been vital, with industrial equipment in Senegal matching standards in industrialized countries. This has led to greater efficiency and better quality products. In addition, trade policies, such as the suspension of poultry imports, have given local producers a competitive edge. This has further boosted the sector's growth and success domestically.

### Climate change adaptation

**Senegal employs household, community, and policy strategies to address climate shocks and land degradation, but challenges related to governance, funding and monitoring limit their effectiveness** (Faye et al., 2021). Households have diversified incomes through remittances and non-agricultural activities, while communities have strengthened organizational dynamics to support vulnerable groups and improve access to climate information. At the policy level, Senegal has developed adaptation and mitigation plans to protect key sectors and reduce emissions. Effective implementation requires governance structures that enable participatory policy design to ensure stakeholder ownership. Securing funding, preferably from the national budget, is essential to align policy goals with realistic plans. Additionally, high-quality statistical data is critical for targeting interventions, optimizing resource allocation and evaluating progress, gaps and impacts.



## Employment

Agriculture has significant potential to boost rural employment in Senegal, particularly for young people. However, this potential can only be fully realised if structural constraints in value chains are addressed (Mbaye et al., 2018). Organized value chains like rice benefit from state support. Farmers in the Senegal River Delta are often able to produce rice year-round.

Cotton cultivation also generates many direct jobs in production and ginning activities. However, progress is hindered by various challenges such as limited access to financing, inadequate training, property rights disputes, low mechanization levels and insufficient access to affordable and efficient energy. To overcome these barriers, policy interventions should prioritize removing these obstacles and supporting small- and nano-enterprises which are common in rural areas. This will help create stable and sustainable employment opportunities

## KEY TAKE AWAYS FROM PARI RESEARCH IN SENEGAL

**Reducing post-harvest losses:** Investments in cold chains and storage could cut Senegal's vegetable losses by 30%. This would not only boost supply by USD 72 million annually but also reduce imports by 22%.

**Poultry sector growth:** Senegal's poultry businesses thrive on vertical integration, protective trade policies and technical innovations. Producers are diversifying their operations and meeting peak demand through industrial-grade equipment that ensures steady supply of poultry products.

**Climate adaptation:** Senegal's adaptation plans include income diversification and mitigation policies. However, achieving success requires a collaborative approach to governance, secure funding and access to reliable data.

**Employment:** Agriculture has the potential to create rural jobs, especially for youth. However, progress is slowed by limited financing, land disputes, and low mechanization. It is important to address these challenges through targeted policies to unlock the full potential of agriculture in Senegal.

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All studies are available at [www.r4ai.org](http://www.r4ai.org).

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