



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Innovation Small Grant

Country/Region: Senegal
Project Title: Djigui Niokolo: Developing agro-sylvo-pastoral models for sustainable agriculture and environmental preservation
Thematic Focal Area: Innovation/Food security
Implementing Entity: Centre de Suivi Ecologique (CSE)
AF Project ID:
IE Project ID:
Reviewer and contact person: Ho-Sik Chon
IE Contact Person:

Requested Financing from Adaptation Fund (US Dollars): 248,319
Co-reviewer(s): Alyssa Gomes

Technical Summary:	<p>The project “Djigui Niokolo: Developing agro-sylvo-pastoral models for sustainable agriculture and environmental preservation” aims to develop and promote agro-sylvo-pastoral systems that are ecologically sustainable and economically efficient. This will be done through the three components below:</p> <p><u>Component 1:</u> Establishment of a framework for exchange and awareness raising among farmers for the appropriation of adaptation and climate risk reduction processes (USD 88,000);</p> <p><u>Component 2:</u> Dissemination of climate change adaptation technologies (USD 49,000);</p> <p><u>Component 3:</u> Strengthening the livelihoods and sources of income of vulnerable people (USD 63,000).</p> <p><u>Requested financing overview:</u></p> <p>Project/Programme Execution Cost: USD 19,992 Total Project/Programme Cost: USD 230,432 Implementing Fee: USD 17,887 Financing Requested: USD 248,319</p>
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	The initial technical review raises some issues, such as the need to strengthen the climate change adaptation innovation rationale, specify vulnerability of the target areas and gender considerations of the project, and clarify the role of research institutions and ESP compliance as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.
Date:	26 August 2022

Review Criteria	Questions	Comments
Country Eligibility	1. Is the country party to the Kyoto Protocol?	Yes
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes As per the Endorsement letter dated 8 August 2022
	2. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience? ¹	Yes The project will (1) strengthen awareness and ownership of adaptation and climate risk reduction processes of farmers, (2) increase and disseminate adaptive capacities of farmers in agro-sylvo-pastoral practices and (3) diversify and strengthen livelihoods and sources of income for vulnerable people in target areas (3 regions: Tambacounda, Kolda and Kédougou).

¹ A concrete adaptation project/programme is defined as a set of activities aimed at addressing the adverse impacts of and risks posed by climate change. The activities shall aim at producing visible and tangible results on the ground by reducing vulnerability and increasing the adaptive capacity of human and natural systems to respond to the impacts of climate change, including climate variability. Adaptation projects/programmes can be implemented at the community, national, regional and transboundary level. Projects/programmes concern activities with a specific objective(s) and concrete outcome(s) and output(s) that are measurable, monitorable, and verifiable. (Source: Operational Policies and Guidelines, amended October 2017)

	<p>3. Does the project encourage or accelerate development of innovative adaptation practices, tools and technologies?</p>	<p>Not cleared</p> <p>The target farmers will replicate adaptation techniques that they learn at 9 agroforestry farms (climate-smart farms) established by the project. Moreover, field visits and training sessions will be organized for the target farmers to provide new knowledge about good agro-sylvo-pastoral practices. However, the climate change innovation rationale should be strengthened.</p> <p>CR1: Please provide additional information on the experimentation sites for producers to explore new technical innovations and integrated crop-livestock-tree systems. What kind of innovation are envisaged, who will develop them and how will the "farmer field school" approach enable the piloting of innovation?</p> <p>CSE's response: In Senegal, the southeastern regions and the periphery of the National Park in particular are the last charcoal production areas and host a large transhumant herd from Mauritania, Mali and northern Senegal. In response to the overconsumption of natural resources and climatic hazards, producers tend to use the resources of the national park therefore illegally degrading biodiversity. Furthermore, the decrease in available resources and climatic hazards lead to an increase in land-use conflicts between agricultural, livestock, forestry and conservation activities in the peripheral zone and in the national park.</p> <p>The project will develop and disseminate adaptation and risk reduction technologies. Through the agroforestry farms, producers will appropriate climatic data from their areas to better adapt their production techniques to the crop calendar. With climatic variability, producers have long been confronted with technical difficulties: plant burns due to heat or crop losses due to rainfall. The poor control of the cultivation calendar in the context of climate change is one of the biggest problems for agriculture, especially in the intervention zones where it is dependent on rainfall. Through the farms, farmers will be strengthened to develop sustainable cropping systems in the context of climate change. The project also ensures environmental sustainability through soil restoration, conservation and natural resource preservation techniques that will be deployed at the farm level and implemented by farmers on their own farms. Producers will learn about ANR techniques, crop choices adapted to climate change and the development of alternative crops to cope with climate change. In this sense, fonio is promoted by the project. This local cereal is already widely consumed in the region. As its life cycle is very short, poor households can harvest it sooner than other cereals and reduce the food shortage period. Hence it is important in food security local strategies. It is also well adapted to high climate</p>
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	<p>variability and drought conditions and Senegal climate change strategy mentions fonio to diversify food systems. It is a very resistant and very rustic plant that can even grow on marginal lands, poor and degraded soils. It is a drought tolerant plant and does not need much water. Thus, it is a sustainable crop for these producers in the current context of irregular and low rainfall. – The knowledge and good practices will be documented and disseminated to other producers. These producers will also be able to benefit in the long term from this knowledge and technology.</p> <p>The project foresees 9 agroforestry farms, one in each commune. At first, ISRA, in collaboration with local NGOs, will carry out a series of visits and exchanges in these villages using a participatory and inclusive approach involving all community actors to present the initiative and set up an inter-village assembly in each commune. The inter-village assembly is an association that will bring together all the community actors in the villages. An inter-village committee will be set up within the assembly bringing together all the key actors representing various value chains. Its role is to identify and target different areas in the community to be invested in, the potential value chains to be developed, the groups of producers to be involved in each value chain, the promising practices and technologies, the potential partners in each value chain, etc. This inter-village assembly will facilitate the selection of volunteers who will commit to making land available to integrate the pilot farms and/or to serve as training fields</p> <p>Based on the exchanges and the diagnosis established by the inter-village committees, ISRA will define the content to be developed in each farm in order to demonstrate good agroforestry technologies while taking into consideration climatic contexts and local anthropological realities of each commune. The innovation aspect lies in the research action to experiment and document the good agroforestry technologies co-identified. ISRA will deploy agents who will regularly conduct technical animations in these farms and commented visits to the target producers' own experiences. This will help reinforce the appropriation of these technical innovations by the project's target producers.</p> <p>CR2: Please justify the chosen innovations from the point of view of scaling and replication potential.</p> <p>CSE's response: The agroforestry farm model is a system that allows producers themselves to experiment and demonstrate good agricultural and agroforestry practices adapted to local conditions. These good practices are themselves the result of local practices observed in the</p>
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		<p>field, which is worth to be promoted and diffused. The endogenous character of the innovations to be promoted, and the local, open character of the agroforestry farms were preferred to other approaches because they encourage adoption and duplication by other people in the community, and can furthermore be adopted and adapted by other communities according to their specific context.</p> <p>The scheme can be replicated at the local level in all West African countries and beyond. The conditions required for successful scaling up are the modes of documentation and communication according to the audiences. Locally, the participatory approach, capacity building through support from research and technical services must be reinforced by local communication adapted to local practices (billboards, community radio, etc.). At the regional level, SOS SAHEL favors the provision of online platforms for the exchange of information, testimonies, and scientific knowledge, in various simple formats accessible to all. For example, in Senegal, climate information is considered an agricultural input in the same way as seeds, fertilizers and equipment. This work to mainstream the use of climate information services began with ANACIM capacity building of 82 rural community radio stations in the country's 14 administrative regions to broadcast special programs on climate information services. ISRA, CSE, and SOS SAHEL each have a platform for wide-scale knowledge dissemination. During the implementation phase of the climate adaptation technologies and the guided tours to the targeted producers farms, multimedia content (sound, text, image) will be produced and shared through all possible publication channels (computer platform, newspaper, community radio program, written publications, etc.) for a wide appropriation of these agro-climatic technologies.</p> <p>CR3: Please clarify the cost-effectiveness and sustainability of the proposed innovations.</p> <p>CSE's response: Our ambition is to promote sustainable and resilient family farming through the development of Fonio in southeastern Senegal to meet the challenges of food insecurity and poverty. However, fonio agricultural statistics (source: ANSD) show a decline in production (-1.2%) and yields (-3.4%) despite the increase in area (2.2%). To reverse this trend, the mainstreaming and adoption of good agroforestry techniques developed in climate-smart farms will make it possible to increase yields (+30%), production (+150 additional tons), area (+20%), and the incomes of fonio producers (+25%). In addition, there is the preservation and restoration of land. All these expected benefits and the effective low-cost measures resulting from the action research will make it possible to establish a satisfactory cost-effectiveness ratio.</p>
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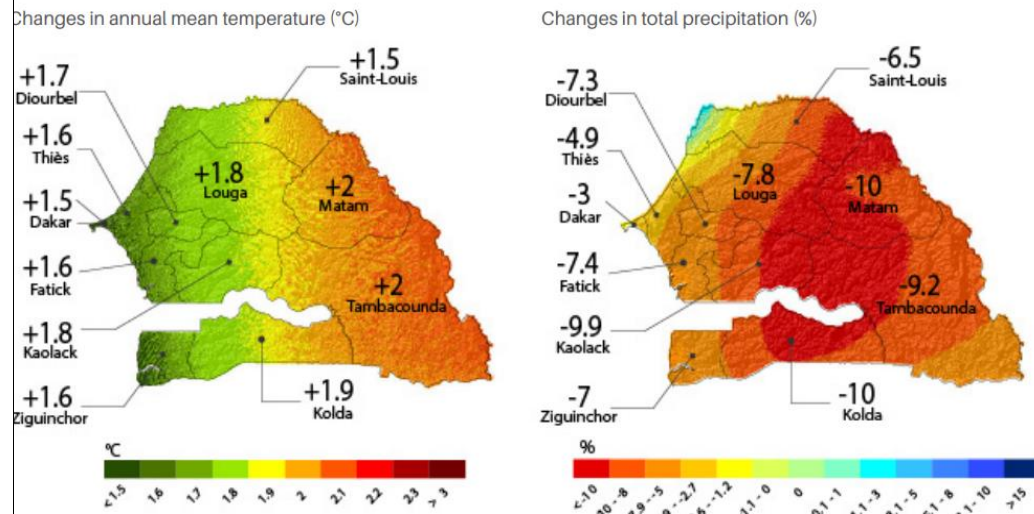
		<p>CR4: Please ensure alignment with outcome 8 (Innovation) of the AF's Strategic Results Framework (SRF) in Section III.D. Please follow the guidance at: https://www.adaptation-fund.org/wp-content/uploads/2022/03/AFB.PPRC_29.44-Guidance-to-IEs-for-inclusion-of-objectives-and-Indicators-for-Innovation.pdf</p> <p>CSE's response: Please see the table on the project document on (D) Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund</p>
	<p>4. Does the project help generate evidence base of effective, efficient adaptation practices, products or technologies, as a basis for potential scaling up?</p>	<p>Not cleared</p> <p>The project will establish agro-sylvo-pastoral farms in 9 rural communities (3 per target region) which will provide theoretical and practical knowledge to the target farmers. Based on support from the Delivery partners (A Better Life (ABL) and Senegalese Institute of Agricultural Research (ISRA)), 18 farmer field schools will be set up to train and share good fonio production practices. Local good practices will be enhanced, and new production practices will be promoted, which will bring about better adaptation to climate change (e.g., increase in fonio production, settlement of better condition for sustainable fonio production, etc.).</p> <p>CR5: Please justify the innovativeness of the activities proposed under component 1. The activities may be justified from a climate change adaptation perspective but the innovation rationale for the proposed interventions should be clarified.</p> <p>The innovative nature of this project can be seen on three levels: (1) the project does not promote a few relevant adaptation techniques, but an integrated agro-sylvo-pastoral approach (2) the project sets up a permanent system of rigorous experimentation, awareness raising and training of producers for the appropriation and adoption of adaptation techniques to change and (3) the project proposes a new approach for the promotion of fonio cultivation, integrating the aspects of cultivation techniques and integration into a larger agro-sylvo-pastoral type agricultural system</p> <p>The project's intervention zones, despite their strong potential in natural resources (forest formations and biological diversity of wildlife resources), are experiencing the degradation of</p>

	<p>their natural environment, especially due to intensive exploitation of these natural resources. This trend is exacerbated by more frequent climatic hazards of increasing magnitude. Faced with increasing risks, local communities receive sectoral technical support that is not well adapted to the challenges of climate change.</p> <p>In fact, in Senegal, the government's technical services are compartmentalized between the ministries and departments in charge of Livestock, Water and Forests and Agriculture. Although there are decentralized mechanisms for coordinating development programs, the technical services most often operate in separate dedicated areas, collaboration between the different services remains the exception and the technical orientations of these different services are not always compatible with each other. The project therefore proposes an approach of dialogue between these different services to design a system integrating the best practices of these different disciplines. This approach is consistent with local practices, since a large proportion of producers carry out both agricultural and livestock activities, and derive part of their resources from forests, without these being truly integrated. Agroforestry practices are still very little integrated into the good practices supported by the technical services.</p> <p>Secondly, the project proposes a new type of training approach. It is an experimental and permanent approach, installed in voluntary producers. The agroforestry farms, which serve as a place for experimenting with good agricultural practices and environmental protection technologies, make it possible to place the researchers and the project's mechanism at the service of producers who so desire. In this sense, the project's mechanism allows for the validation, improvement and promotion of innovative practices observed locally, rather than the introduction of new, exogenous practices. This process of technical innovation is supervised by a research organization that gives it the rigor of a scientific process. In Senegal, ISRA has developed a similar experience only in the groundnut basin (specifically in Kaffrine, Daga Birane), which is also confronted with the same problems. With this project, producers in the target villages will be able to learn about the climatic realities in a dynamic way and establish a real strategy for adapting agroforestry systems.</p> <p>Finally, fonio cultivation is traditionally practiced in the south-eastern part of Senegal, especially in Kédougou, by the so-called poor social classes. It was also a marginal crop practiced by women on small portions of land (0.2 ha on average). The lack of technical support for production, the arduousness of harvesting and processing have made fonio a poorly developed crop in Senegal, and even a declining one. Yet fonio is recognized as a relevant response to the challenges of food security and climate change. It is a cereal that is increasingly appreciated</p>
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		<p>on regional and international markets and would allow for the diversification of sources of income, as is the case in Mali today. The innovative nature of the project lies in the fact that it supports the development of fonio through support for production on the one hand - which has never been the case in Senegal - and for processing/marketing on the other hand through another component of the Djigui Niokolo project. The integration of fonio into agro-sylvo-pastoral systems is also new in Senegal. This approach is likely to take fonio out of its niche as a minor, marginal cereal and give it the status of a commercial production in which men and women play complementary roles.</p> <p>Climate change is already an undeniable reality for Senegal. In a report published on the State of the Environment by the Ecological Monitoring Centre (CSE), the following trends are noted:</p> <ul style="list-style-type: none"> – Mean annual temperature increased by 1.6 °C since 1950 – with a stronger observed increase in the north of Senegal averaging 3 °C. – A 30% reduction in rainfall between 1950 and 2000, with a strong variability from one year to another and – from region to region. While precipitation trends have – improved since 2000, it does not necessarily signal an end to the dry cycle. – Higher frequency in flood events, particularly in the lower – lying areas of Dakar and northwestern Senegal. – Extreme droughts in 2002 and 2011 heightened food – insecurity for over 200,000 and 800,000 people, – respectively. – Changes in the production of biomass, especially in the – northern part of the country, reducing forage production – for livestock activity. <p>Climate projections indicate:</p> <ul style="list-style-type: none"> – Temperatures continue to increase by 1.1 to 1.8 °C by 2035, and up to 3 °C by the 2060s. Warming is faster in the interior of the country than compared to the coastal areas. – While there is uncertainty in climate models for projections on precipitation, it is expected that similar trends will continue with higher rainfall events, but fewer rainfall events overall leading to dry spells. Some climate models show an increase in
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precipitation (50–100 mm) in the Casamance region and a severe decrease in eastern Senegal [28]².

Projected changes in temperature and precipitation in Senegal by 2050 [31, 32, 33]



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² [28] Jalloh A; Nelson GC; Thomas TS; Zougmore R; RoyMacauley H. (Eds.) 2013. West African agriculture and climate change: A comprehensive analysis. IFPRI books and research monographs. 408p. DOI: 10.2499/9780896292048

³ [33] Ramírez-Villegas J; Thornton PK. 2015. Climate change impacts on African crop production. Working Paper No. 119. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), Copenhagen, Denmark. Available at: <http://hdl.handle.net/10568/66560>

⁴ [32] Ramírez J; Jarvis A. 2008. High-resolution statistically downscaled future climate surfaces. International Center for Tropical Agriculture (CIAT); CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Cali, Colombia

⁵ [31] Collins M; Knutti R; Arblaster J; Dufresne JL; Fichet T; Friedlingstein P; Gao X; Gutowski WJ; Johns T; Krinner G; Shongwe M; Tebaldi C; Weaver AJ; Wehner M. 2013. Longterm climate change: Projections, commitments and irreversibility. In: Climate change. The physical science basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. [Stocker TF; Qin D; Plattner GK; Tignor M; Allen SK; Boschung J; Nauels A; Xia Y; Bex V; Midgley PM. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. pp. 1029–1036. DOI: 10.1017/CBO9781107415324.024

		<p>The project intervenes in the peripheral communes of the Niokolokoba National Park, which is marked by the distribution and abundance of wildlife resources closely linked to the existence and types of plant formations. Climate change has had definite impacts on ecosystems and consequently on the fauna they shelter. These effects and impacts of the climate, combined with human actions, accentuate the degradation of forest and wildlife resources. Cultivation practices (slash and burn), bush fires or abusive exploitation of forest resources (wood cutting, hunting, etc.), uncontrolled transhumance with its attendant harmful practices (abusive pruning, bush fires, degradation of forest and water resources) result in the degradation of agro-sylvopastoral systems, which leads to the vulnerability of the populations.</p> <p>CR6: Please provide further information on the role of ISRA- the institution of applied scientific and technical research. What would be Senegalese Institute of Agricultural Research (ISRA's) role in piloting innovations and provide details of innovations currently being researched at ISRA that might be piloted in the target areas.</p> <p>CSE's response:</p> <p>The role of ISRA in this project is to carry out all activities related to the establishment and animation of agroforestry farms. It will conduct a study of vulnerability factors and local adaptation practices to climate change by producers. Based on this study, local realities, consultations with local communities and local NGOs, ISRA will identify and select good agroforestry practices to be implemented in these farms. Through a rigorous scientific protocol of research-action, ISRA will supervise the process of setting up the farms (creation of a local governance framework with all the actors concerned, identification of sites and realization of the technical and physical operations of setting up the farms), animate the trainings and realize technical operations of demonstration of soil restoration, adapted agricultural technologies, information of the producers on the climatic data...). Once the systems have been set up, ISRA will organize, in coordination with the technical services and the local project teams, periodic visits to monitor and discuss the results observed on their own experiences with the producers. ISRA will set up a scientific monitoring system with a view to publishing results for research.</p> <p>ISRA's presence with SOS SAHEL is essential to bring scientific rigor to an approach that remains participatory and inclusive and puts the target communities at the heart of the decision-making process for the identification of practices and technologies that strengthen the adaptive capacities of producers.</p>
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		<p>It will adopt a participatory and inclusive approach by putting the target communities at the heart of the decision-making process from the identification of technologies to their mainstreaming. ISRA is a scientific research institution that also guarantees scientific rigor in relation to the learning of good agroforestry practices.</p> <p>In Senegal, ISRA conducted a climate vulnerability study in fifty (50) villages in five (5) rural communities in the Kaffrine region. Kaffrine is located in the groundnut basin, where land use and natural resource management patterns have been disrupted to the point that it goes against ecosystem resilience processes. The agricultural production systems are experiencing a gradual decline in soil fertility due to continuous cultivation. After an in-depth analysis, the village of Daga Birane was selected in 2011 to develop the concept of a climate-smart village, which is an integrated participatory approach using climate practices and/or improved contextual technologies to sustainably increase productivity and income, improve the resilience of people and ecosystems, and reduce greenhouse gases. With the selection of the village of Daga Birame, a diagnostic was conducted using the Climate Change Adaptation Capacity Planning and Monitoring Toolkit (TOP-SE CAC) based on an analysis of vulnerability and adaptive capacity to climate change. This identification of constraints and opportunities was essential to designing the climate-smart village of Daga Birame. Given the village's vision of its future, the community identified a set of actions to be implemented to achieve the desired changes in agricultural productivity, food security, income generation, improved resilience, and sustainable environmental management in the village. These actions were structured around four components: (i) climate services and information, (ii) development of climate-smart agricultural technologies/practices, (iii) village development planning, and (iv) local knowledge and institutions. A multi-actor innovation platform in Daga Birame has been set up as a driving force and allows the population to regain control of their own development. It brings together all social strata of the village community, i.e., men, women, youth, traditional leaders and marginalized groups in Daga Birame village. It is considered the local governance institution that is leading the implementation of the community work plan for the creation of the climate-smart village. This platform has enabled the village community to launch important initiatives to ensure local development, including</p> <ul style="list-style-type: none"> – the protection of baobabs in the village; – the creation of a protected area (fencing): During the initial diagnostic exercise – , the local communities identified high winds, flooding, erosion and drought as the main climate risks for the village.
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		<p>The technologies or practices selected are: assisted natural regeneration (ANR), domestication of fruit/forest trees and fencing These methodologies and good practices will be capitalized and taken into account in the framework of the project.</p> <p>CR7: Under component 3 please clarify the selection criteria for selecting producers to receive support in agricultural inputs and capacity building on fonio production.</p> <p>CSE's response: The selection of producers goes through several stages. The choice of the intervention zone was made on the basis of a diagnosis established by the PSE (Plan Sénégal Emergent). This diagnosis shows that the three intervention regions of the project have the highest poverty rates in the country (Kédougou (71.3%), Kolda (76.6%) and Tambacounda (46.7%). The prevalence of food insecurity in the regions is 39% for Tambacounda, 33% for Kédougou and 42% Kolda (Source: National Food Security Council 2017). Also, these regions are very vulnerable to climate hazards that occur on a recurring basis. If agricultural production systems do not adapt to the climate, the progress made in food security over the past few decades could be undone. The 9 communes were identified as part of a conservation project initiated by the African Union Inter-African Bureau for Animal Resources (AU-IBAR) between 2011 and 2013. A participatory and inclusive approach was used at the start of the project to select 45 villages for intervention in the Djigui Niokolo project. In each region, the partner NGO conducted several workshops with the administrative authorities (prefect and sub-prefects), technical services, local authorities and local communities to share the objective and criteria for selecting project beneficiaries. Thus, the criteria for the selection of the intervention villages focused on</p> <ul style="list-style-type: none"> • Vulnerable villages: socio-economic vulnerability is assessed in terms of lack of or poor access to drinking water, villages with no or few partners, • Villages located in the park with environmental problems, • Villages producing fonio or villages engaged in fonio production.
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	<p>For the identification of the target producers, ISRA with local NGOs will also make the identification with local communities to respect the participatory and inclusive dimension promoted by the project. The criteria for selecting these producers are</p> <ul style="list-style-type: none"> • a producer living in the village and having his farm within the perimeter of the project village • a fonio producer or a producer who did not produce fonio but who has a commitment to produce fonio (this will help to popularize fonio cultivation) • a producer with a degraded plot of land • a producer from a vulnerable household (widowed head of household, individual with a disability, household with the lowest monthly income) <p>CR8: Please provide further details on the climate-smart agro-sylvo-pastoral farming techniques from Burkina Faso within the framework of the Beog Puuto (“Fields of the Future”) project and clarify why they are suitable for the target areas. Please also clarify the innovative nature of the farming techniques from the Fields of the Future project that will be replicated in Senegal. It is well noted that the project will focus on Fonio, which is an adaptable, hardy grain that is resilient to droughts, rich in nutrients and protein, and that can enhance food security. However, the proposal needs to justify the innovation in production and clarify any processed innovations in processing the grain.</p> <p>CSE’s response: In Burkina Faso, the NGO TERRE VERTE has developed, over the course of 30 years of experimentation, an original and highly elaborate technical approach to the creation of a hedgerow perimeter, bringing together several dozen producers within a network of living hedges, protected from external threats by a fence. The installation of each perimeter is technically accompanied by an associative pilot farm that provides the necessary technical support, training and equipment. Within each perimeter (100 to 300 ha), producers experiment with new agricultural practices and exchange the results of their experiences. In the Beog Puuto project, SOS SAHEL has partnered with TERRE VERTE to accelerate the establishment of pilot farms and bocage perimeters, under the authority of the national agency of the Great Green Wall and the Ministry of Agriculture. In Senegal, the agroforestry farm model is not new, but much remains to be done before a technically efficient model is available to the greatest</p>
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		<p>number of people. This is the challenge of the Djigui Niokolo project, in an approach inspired by the Beog Puuto experience.</p> <p>CR9: Please provide details of proposed innovations in production and processing of Fonio that would be implemented by the project.</p> <p>CSE's response: Fonio processing is currently carried out using methods that are not very efficient, resulting in products of insufficient quality and packaging that does not facilitate the development of secure marketing. This is also due to the lack of knowledge and visibility of producers on the markets, their potential and their requirements. Based on a feasibility study, the project will initiate the establishment of Service Centers. ABL (ABetter Life) has developed a model for agricultural service centers for producers that can be adapted to the different localities of the Sahel and to the different sectors in which producers are active. These are physical centers located in rural areas that offer local services to producers according to their needs. The services delivered by the center can be the following</p> <ul style="list-style-type: none"> • Rental of agricultural equipment • Sale of inputs • Support and advice • Rental of storage space • Setting up of warrantage • Product processing <p>In order to ensure the sustainability of CSAs, two factors are crucial:</p> <p>A viable economic model, which involves paying for services for producers. This allows both to generate enough income for the CFS to continue to operate, and to enhance the value of the services provided to the producers through the payment of fees.</p> <p>Local governance and ownership of the center, which must be managed by the producers who benefit from its services. In particular, it is this governance that will be able to set the prices of services according to the realities of the producers.</p>
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		<p>The first step of the ABL methodology for the establishment of a CSA is the realization of a study that allows to:</p> <ul style="list-style-type: none"> • Identify the value chains in which farmers are active. • Understand the needs of farmers in these sectors • Identify a potential location for the center <p>CAR1: Please check the number of farmer field schools in the last paragraph of page 16 of the proposal. In the proposal, it is mentioned that 18 farmer field schools specific to fonio production will be built to support farmers living in 45 villages of 9 rural communities.</p> <p>CSE's response: Done</p>
	<p>5. Does the project engage, empower and/or benefit the most vulnerable communities and social groups?</p>	<p>Not cleared.</p> <p>The project will select 1,200 producers (farmers) by using economic vulnerability criteria. It is expected that agricultural income from the sale of fonio will increase up to 25% at the end of the project.</p> <p>CR10: The proposal presents the high poverty rates of the target regions but does not clearly show how climate change affects the poverty of the regions and the land and vegetation degradation. Please clarify climate change impacts and risk in the target regions.</p> <p>CSE's response: The following information on the location of the project's intervention zones demonstrates the strong agricultural potential in general with a considerable impact on the socio-economic dimension, particularly in terms of food security. This agricultural potential, which is partly the result of the high rainfall recorded in these areas, remains unexploited, however, given the decline in agricultural yields attributable to cultivation techniques. In addition, the effects of climate change in terms of considerable variations in rainfall, manifesting itself in land degradation and thus affecting agricultural yields.</p> <p>➤ Kedougou</p> <ul style="list-style-type: none"> • The commune of Oubadji is located in the heart of Bassari country, in the extreme northeast of eastern Senegal, which is one of the six eco-geographic zones of Senegal. like the rest of Senegal, it is characterized by an alternating dry season (from October to May) and a rainy season (from June to September). The climate, of the Sudano-Sahelian type, is

		<p>characterized by a rainy season of four to five months and a dry season of seven to eight months. The lowest temperatures are recorded in December and January and the highest in April and May.</p> <p>Agriculture, practiced in all households, is one of the main activities of the commune. Rain-fed agriculture dominates the sector throughout the commune. The crops grown are groundnuts, fonio, corn, sorghum, cassava, cotton, millet, cowpeas and rice. These different crops are grown on a total area of 1,023 ha. The largest producers are located in Ethinongo, while the small area planted in the village of Boudjine indicates the presence of a small number of farmers. Irrigated agriculture is practiced by 15 households located in the villages of Mithiou and Boudjine, and includes rice, maize and tomatoes.</p> <p>Tree cultivation remains timid. In fact, fruit tree plantations have been identified on 11.25 hectares in the villages of Missirah Dalaba, Médina Boyni, Ethinongor and Bandjine. The main crops grown are bananas, mangoes and cashew nuts (Communal Development Plan, Oubadji (2018-2023)</p> <ul style="list-style-type: none"> • The Commune of Darsalam is located in the south-eastern part of Senegal, in the Region of Kedougou, Department of Salémata and more precisely in the Arrondissement of Darsalam. It has one of the highest rainfall totals in the country. Indeed, the rainfall index is subject to inter-annual variability, but is generally between 1000 and 1200mm. The average annual rainfall for the last ten years is estimated at 1,197mm. Agriculture is the primary sector of local economic activity in the Commune. Its development is especially favored by the enormous potential it has. Among its potentialities, we can mention the abundance of rainfall and the existence of arable land. The agricultural activity is mainly oriented towards rain-fed agriculture. The main crops are corn, peanuts, rice, millet and fonio. For the year 2017, the areas sown in the commune of Dar Salam are 428 hectares for rice and 219 hectares for corn. The commune also has an agricultural workforce because, with the support and supervision of partners, young people have been turning to agriculture, particularly rice, for several years. Communal Development Plan, Dar Salam (2018-2023) • The commune of Kevoye, which covers a small area of about 450 km², is located in the Dakatély district, Salémata department, Kédougou region. The climate is of the Sudano-Guinean type, characterized by two seasons, a dry season from November to May and a wet season from June to October when rainfall totals regularly exceed 1000 mm. The Commune has a Sudano-Guinean type of climate. It is one of the rainiest areas in the region with an average of 1307 mm/year for 82 days of rain. The rainy season lasts six months, from May to October, with a dry season of six months from November to May. It is subject to the harmattan during 07 months from October to April. However, this rainfall is characterized by great temporal variability, with August and September being the rainiest
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		<p>months. Its location in relation to the isohyet offers opportunities for diversification of crops and agricultural activities. The commune of Kevoeye is located in the SudanoGuinean phytogeographic zone. Such a situation gives it a very important biodiversity from the point of view of both fauna and flora. The region contains important forest resources. The vegetation is organized in dense wooded savannah, in dense and clear forests, in forest galleries along the waterways as. Several varieties of wild fruits grow there, offering immense agroforestry opportunities but remain, at present, largely under-exploited.</p> <p>Food insecurity is a real threat to the improvement of the living conditions of the population of Kevoeye. Indeed, agriculture is the main means of subsistence for the population. It is based on the production of cereals such as corn, millet, rice, fonio, etc., and is highly dependent on rainfall, which is declining both in terms of the volume of water and the number of days of rain. As a result, lean periods are becoming more persistent due to the lack of coping strategies and household resilience against food insecurity. Communal Development Plan, Kevoeye (2018-2023)</p> <p>➤ TAMBACOUNDA</p> <ul style="list-style-type: none"> • The commune of Boutoucufara is located in the department of GOUDIRY, region of Tambacounda. It covers an area of 448 km² and includes only 12 villages. It has an estimated population of 1,980 inhabitants, with an average density of 4 inhabitants per km², one of the lowest in the department. <p>It is very isolated like the rest of the Diankémakhan district. Its difficult access, linked to the poor quality of the roads, hinders commercial flows and the movement of people. This enclavement does not favor better access to existing infrastructure and social facilities.</p> <p>The climate is Sudanese-Sahelian, with a rainy season from June to October and a dry season from November to May. The dominant winds are the harmattan, which is hot and dry, the continental trade winds which are characterized by low temperatures and the monsoon which brings rain.</p> <p>The commune of Boutoucufara is located in the isohyet between 600 and 800 mm. Its average rainfall in recent years is 635.2 mm. The years 2000, 2001 and 2002 are those that recorded a rainfall level below the average. The highest rainfall was recorded in 1999 with 863.9 mm and the lowest in 2001 with 424 mm.</p> <p>Agriculture is the main economic activity in the commune of Boutoucufara. It employs more than 70% of the active population. It is based essentially on the cultivation of cereals, sorghum and corn. Groundnuts and market gardening are only used as a supplement to obtain monetary income and improve the diet. Communal Development Plan, Boutoucufara (2018-2023)</p>
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		<ul style="list-style-type: none"> • The Commune of Dialacoto is located in the district of Missirah, department of Tambacounda region of the same name. The climate is of the Sudano-Sahelian type, with two seasons: <ul style="list-style-type: none"> ✓ a dry season from November to May with low temperatures that vary from 15° to 37° and high temperatures that vary from 21° to 40° and whose average is between 25° and 33°; ✓ a rainy season from May to October with rainfall that varies between 800 and 1000 mm. <p>Three (03) types of winds sweep through the commune which are the continental trade winds, the harmattan and the monsoon. The harmattan is characterized by a hot and dry wind that often appears between February and April. During this period, evapotranspiration is high. According to climatic data from the Tambacounda station, there is an average of nearly 3,000 hours of sunshine per year. However, the duration of insolation is higher in the months of March-April and shorter in August. Relative humidity reaches a maximum of 97% during the rainy season (August to October). In the dry season, especially from January to April, the humidity drops to a minimum of 10 to 13%. Annual evaporation is estimated at 2,664.5 mm. The month of March has the highest evaporation with 378.2 mm and the minimum is recorded in September (54 mm). From January to May, evaporation is over 300 mm. The rainfall pattern is very random (see annex). It is characterized by the abundance of rainfall, the frequency of storms (63 days of rain on average per year) more or less violent and the presence of monsoon winds. The average annual rainfall is 874 mm. The dynamics of rainfall evolution is characterized by a great fluctuation from year to year.</p> <p>Agriculture is the main activity of the commune and mobilizes more than 80% of the active population. Despite its importance in the commune, agriculture is still not very productive and is far from covering the food needs of the population.</p> <p>The low agricultural yields can be explained on the one hand by the lack of control over water resources and by the degradation of land and soil. On the other hand, it is noted by a lack of efficient agricultural equipment and an enormous difficulty in accessing quality inputs (seeds and fertilizers). In addition, there is a lack of infrastructure to support production, such as storage warehouses, processing and conservation units, and production tracks. There is also a lack of a marketing circuit for agricultural products. Communal Development Plan, Dialacoto (2018-2023)</p> <ul style="list-style-type: none"> • The Commune of Missirah is located in the district of Missirah, department of Tambacounda, region of the same name. It is located between latitudes 13°45 and 13°11 North and longitudes 13°16 and 13°45 West. In terms of climate, the Commune of Missirah is of the Sudano-Sahelian type, alternating between
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		<p>a long dry season from November to May with low temperatures ranging from 15° to 37° and high temperatures ranging from 21° to 40° with an average of 25° to 33°; followed by a short rainy season from May to October with rainfall varying between 800 and 1000 mm.</p> <p>Three types of winds sweep the Commune: the continental trade winds, the harmattan and the monsoon. The harmattan is characterized by a hot and dry wind that often appears between February and April. During this period, evapotranspiration is high. According to climatic data from the Tambacounda station, there is an average of nearly 3,000 hours of sunshine per year. However, the duration of insolation is higher in the months of March-April and shorter in August. Relative humidity reaches a maximum of 97% during the rainy season (August to October). In the dry season, especially from January to April, humidity drops to a minimum of 10 to 13%. Annual evaporation is estimated at 2,664.5 mm. The month of March has the highest evaporation with 378.2 mm and the minimum is recorded in September (54 mm). From January to May, evaporation is over 300 mm.</p> <p>The Commune of Missirah is located between the 800 mm and 1000 mm isohyets. It is covered by a rainfall station installed in Missirah: Rainfall is characterized by significant annual fluctuations. The table and graph below show that there are peaks of rainfall in 2010 and 2017. However, there are years where the amount of water that fell does not even reach the isohyet of the area. These are 2011, 2012, 2014 and 2016. This fluctuation has repercussions on the income-generating activities of the population, most of which are dependent on rainfall. Communal Development Plan, Missirah (2018-2023)</p> <ul style="list-style-type: none"> • KOLDA <p>Located to the east of the KOLDA region in the Vélingara department, the commune of Medina Gounass covers an area of 592 km². The climate is tropical Sahelian with a rainy season (July-October) and a dry season (October-June) and the temperature is relatively high, exceeding 42°C. Two main winds punctuate the commune: the harmattan, a dry and hot wind during the dry season, and the monsoon, a wet wind that brings rain. The inhabitants of the commune of Médina Gounass are farmer-breeders. They develop rice and market gardening in the lowlands. The hut fields are used to grow corn. Sorghum, millet, peanuts, and cotton, which constitute the main crops, are grown in the bush.</p> <p>Cash crops (cotton, peanuts) began to cover a large proportion of the cultivated area in the 1980s. Farmer support is limited to two main crops, groundnuts and cotton, and relates to agricultural equipment, the supply of inputs, and the establishment of marketing channels that producers consider operational. Agriculture, the main economic activity, relies on the availability of land and a physical and climatic environment that is favorable to its</p>
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		<p>development. It occupies nearly 98% of the households in the local community because it is a purely agricultural area.</p> <p>This strategic position of agriculture is mainly explained by its enormous pedological potential, which allows the development of certain speculations. This explains the high use of land (PDC, Medina Gounass 2016-2022).</p> <ul style="list-style-type: none"> • The commune of Linkéring has 20513 inhabitants (ANSD 2013).distributed over an area of 1149 km² or a density of 45 hbts/Km². It is administratively part of the district of Bonconto, department of Vélingara, region of Kolda. The commune is bordered to the east by the Niokolo Koba National Park, to the west by the commune of Bonconto, to the north by the commune of Médina Gounass and to the south by the commune of Paroumba and Guinea Conakry. The climate is of the Sudano-Sahelian type marked by the alternation of two seasons: - A rainy season lasting five months (June-October) with heat peaks that can reach 40°C and an atmosphere charged with humidity. - A dry season lasting seven months (November - May) with very significant temperature variations (around 20°C in December, exceeding 40°C in April - May). This season exacerbates the effects of drought due to a strong aridity with hot and dry winds, almost no humidity and a strong propensity for bush fires. Agriculture occupies almost the entire population of the Commune and provides its main food and monetary resources. It mobilizes almost the entire active population of the commune, which is either involved in cash crops or in food crops. Despite this strong mobilization, it must unfortunately be noted that this agriculture is far from covering the food needs of the population. It has been identified as a priority sector for wealth creation, and must first reduce the vulnerability of production activities, intensify and modernize agricultural production, develop irrigated agriculture, open up rural (production) areas, develop productive investments and strengthen farmers' organizations. The main crops grown are: ü Millet, sorghum, maize and rice as food crops ü Groundnuts and cotton as cash crops. Market gardening is a timidly practiced activity in the Commune because of the problem of access to water, but also and above all because the population considers it subsidiary. Supplemental crops (cowpeas, fonio): These are grown by a minority that generally does not have enough groundnut seeds. In fact, the disruption of the commodity chain has led people to develop these types of crops, which were once little appreciated. Thus, they supplement groundnut production in various ways for consumption, marketing and fodder. The commune of Linkéring has a strong natural potential that facilitates the exploitation of various off-season crops. These include ponds, marshes, wells and a large area of soil suitable for this type of crop.
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		<ul style="list-style-type: none"> <p>The commune of Sinthiang Koundara is located to the north-east and 25 km from Vélingara, the chief town of the Department, on the National Road 6. It is part of the district of Bonconto. The commune covers an area of 700 km². The climate is of the hot and dry Sudano-Sahelian type. It is marked by the alternation of a long dry season from November to May and a short rainy season from June to October. Based on the population's occupation calendar, the year is subdivided into 4 sub-seasons, namely the period/season known as "Thiéthiellé" (May-June) corresponding to the preparation of the fields</p> <p>the rainy season or "Ndoungou" (mid-June to October) dominated by the Monsoon, corresponding to the major crops grown in the rainy season.</p> <p>the so-called cold season or "Diawndé" (mid-October to January), which constitutes the transition between the rainy season and the dry season. In terms of occupation in the local cultural calendar, this season, during which temperatures hardly rise above 27°C, corresponds to that of the so-called off-season crops (particularly market gardening).</p> <p>Finally, the great dry season "Thiédou" which lasts from February to mid-June. This period, dominated by the harmattan, corresponds to thermal peaks of more than 40°C.</p> <p>The temperatures are relatively high and vary between 20 and 40°C depending on the season. They alternate according to the periods. We have cool winds during the cool period between October and January, hot and dry winds called harmattans during the hot period between February and June. Finally, the winter period is marked by alternating hot and cold winds before and after the rain. Agriculture is the main economic activity of the Commune. It employs more than 80% of the active population and represents the primary source of income for the population. The potential in this area is significant. The main winter crops are, in order of importance</p> <p>Millet, which is the basis of the local diet</p> <p>Groundnuts, which were the main cash crop</p> <p>Rice, which is mainly cultivated by women and whose production is self-consumed</p> <p>Maize, cowpea, sorghum, cassava</p> <p>Agriculture has significant potential but faces constraints that prevent its development, particularly in terms of production, conservation, processing and marketing. ((PDC, Medina Gounass 2016-2022)., de Sinthiang Koundara)</p> <p>In summary, the project targets 9 communes, including 45 villages, in the 3 regions of south-eastern Senegal (Kédougou, Tambacounda and Kolda). The project intervenes in the peripheral communes of the Niokolokoba National Park, which is marked by the distribution and abundance of wildlife resources closely linked to the existence and types of plant</p>
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		<p>formations. Climate change has had definite impacts on ecosystems and consequently on the fauna they shelter. These effects and impacts of the climate, combined with human actions, accentuate the degradation of forest and wildlife resources. Cultivation practices (slash and burn), bush fires or abusive exploitation of forest resources (wood cutting, hunting, etc.), uncontrolled transhumance with its attendant harmful practices (abusive pruning, bush fires, degradation of forest and water resources) result in the degradation of agro-sylvopastoral systems, which leads to the vulnerability of the populations.</p> <p>The project's target intervention areas are characterised, like the rest of Senegal, by an alternating dry season (from October to May) and a rainy season (from June to September). Agriculture, the main economic activity, relies on the availability of land and a physical and climatic environment favourable to its development. It occupies nearly 98% of households in the target zones. Agricultural activity depends essentially on rainfall and remains the main source of income for the population. According to the Climate Change Adaptation Action Plan of the Dar Salam commune, Kédougou, these areas are particularly vulnerable to the effects of climate change due to irregular rainfall. Increasingly, these areas are experiencing climate change-induced variations in rainfall and temperature. Climate change related to rainfall fluctuation affects natural resources in general and the agricultural activities that depend on them. The manifestations noted are a drop in the level of groundwater and a drying up of wells, early drying up of ponds, displacement of herds to the Gambia River for watering, drop in groundwater resources due to their nature (basement zone), reduction in the possibilities for market gardening activities, which is the main economic occupation of women, and a low number of water boreholes (which is the most secure way of supplying water to the population, livestock and even for off-season agricultural activities). These phenomena are amplified by anthropogenic effects, including bush fires, the wandering of domestic animals, the degradation of wildlife habitats and recurrent attacks by wild animals, particularly warthogs.</p> <p>Rainfall variations have repercussions on the performance of agricultural activities and, in turn, on the income of the population. This situation strongly contributes to weakening production systems and exposes vulnerable local populations to food insecurity. Climate change is thus a threat to livelihoods.</p> <p>The lack of alternative mechanisms or appropriate solutions to climate risks severely limits the ability of households to adapt to climate shocks.</p>
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CR11: Please clarify the exact target communities and specify the climate vulnerabilities that the project will address.

CSE's response: The target communities are the producers living in the project intervention areas, especially those who are more vulnerable to the impacts of climate change, specifically to land degradation (develop techniques for soil restoration and maintenance of vegetation cover), climate variability (by training producers on how to adapt their techniques to the crop calendar adapted to their climatic context, promotion of climate change resilient cash crops (fonio). The activities promoted in this project will benefit a plurality of community actors (producers, breeders, beekeepers, who will be beneficiaries of the climate change adaptation activities. All these actors will be mobilized in the identification of technologies for adaptation to climate change that will be developed on the farms. Women and youth will be adequately represented in the targeting of direct beneficiaries.

The areas of intervention of the project are the following:

Région	DÉPARTEMENT	COMMUNE	Villages cibles retenus de Djigui Niokolo
Kédougou	Salémata	Kévoye	Kévoye, Kerevane, Thiankoye, Sambangar, Lori
		Dar Salam	Dar Salam, Eganga, Epingue Bassari, Banfaroto, Diarra Pont
		Oubadji	Oundouféré, Grignindine, Back Back, Madina Boïny, Ethinangor
Kolda	Vélingara	Médina Gounass	Missara couba, Fass, Rabat, Missara ouba, Barkatou
		Linkering	Wadiyatoulaye, Médina Seckou, Missara samba, L'islam, Darou salam
		Sinthiane Koundara	Medina kokoum, Darou salam manda, Sare dioulde, Timmidala, Sare mamadou egue

				Dialacoto	Damantan, Bady, Niongany, Sitaouma, Sinthiou Madina	
		Tambacounda		Missirah	Madina Mamoudou, Moukouty, Ramatoulaye, Madina yero, Hamdalaye Seyni	
			Goudiry		Sinthiou Salif, Belly wamé daaka, Mboumboun foulbé, Mboumboun sebé, Timbifara	
				Boutoucoufara		
	6. Does the project advance gender equality and the empowerment of women and girls?	<p>Not cleared.</p> <p>In the proposal, it is mentioned that particular attention and professional opportunities will be given to women and youth.</p> <p>CR12: Please clarify how women (and youth) will benefit from the project.</p> <p>CSE's response: Within the framework of the implementation of this project, the gender dimension will be taken into account in all activities. Women and young people will be involved in decision-making and in the direct beneficiaries of the project's technical support and accompaniment. ISRA team as well as local NGOs will define mechanisms to ensure that women are representative in the number of producers targeted by activities related to agroforestry farms and support for fonio production. The inclusion of gender in the implementation of the project is visible through the indicator targeting 50% of women in the 1,200 target producers of the project. These women will thus benefit from training in agroforestry technologies deployed on the farms but also from support in terms of inputs for fonio production. Fonio is a crop traditionally grown by women. The project will alleviate the conditions of fonio exploitation to better encourage women to keep their position as dominant actors in the cultivation, processing and marketing of fonio. The project will thus seek to reduce gender disparities, reposition women in the production system and promote sustainable women's entrepreneurship for growth.</p> <p>CAR2: Please include a categorization for the project (A, B, C) and kindly revise the ESP screening checklist to ensure that it is in line with AF compliance requirements. Please use the following guidance to complete ESP checklist.</p>				

		https://www.adaptation-fund.org/wp-content/uploads/2019/11/2021000422FREfre001_Case-Study-1.pdf https://www.adaptation-fund.org/wp-content/uploads/2019/11/2021000422FREfre002_Case-Study-2.pdf CSE's response: Done
Resource Availability	1. Is the requested project funding within the parameters for small grants set by the Board?	Yes (USD 248,319)
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project budget before the fee?	Yes (USD 17,887 equivalent to 7.76% of the total project budget (USD 230,432)) CAR3: USD 10,440 M&E costs are placed as a separate cost item. Please revise. CSE's response: Done CAR4: (Page 8-9) Please check the application form and follow the order (6. Project Execution Cost, 7. Total Project Cost, 8. Project Cycle Management Fee charged by the Implementing Entity) in the form (Total Project Cost includes Project Execution Cost). CSE's response: Done CAR5: (Page 28, 29) Please check the titles of the Sections E and F and revise the tables in the proposal as requested. CSE's response: Done
Implementation Arrangements	1. Is the project submitted through a National Implementing Entity	Yes

	accredited by the Board?	
	2. Is the timeframe for the proposed activities adequate?	<p>Not cleared.</p> <p>CR13: Please provide expected timeline for the proposed activities in each component of the proposal.</p> <p>CSE's response: Done</p> <p>Please refer to (C) Include a simple results framework for the project proposal, including milestones, targets and indicators.</p>
	3. Is a summary breakdown of the budget for the proposed activities included?	<p>Not cleared.</p> <p>CAR6: Please include a detailed budget including budget notes where applicable.</p> <p>CSE's response: Done</p>

December 2018



ADAPTATION FUND

**PROGRAMME ON INNOVATION:
SMALL GRANTS PROJECTS THROUGH DIRECT ACCESS
MODALITY**

REQUEST FOR PROJECT FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project must be fully prepared when the request is submitted.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN P4-400
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org



ADAPTATION FUND

PROGRAMME ON INNOVATION: SMALL GRANT PROJECT PROPOSAL

PART I: PROJECT INFORMATION

Country: SENEGAL
Title of Project: **Djigui Niokolo: Developing agro-sylvo-pastoral models for sustainable agriculture and environmental preservation**
National Implementing Entity: Centre de Suivi Ecologique
Executing Entity/ies: SOS SAHEL International
Amount of Financing Requested: **248 319 USD**

Project Background and Context:

Provide brief information on the problem the proposed project is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.

~~Climate change affects faster and deeper the drylands in Africa faster and deeper than other systems causing systems with severe vulnerabilities to people and ecosystems.~~ In Senegal, ~~climate change affects~~ key economic sectors are affected, including agriculture, fisheries, tourism, housing, and health, among others. ~~Senegal's climate change mitigation and adaptation efforts focus on protecting physical and biological ecosystems in key sectors such as: agriculture, forestry, livestock, fisheries, industry and energy, health, as well as managing recurrent climate shocks~~ (CPDN, 2015).

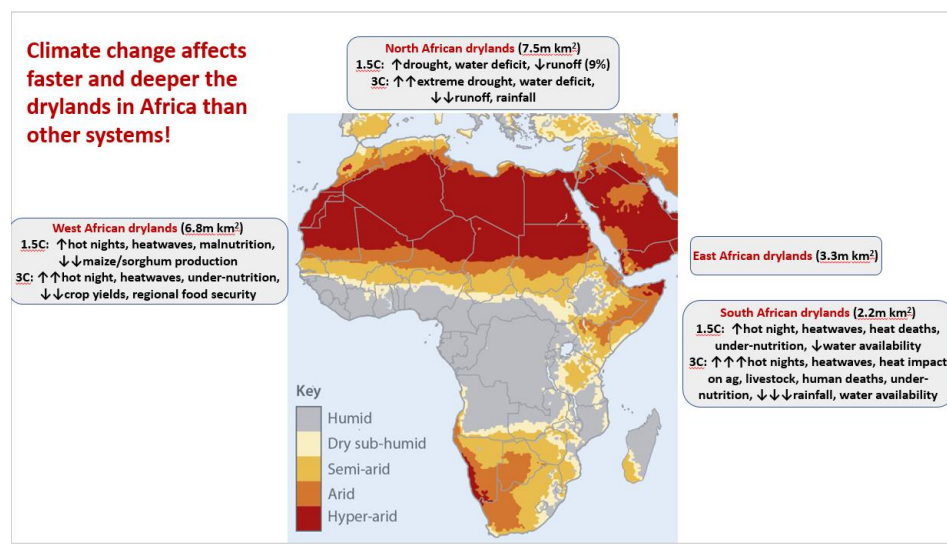
The effects and impacts of climate change, as well as climate variability, pose serious threats to the availability of natural resources on which rural populations primarily depend. In addition, limited access to technology and financial resources is ~~also~~ a major cause of the current climate change adaptation challenge for vulnerable populations ~~and the local governments that administer them specially local communities~~. Therefore, the implementation of measures required to adapt to future climate prospects ~~in order~~ to control their potential impact on the environment and on the populations is a crucial issue for Senegal.

The territories are exposed in various ways to the effects of climate change. The responses to these changes in terms of anticipation and intervention capacity are varied. Administrative, political, ecological and socio-economic issues faced by territories are critical factors that determine and guide communities' adaptation capacities to climate change.

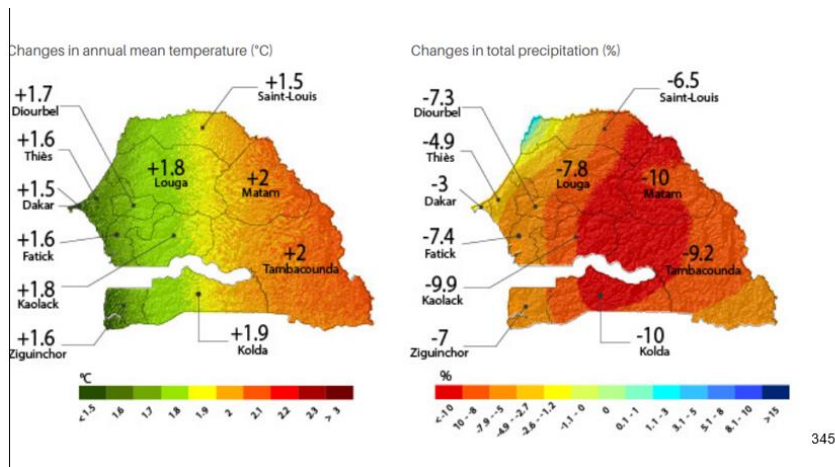
The low capacity of communities to identify and implement adaptation measures in the face of climate risks, as well as the lack of information and means of adaptation of populations that are highly dependent on natural resources, due in large part to their level of poverty (57% of rural populations are poor, according to the FAO), explain their current low level of reactivity to climate change.

The territories are exposed in various ways to the effects of climate change and the responses to these changes in terms of anticipation and intervention capacity are varied. The administrative, political, ecological and socio-economic issues to which territories are subject are elements that determine and guide the adaptation capacities of communities to climate change.

The low capacity of communities to identify and implement adaptation measures in the face of climate risks, as well as the lack of information and means of adaptation of populations that are highly dependent on natural resources, due in large part to their level of poverty (57% of rural populations are poor, according to the FAO), explain their current low level of reactivity to climate change.



Source: Mbow et al, 2022



Title: Projected changes in temperature and precipitation in Senegal by 2050

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Senegal is a country with a high proportion of the population living below the poverty line. The monetary poverty rate is estimated at 37.8% in 2018/2019, a decrease in the poverty level of five points compared to 2011 (42.8%). Despite this drop in the poverty rate, the number of poor people in Senegal has increased (5,832,008 in 2011 versus 6,032,379 in 2018). In relation to the area of residence, poverty is more pronounced in rural areas (53.6% compared to 19.8% in urban areas), where there has been a greater decline in the level of poverty compared to 2011 (5.2 points compared to 2.1 points in urban areas). The survey results also show that the extreme poverty rate fell from 12.2% to 6.8% over the same period.

With regard to the level of poverty by region, the analysis shows that the regions of Sédhiou (65.7%), Kédougou (61.9%), Tambacounda (61.9%), Kolda (56.6%), Kaffrine (53.0%) and Ziguinchor (51.1%) are the most affected. This situation justifies the targeting of the Djigui Niokolo program in the regions of Kédougou, Tambacounda and Kolda.

In 2021, SOS SAHEL International, with the support of the French Development Agency (AFD), launched Djigui Niokolo ("Hope in Niokolo"), a project on the outskirts of the Niokolo-Koba National Parc in Senegal, a UNESCO Heritage site.

Djigui Niokolo aims to create **jobs, particularly for women and youth**, by developing **agroforestry and the fonio value chain**, a cereal native to the Sahel, using an by integrated landscape approach with people at the center, coproducing context-specific knowledge, and management options with people at the center, enabling, effective partnerships, direct funding support and long-term ~~This~~ commitments. This will improve small producer incomes while reinforcing the population's resilience to climate change and preserving their environment.

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This project is implemented in the Tambacounda, Kedougou and Kolda regions, located on the **outskirts of the Niokolo-Koba National Park** (UNESCO Heritage site). According to a study by the PSE (Plan for an Emerging Senegal), these three regions have the **highest poverty rates** in the country: Kedougou (71.3%), Kolda (76.6%) and Tambacounda (46.7%). The prevalence of food insecurity is 39% for Tambacounda, 33%, for Kedougou and 42% for Kolda (source: National Food Security Council 2017). In these regions in 2017, more than 880,000 people faced critical levels of food insecurity. In 2018, according to a national survey, the number of unemployed persons in rural Senegal was 16% for youth and 24.1% for women (6.2% for men). This segment of the population is exposed to domestic (large urban centers, mining areas) and international (irregular) emigration, as well as poverty and food insecurity. Furthermore, these three regions are affected by heavy climate hazards, which have a negative impact on agriculture which is a main household activity.

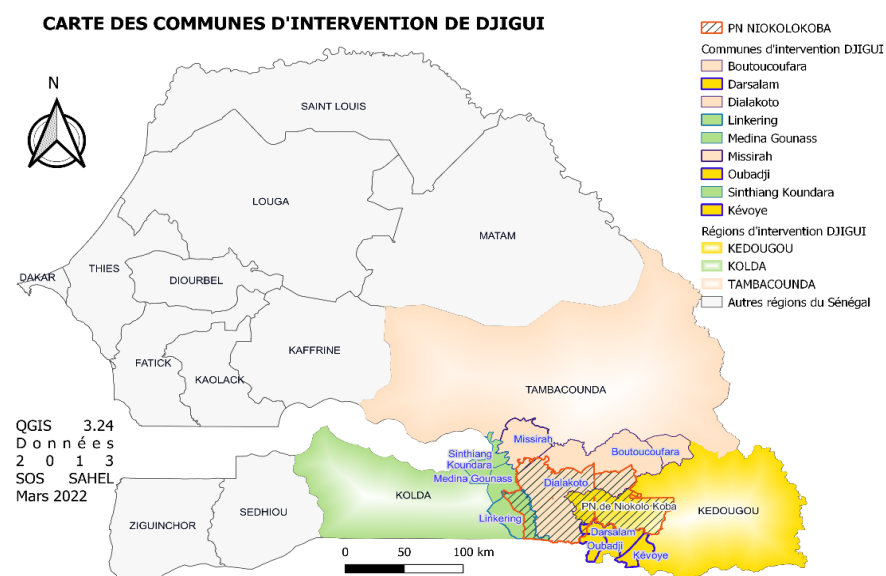
According to a 2016-2020 policy paper for the environment and sustainable development sector, the rate of land and vegetation degradation in Senegal remains high, despite a significant decrease over the past three decades. This rate went from 80,000 ha/year in 1993 to 40,000 ha/year in 2010. In the intervention area, vegetation is under heavy pressure, due to illegal logging which is conducted to meet needs of local craftsman (carpentry). There are also issues of pollution due to chemical use (cyanide, mercury, pesticides) and hydrocarbons from motor pumps related to the exploitation of banana plantations and gold panning activities, especially in the Tambacounda region. In the livestock sector, pruning practiced by shepherds during the lean season, as well as the trampling of herds around water sources, hinders the regeneration of plant species and consequently accelerates land degradation (soil erosion).

As it relates to energy, the overuse of wood coupled with troubling climatic conditions in the region have resulted in a sharp decline in forest resources. This loss of vegetation cover is often accompanied by severe soil degradation. Agriculture remains very dependent on rainfall, which is increasingly unpredictable due to climate change. Biodiversity and natural resource conservation ~~is~~are also a major issues in the area as the Niokolo-Koba National Park has been classified as World Heritage Site in Danger since 2007. This requires better management and awareness of all stakeholders.

Area of intervention

Regions	Districts	Communes
Tambacounda	Tambacounda	Missirah, Dialacoto
	Goudiry	Boutoucoufara
Kédougou	Salémata	Kevoye, Dar Salam, Oubadji

Kolda	Vélingara	Linkering, Medina Gounass, Sintiang Koundara
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Main challenges to be addressed:

Given these socio-economic and environmental challenges, agricultural systems must be adapted to continue the progress made in food security over the last few decades and increase the resilience of local populations. If agricultural production systems do not adapt to climatic hazards, this progress could be reversed. Against this background, the project primarily aims to identify and develop agro-sylvo-pastoral systems (agriculture integrated with livestock and forestry) adapted to the climate. By supporting this project, the Adaptation Fund will contribute to the **development and dissemination of sustainable and economically efficient agricultural systems** through the establishment of 9 climate-smart farms and 18 farmer field schools in these three regions. This support is expected to enable to increase their resilience to climate change and to boost their productivity; thus their income.

Given these socio-economic and environmental challenges, agricultural systems must be adapted to continue the progress made in food security over the last few decades and increase the resilience of local populations. If agricultural production systems do not adapt to climatic hazards, this progress could be reversed. That is why, the objectives of this project will be to identify and develop agro-sylvo-pastoral systems (agriculture integrated with livestock and forestry) adapted to the climate. By supporting this project, the Adaptation Fund will participate in the **development and dissemination of sustainable**

~~and economically efficient agricultural systems through the establishment of 9 climate-smart farms and 18 farmer field schools in these three regions, which will allow farmers to increase their resilience to climate change as well as to increase their productivity and thus their income.~~

Paradigm shift cannot be achieved without paying more attention to neglected plants, mainstreaming them into national programs and policies and re-vitalizing their use in local food systems, with benefits to food and nutritional security, as well as biodiversity and local economies (Mbow et al,2022). Policies must also consider more equal distribution of land to enable scaling up neglected plants (Lipton and Saghai, 2017). This can be achieved through a tailored empowerment for locally-led that take account the resources available (policy, assets), the best practices and asset endowment such as rural infrastructures, promotion of neglected natural resources; reduction of human capital outflows from these to creating jobs for youth and women in the face of climate changes.

Project Objectives:

List the main objectives of the project.

The main objective of the project is ***“Develop and promote agro-sylvo-pastoral systems that are ecologically sustainable and economically efficient “***

OS 1: Strengthen awareness and ownership of adaptation and climate risk reduction processes of farmers

OS 2: Increase and disseminate adaptive capacities of farmers in agro-sylvo-pastoral practices

OS 3: Diversify and strengthen livelihoods and sources of income for vulnerable people in targeted areas by developing fonio value chain

Through this project, SOS SAHEL intends to strengthen local governance of natural resources and environmental preservation by developing ecologically sustainable and economically efficient agro-sylvo-pastoral systems - ensuring fertilization, soil protection and maintenance of biodiversity and community resilience to climate change.

The proposed project is part of the broader Djigui Niokolo program which seeks to contribute to ecosystem preservation and promote climate change adaptation technologies. More specifically, the project will help establish **9 climate-smart agro-sylvo-pastoral farms**. Through our "farmer field school" approach, **18 farmer field schools** will be set up as learning and experimentation sites for producers to explore new technical innovations and integrated crop-livestock-tree systems. This pedagogical approach will foster community dialogue and the dissemination of promising agricultural practices adapted to the locality, climate and land, further encouraging their adoption by the community and surrounding populations.

Through this project, SOS SAHEL intends to strengthen local governance of natural resources and environmental preservation by developing ecologically sustainable and economically efficient agro-sylvo-pastoral systems ensuring fertilization, soil protection and maintenance of biodiversity and community resilience to climate change. The project submitted is part of the broader Djigui Niokolo program. This project will contribute to ecosystem preservation and promote climate change adaptation technologies. It will help establish **9 climate-smart agro-sylvo-pastoral farms**. Through our "farmer field school" approach, the **18 farmer field schools** will be set up as learning and experimentation sites for producers to explore new technical innovations and integrated crop-livestock-tree systems. This pedagogical approach will foster community dialogue and the dissemination of promising agricultural practices adapted to the locality, climate and land, further encouraging their adoption by the community and surrounding populations.

The economic model is based on the valorization of fonio production based on good agricultural practices that preserve the environment and strengthen the resilience of farmers to climate change. **The demand for fonio on the local, national and international markets is largely above the production offer.** The main challenge is to produce enough fonio in compliance with the standards and good agricultural practices.

Sustainability:

Regarding environmental sustainability, the Djigui Niokolo project prioritizes conservation and valorization of natural resources. Concerning environmental sustainability, the logic behind the Djigui Niokolo project, prioritizes conservation and valorization of natural resources alongside training and capacity building of the population particularly farmers and local government. Skills and practices will be developed through active learning and experimentation at the farms and the promotion of natural resource development plans by local authorities. As such, this project will facilitate intelligent management and use of resources that will continue long after the project closes – ensured by the capacity building and training efforts that will equip stakeholders in the community to carry forward valuable lessons learned and best practices.

The project will develop and disseminate adaptation and risk reduction technologies. Through the agroforestry farms, producers will appropriate climatic data from their areas to better adapt their production techniques to the crop calendar. With climatic variability, producers have long been confronted with technical difficulties: plant burns due to heat or crop losses due to rainfall. The poor control of the cultivation calendar in the context of climate change is one of the biggest problems for agriculture, especially in the intervention zones where it is dependent on rainfall. Through the farms, farmers will be strengthened to develop sustainable cropping systems in the context of climate change. The project also ensures environmental sustainability through soil restoration, conservation and natural resource preservation techniques that will be deployed at the farm level and implemented by farmers on their own farms. Producers will learn about ANR techniques, crop choices adapted to climate change and the development of alternative crops to cope with climate change. In this sense, fonio is promoted by the project. This local cereal is already widely consumed in the region. As its life cycle is very short, poor households can harvest it sooner than other cereals and reduce the food shortage period. Hence it is

important in food security local strategies. It is also well adapted to high climate variability and drought conditions and Senegal climate change strategy mentions fonio to diversify food systems. It is a very resistant and very rustic plant that can even grow on marginal lands, poor and degraded soils. It is a drought tolerant plant and does not need much water. Thus, it is a sustainable crop for these producers in the current context of irregular and low rainfall.— The knowledge and good practices will be documented and disseminated to other producers. These producers will also be able to benefit in the long term from this knowledge and technology. The project will develop and disseminate adaptation and risk reduction technologies. Through the agroforestry farms, producers will appropriate climatic data from their areas to better adapt their production techniques to the crop calendar. With climatic variability, producers have long been confronted with technical difficulties: plant burns due to heat or crop losses due to rainfall. The poor control of the cultivation calendar in the context of climate change is one of the biggest problems for agriculture, especially in the intervention zones where it is dependent on rainfall. Through the farms, farmers will be strengthened to develop sustainable cropping systems in the context of climate change. The project also ensures environmental sustainability through soil restoration, conservation and natural resource preservation techniques that will be deployed at the farm level and implemented by farmers on their own farms. Producers will learn about ANR techniques, crop choices adapted to climate change and the development of alternative crops to cope with climate change. In this sense, fonio is promoted by the project. This cereal is a very resistant plant that can grow anywhere except on clay soils. It can even grow on soils where nothing else grows, especially on tired and poor soils. It is a drought tolerant plant and does not need much water. Thus, it is a sustainable crop for these producers in the current context of irregular and low rainfall. The knowledge and good practices will be documented and disseminated to other producers. These producers will also be able to benefit in the long term from this knowledge and technology.

Region	Area in ha	Yield t/ha	Production in tons
Tambacounda	88	600	53
Kédougou	2 345	1 025	2 403
Kolda	239	890	213
Total	2 672	2515	2669
Average	890,7	838	889

ANSD: Monthly bulletin of economic and financial statistics of December 2021: Final results of the 2020/2021 agricultural season - Summary of cereal crops

This project will allow for a paradigm shift in fonio production systems in the area, particularly in the regions of Kolda and Tambacounda.

Project Components and Financing:

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)	AFD Co-Financing	AF Financing
Component 1: Establishment of a framework for exchange and awareness-raising among farmers for the appropriation of adaptation and climate risk reduction processes	1 feasibility study of agro-sylvo-pastoral systems	An inventory of agro-sylvo-pastoral practices is prepared.	27 800	27 800	0
	9 agro-sylvo-pastoral climate-smart farms of 5ha are created	1200 producers have applied good agro-sylvo-pastoral practices	76 000	0	76 000
	6 exchange-study visits are made	At least 60% of the participants in the visits learned new knowledge about good agro-sylvo-pastoral practices	12 000	0	12 000
Component 2: Dissemination of climate	18 training sessions are organized for 1200 producers	1200 producers have strengthened their knowledge of	25 000	0	25 000

change—adaptation technologies		good—agro-sylvo-pastoral practices			
	—Best practices—are disseminated on—the knowledge management platform		24 000	0	24 000
Component 3: Strengthening—the livelihoods and sources of income of vulnerable people	—18 "fonio school fields" are set up	80% of fonio producers have mastered and applied good fonio production techniques	23 000	0	23 000
	—Yield per ha of—fonio increased	Fonio yield is increased by 30%	135 000	95 000	40 000
	The—exploited land—of—fonio with—good practices—is increased	The area under fonio increased by 20% at the end of the project			
	Farmers' income—for producers—is increased	The agricultural income of fonio producers is increased by 25%			
	Service centers—for producers active in—the fonio—sector are operational (functional)	Two Agricultural Service centers are in place	225 000	225 000	0
6. Total cost of activities			547 800	347 800	

7. Project M&E					-10 440
8. Total Project Cost					210 440
9. Project execution costs					19 992
10. Project Cycle Management Fee charged by the Implementing Entity (if applicable)					-17 887
Amount of Financing Requested					248 319
<u>Project Components</u>	<u>Expected Concrete Outputs</u>	<u>Expected Outcomes</u>	<u>Amount (US\$)</u>	<u>AFD Co-Financing</u>	<u>AF Financing</u>
Component 1: Establishment of a framework for exchange and awareness raising among farmers for the appropriation of adaptation and climate risk reduction processes	1 feasibility study of agro-sylvo-pastoral systems	An inventory of agro-sylvo-pastoral practices is prepared.	27 800	27 800	0
	9 agro-sylvo-pastoral climate-smart farms of 5ha are created	1200 producers have applied good agro-sylvo-pastoral practices	79 000	0	79 000
	6 exchange-study visits are made	At least 60% of the participants in the visits learned new knowledge about good agro-sylvo-pastoral practices	12 000	0	12 000
	18 training sessions are	1200 producers	25 000	0	25 000

Component 2: Dissemination of climate change adaptation technologies	<u>organized for 1200 producers</u>	<u>have strengthened their knowledge of good agro-sylvo-pastoral practices</u>			
	<u>Best practices are disseminated on the knowledge management platform</u>		<u>24 000</u>	<u>0</u>	<u>24 000</u>
Component 3: Strengthening the livelihoods and sources of income of vulnerable people	<u>18 "fonio school fields" are set up</u>	<u>80% of fonio producers have mastered and applied good fonio production techniques</u>	<u>27 000</u>	<u>0</u>	<u>27 000</u>
	<u>Yield per ha of fonio Increased</u>	<u>Fonio yield is increased by 30%</u>	<u>135 000</u>	<u>91 560</u>	<u>43 440</u>
	<u>The exploited land of fonio with good practices is increased</u>	<u>The area under fonio increased by 20% at the end of the project</u>			
	<u>Farmers' income for producers is increased</u>	<u>The agricultural income of fonio producers is increased by 25%</u>			
	<u>Service centers for producers active in the</u>	<u>Two Agricultural Service</u>	<u>225 000</u>	<u>225 000</u>	<u>0</u>

	fonio sector are operational (functional)	centers are in place			
6. Project Execution cost					19 992
7. Total Project Cost					230 432
8. Project Cycle Management Fee charged by the Implementing Entity (if applicable)					17 887
Amount of Financing Requested					248 319

Projected Calendar:

Indicate the dates of the following milestones for the proposed project/programme

Milestones	Expected Dates
Start of Project Implementation	January 2023
Project Closing	February 2025
Terminal Evaluation	August 2025

PART II: PROJECT JUSTIFICATION ¹

A. Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience.

A.
B.

The project intervenes in the following regions:

DEPARTMENT	COMMUNE	Selected target villages
SALEMATA	KEVOYE	Kévoye
		Kerevane
		Thiankoye
		Sambangar
		Lori
	DAR SALAM	Dar Salam
		Eganga
		Epinque Bassari
		Banfaroto
		Diarra Pont
	OUBADJI	Oundouféré
		Grignindine
		Back Back
		Madina Boïny
		Ethinangor
TOTAL KEDOUGOU	3 communes	15 Villages
VELINGARA	MEDINA GOUNAS	Missara couba
		Fass
		Rabat
		Missara ouba
		Barkatou
	LINKERING	Wadiyatoulaye
		Medina seckou
		Missara samba
		L'islam
		Darou salam
	SINTHIANG KOUNDARA	Medina kokoum
		Darou salam manda

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¹ Parts II and III should jointly not exceed 10 pages.

		Sare dioulde
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TOTAL KOLDA	3 communes	15 Villages
Tambacounda	Dialacoto	Damantan
		Bady
		Niongany
		Sitaouma
		Sinthiou Madina
	Missirah	Madina Mamoudou
		Moukouty
		Ramatoulaye
		Madina yero
		Hamdalaye Seyni
Goudiry	Boutoucufara	Sinthiou Salif
		Belly wamé daaka
		Mboumboun foulbé
		Mboumboun sebé
		Timbifara
TOTAL TAMBACOUNDA	3 communes	15 Villages

The following text provides information on the location of the project intervention areas and demonstrates the strong agricultural potential in general with a considerable impact on the socio-economic dimension, particularly in terms of food security. This agricultural potential, which is partly the result of the high rainfall recorded in these areas, remains unexploited, however, given the decrease in agricultural yields attributable to cultivation techniques. In addition to this, there are the effects of climate change in terms of considerable variations in rainfall, thus affecting agricultural yields.

Region of [Kedougou](#)

- [The commune of Oubadji](#) is located in the heart of Bassari country, in the extreme northeast of eastern Senegal, which is one of the six eco-geographic zones of Senegal. like the rest of Senegal, it is characterized by an alternating dry season (from October to May) and a rainy season (from June to September). The climate, of the Sudano-Sahelian type, is characterized by a rainy season of four to five months and a dry season of seven to eight months. ~~The lowest temperatures are recorded in December and January and the highest in April and May.~~
- Agriculture, practiced in all households, is one of the main activities of the commune. ~~Rain-fed agriculture dominates the sector throughout the commune. The crops grown~~

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are groundnuts, fonio, corn, sorghum, cassava, cotton, millet, cowpeas and rice. These different crops are grown on a total area of 1,023 ha. The largest producers are located in Ethinongo, while the small area planted in the village of Boudjine indicates the presence of a small number of farmers. Irrigated agriculture is practiced by 15 households located in the villages of Mithiou and Boudjine, and includes rice, maize and tomatoes.

Tree cultivation remains timid. In fact, fruit tree plantations have been identified on 11.25 hectares in the villages of Missirah Dalaba, Médina Boyni, Ethinonger and Bandjine. The main crops grown are bananas, mangoes and cashew nuts (Communal Development Plan, Oubadji (2018-2023)

The **Commune of Darsalam** is located in the south-eastern part of Senegal, in the Region of Kedougou, Department of Salémata and more precisely in the Arrondissement of Darsalam. It has one of the highest rainfall totals in the country. Indeed, the rainfall index is subject to inter-annual variability, but is generally between 1000 and 1200mm. The average annual rainfall for the last ten years is estimated at 1,197mm.

Agriculture is the primary sector of local economic activity in the Commune. Its development is especially favored by the enormous potential it has. Among its potentialities, we can mention the abundance of rainfall and the existence of arable land. The agricultural activity is mainly oriented towards rain-fed agriculture.

The main crops are corn, peanuts, rice, millet and fonio. For the year 2017, the areas sown in the commune of Dar Salam are 428 hectares for rice and 219 hectares for corn. The commune also has an agricultural workforce because, with the support and supervision of partners, young people have been turning to agriculture, particularly rice, for several years. Communal Development Plan, Dar Salam (2018-2023)

The **commune of Kevoye**, which covers a small area of about 450 km², is located in the Dakatély district, Salémata department, Kédougou region. The climate is of the Sudano-Guinean type, characterized by two seasons, a dry season from November to May and a wet season from June to October when rainfall totals regularly exceed 1000 mm. The Commune has a Sudano-Guinean type of climate. It is one of the rainiest areas in the region with an average of 1307 mm/year for 82 days of rain. The rainy season lasts six months, from May to October, with a dry season of six months from November to May. It is subject to the harmattan during 07 months from October to April. However, this rainfall is characterized by great temporal variability, with August and September being the rainiest months. Its location in relation to the isohyet offers opportunities for diversification of crops and agricultural activities. The commune of Kevoye is located in the SudanoGuinean phytogeographic zone. Such a situation gives it a very important biodiversity from the point of view of both fauna and flora. The region contains important forest resources. The vegetation is organized in dense wooded savannah, in dense and clear forests, in forest galleries along the waterways as. Several varieties of wild fruits grow there, offering immense agroforestry opportunities but remain, at present, largely under-exploited.

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Food insecurity is a real threat to the improvement of the living conditions of the population of Kevoeye. Indeed, agriculture is the main means of subsistence for the population. It is based on the production of cereals such as corn, millet, rice, fonio, etc., and is highly dependent on rainfall, which is declining both in terms of the volume of water and the number of days of rain. As a result, lean periods are becoming more persistent due to the lack of coping strategies and household resilience against food insecurity (Communal Development Plan, Kevoeye, (2018-2023).

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TAMBACOUNDA Region of Tambacounda

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- The commune of Boutoucoufara is located in the department of GOUDIRY, region of Tambacounda. It covers an area of 448 km² and includes only 12 villages. It has an estimated population of 1,980 inhabitants, with an average density of 4 inhabitants per km², one of the lowest in the department. It is very isolated like the rest of the Diakémakhan district. Its difficult access, linked to the poor quality of the roads, hinders commercial flows and the movement of people. This enclavement does not favor better access to existing infrastructure and social facilities.

The climate is Sudanese-Sahelian, with a rainy season from June to October and a dry season from November to May. The dominant winds are the harmattan, which is hot and dry, the continental trade winds which are characterized by low temperatures and the monsoon which brings rain.

The commune of Boutoucoufara is located in the isohyet between 600 and 800 mm. Its average rainfall in recent years is 635.2 mm. The years 2000, 2001 and 2002 are those that recorded a rainfall level below the average. The highest rainfall was recorded in 1999 with 863.9 mm and the lowest in 2001 with 424 mm.

Agriculture is the main economic activity in the commune of Boutoucoufara. It employs more than 70% of the active population. It is based essentially on the cultivation of cereals, sorghum and corn. Groundnuts and market gardening are only used as a supplement to obtain monetary income and improve the diet. Communal Development Plan, Boutoucoufara (2018-2023)

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- The Commune of Dialacoto is located in the district of Missirah, department of Tambacounda region of the same name. The climate is of the Sudano-Sahelian type, with two seasons:

- ✓ a dry season from November to May with low temperatures that vary from 15° to 37° and high temperatures that vary from 21° to 40° and whose average is between 25° and 33°;

- ✓ a rainy season from May to October with rainfall that varies between 800 and 1000 mm.

Three (03) types of winds sweep through the commune which are the continental trade winds, the harmattan and the monsoon. The harmattan is characterized by a hot and dry wind that often appears between February and April. During this period,

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evapotranspiration is high. According to climatic data from the Tambacounda station, there is an average of nearly 3,000 hours of sunshine per year. However, the duration of insolation is higher in the months of March-April and shorter in August. Relative humidity reaches a maximum of 97% during the rainy season (August to October). In the dry season, especially from January to April, the humidity drops to a minimum of 10 to 13%. Annual evaporation is estimated at 2,664.5 mm. The month of March has the highest evaporation with 378.2 mm and the minimum is recorded in September (54 mm). From January to May, evaporation is over 300 mm. The rainfall pattern is very random (see annex). It is characterized by the abundance of rainfall, the frequency of storms (63 days of rain on average per year) more or less violent and the presence of monsoon winds. The average annual rainfall is 874 mm. The dynamics of rainfall evolution is characterized by a great fluctuation from year to year.

Agriculture is the main activity of the commune and mobilizes more than 80% of the active population. Despite its importance in the commune, agriculture is still not very productive and is far from covering the food needs of the population.

The low agricultural yields can be explained on the one hand by the lack of control over water resources and by the degradation of land and soil. On the other hand, it is noted by a lack of efficient agricultural equipment and an enormous difficulty in accessing quality inputs (seeds and fertilizers). In addition, there is a lack of infrastructure to support production, such as storage warehouses, processing and conservation units, and production tracks. There is also a lack of a marketing circuit for agricultural products. Communal Development Plan, Dialacoto (2018-2023)

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- The Commune of Missirah is located in the district of Missirah, department of Tambacounda, region of the same name. It is located between latitudes 13°45 and 13°11 North and longitudes 13°16 and 13°45 West. In terms of climate, the Commune of Missirah is of the Sudano-Sahelian type, alternating between

a long dry season from November to May with low temperatures ranging from 15° to 37° and high temperatures ranging from 21° to 40° with an average of 25° to 33°; followed by a short rainy season from May to October with rainfall varying between 800 and 1000 mm.

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Three types of winds sweep the Commune: the continental trade winds, the harmattan and the monsoon. The harmattan is characterized by a hot and dry wind that often appears between February and April. During this period, evapotranspiration is high. According to climatic data from the Tambacounda station, there is an average of nearly 3,000 hours of sunshine per year. However, the duration of insolation is higher in the months of March-April and shorter in August. Relative humidity reaches a maximum of 97% during the rainy season (August to October). In the dry season, especially from January to April, humidity drops to a minimum of 10 to 13%. Annual evaporation is estimated at 2,664.5 mm. The month of March has the highest evaporation with 378.2 mm and the minimum is recorded in September (54 mm). From January to May, evaporation is over 300 mm.

The Commune of Missirah is located between the 800 mm and 1000 mm isohyets. It is covered by a rainfall station installed in Missirah: Rainfall is characterized by significant annual fluctuations. The table and graph below show that there are peaks of rainfall in 2010 and 2017. However, there are years where the amount of water that fell does not even reach the isohyet of the area. These are 2011, 2012, 2014 and 2016. This fluctuation has repercussions on the income-generating activities of the population, most of which are dependent on rainfall. Communal Development Plan, Missirah (2018-2023).

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Region of Kolda

- Located to the east of the KOLDA region in the Vélingara department, the commune of Medina Gounass covers an area of 592 km². The climate is tropical Sahelian with a rainy season (July-October) and a dry season (October-June) and the temperature is relatively high, exceeding 42°C. Two main winds punctuate the commune: the harmattan, a dry and hot wind during the dry season, and the monsoon, a wet wind that brings rain. The inhabitants of the commune of Médina Gounass are farmer-breeders. They develop rice and market gardening in the lowlands. The hut fields are used to grow corn. Sorghum, millet, peanuts, and cotton, which constitute the main crops, are grown in the bush.

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Cash crops (cotton, peanuts) began to cover a large proportion of the cultivated area in the 1980s. Farmer support is limited to two main crops, groundnuts and cotton, and relates to agricultural equipment, the supply of inputs, and the establishment of marketing channels that producers consider operational. Agriculture, the main economic activity, relies on the availability of land and a physical and climatic environment that is favorable to its development. It occupies nearly 98% of the households in the local community because it is a purely agricultural area.

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This strategic position of agriculture is mainly explained by its enormous pedological potential, which allows the development of certain speculations. This explains the high use of land (PDC, Medina Gounass 2016-2022).

- The commune of Linkéring has 20513 inhabitants (ANSD 2013). distributed. distributed over an area of 1149 km² or a density of 45 hbts/Km². It is administratively part of the district of Bonconto, department of Vélingara, region of Kolda. The commune is bordered to the east by the Niokolo Koba National Park, to the west by the commune of Bonconto, to the north by the commune of Médina Gounass and to the south by the commune of Paroumba and Guinea Conakry. The climate is of the Sudano-Sahelian type marked by the alternation of two seasons: - A rainy season lasting five months (June-October) with heat peaks that can reach 40°C and an atmosphere charged with humidity. - A dry season lasting seven months (November - May) with very significant temperature variations (around 20°C in December, exceeding 40°C in April - May). This season exacerbates the effects of drought due to a strong aridity with hot and dry winds, almost no humidity and a strong propensity for bush fires. Agriculture occupies almost the entire population of the Commune and provides its main food and monetary resources. It mobilizes almost the entire active population of the commune, which is

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either involved in cash crops or in food crops. Despite this strong mobilization, it must unfortunately be noted that this agriculture is far from covering the food needs of the population. It has been identified as a priority sector for wealth creation, and must first reduce the vulnerability of production activities, intensify and modernize agricultural production, develop irrigated agriculture, open up rural (production) areas, develop productive investments and strengthen farmers' organizations. The main crops grown are: ü Millet, sorghum, maize and rice as food crops ü Groundnuts and cotton as cash crops. Market gardening is a timidly practiced activity in the Commune because of the problem of access to water, but also and above all because the population considers it subsidiary. Supplemental crops (cowpeas, fonio): These are grown by a minority that generally does not have enough groundnut seeds. In fact, the disruption of the commodity chain has led people to develop these types of crops, which were once little appreciated. Thus, they supplement groundnut production in various ways for consumption, marketing and fodder. The commune of Linkéring has a strong natural potential that facilitates the exploitation of various off-season crops. These include ponds, marshes, wells and a large area of soil suitable for this type of crop.

The commune of Sinthiang Koundara is located to the north-east and 25 km from Vélingara, the capital of the Department, on the National Road 6. It is part of the district of Bonconto. The commune covers an area of 700 km². The climate is of the hot and dry Sudano-Sahelian type. It is marked by the alternation of a long dry season from November to May and a short rainy season from June to October. On the basis of the population's occupation calendar, the year is subdivided into 4 sub-seasons, namely the period/season known as 'Thiéthiellé' (May-June) corresponding to the preparation of the fields

the rainy season or "Ndougou" (mid-June to October) dominated by the Monsoon, corresponding to the major crops grown in the rainy season.

the so-called cold season or 'Diawndé' (mid-October to January) which constitutes the transition between the rainy season and the dry season. In terms of occupation in the local cultural calendar, this season, during which temperatures hardly rise above 27°C, corresponds to that of the so-called off-season crops (particularly market gardening). Finally, the great dry season "Thiédou" which lasts from February to mid-June. This period, dominated by the harmattan, corresponds to thermal peaks of over 40°C.

Agriculture has great potential but faces constraints that prevent its development, particularly in terms of production, conservation, processing and marketing. (Plan de Développement Communal, de Sinthiang Koundara)

~~La commune de Sinthiang Koundara se situe au nord-est et à 25 km de Vélingara, chef-lieu du Département, sur la route nationale 6. Elle fait partie de l'arrondissement de Bonconto. La commune s'étend sur une superficie de 700 km². Le climat est de type soudano-sahélien chaud et sec. Il est marqué par l'alternance d'une longue saison sèche de novembre à mai et d'une courte saison des pluies de juin à octobre. Sur la base du calendrier d'occupation des populations, l'année est subdivisée en 4 sous-saisons à savoir: la Période/saison dite « Thiéthiellé » (mai-juin) correspondant à la préparation des champs.~~

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la saison pluvieuse ou « Ndongou » (mi-juin à octobre) dominée par la Mousson, correspondant aux grandes cultures sous pluies, la saison dite froide ou « Diawndé » (mi-octobre à janvier) qui constitue la transition entre la saison des pluies et la saison sèche. En terme d'occupation dans le calendrier culturel local, cette saison pendant laquelle les températures ne grimpent guère au delà de 27°C correspond à celle des cultures dites de contre saison (maraichage particulièrement). Enfin la grande saison sèche « Thiédou » qui dure de février à mi-juin. Cette période dominée par l'harmattan correspond à des pics thermiques de plus de 40°C. Les températures sont relativement élevées et variant entre 20 et 40 °C selon les saisons. Ils alternent en fonction des périodes. Nous avons du vent frais en période de fraîcheur entre Octobre et Janvier, des vents chauds et secs appelés harmattans en période de chaleur entre Février et Juin. En fin, la période hivernale est marquée par l'alternance de vent chaud et froid avant et après la pluie. L'agriculture est la principale activité économique de la Commune. Elle occupe plus de 80% de la population active et représente la première source de revenus pour les populations. Les potentialités sont importantes dans ce domaine. Les principales cultures hivernales sont par ordre d'importance :

- Le mil qui est la base de l'alimentation locale
- L'arachide qui était la principale culture de rente
- Le riz essentiellement cultivé par les femmes et dont la production est autoconsommée
- Le maïs, le niébé, le sorgho, le manioc

L'agriculture a un potentiel important mais fait face à des contraintes qui empêchent son développement notamment au niveau de la production, de la conservation, de la transformation et de la commercialisation. (Plan de Développement Communal de Sinthiang Koundara)

The project has three major components: the establishment of a framework for exchange and awareness-raising among farmers to ensure their ownership of the adaptation and climate risk reduction processes, the dissemination of good agroforestry practices and the strengthening of livelihoods and sources of income for vulnerable people.

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Component 1: Establishment of a framework for exchange and awareness raising among farmers for the appropriation of adaptation and climate risk reduction processes

Farmers usually learn by doing and experiment various new practices for themselves. This component aims at setting up frameworks for demonstration, exchange and sharing of good agroforestry practices, in particular practices already observed in some places in the region. Nine agroforestry farms will be established in the intervention communes. The farms will be designed and implemented by producers opened to experience new practices for themselves, with support of the project and researchers. -ISRA, an institution of applied scientific and technical research, has a strong experience in the establishment and management of these farms. It will be in charge of the technical part of the project related to the preparation (identification of potential sites, identification of target

producers, carrying out of preliminary operations), to the implementation (technical operations of the farms) and to the animation of these farms. Through a scientific approach, it will carry out a baseline vulnerability study to map the climatic risks in relationship with the state of natural resources and the agricultural production techniques applied by producers. This study will give a detailed understanding of the adaptation capacities of producers, will help to identify the innovative best practices to be disseminated in each region, and to define the strategies that will be deployed in the farms to strengthen the knowledge of these producers on the mechanisms of adaptation to climate change and reduction of climate risks. In the farms, the producers will experiment a number of combinations of innovative practices to be identified among a set of 7 themes all related to agroecology and agroforestry (see details on the table of activities).

Component 1: Establishment of a framework for exchange and awareness-raising among farmers for the appropriation of adaptation and climate risk reduction processes

This component aims at setting up agroforestry farms in the 9 intervention communes. These farms will be frameworks for exchange and sharing of good agroforestry practices. ISRA, which is an institution of applied scientific and technical research, has a strong experience in the establishment and management of these farms. It will also be in charge of the technical part of the project related to the preparation (identification of potential sites, identification of target producers, carrying out of preliminary operations), to the implementation (technical operations of the farms) and to the animation of these farms. For greater efficiency, it will carry out a baseline study to understand the level of vulnerability of these areas in relation to climatic risks and the agricultural production techniques applied by producers. This study will help to understand the level of adaptation of producers and to define the strategies that will be deployed in the farms to strengthen the knowledge of these producers on adaptation to climate change but also on the reduction of climate risks. The animation of these farms will focus on 7 themes (see details on the table of activities) that will help producers to understand and appropriate adaptation and climate risk reduction techniques. Farmers will regularly attend the facilitators at these farms and replicate the techniques they learn in their fields or localities. These farmers will then be monitored on their own individual farms to verify the application of these agroforestry techniques. This will also measure their level of appropriation of these agricultural technologies. In total, 1,200 producers will be targeted for the three intervention regions to benefit from these agricultural technical trainings.

Component 2: Dissemination of climate change adaptation technologies

This component, focuses on implementing a strategy to document and communicate at local, regional and broader levels, farm activities and results on best practices. The strategy aims to disseminate both local information from farms and meetings between local actors, and technical/scientific information from ISRA and the technical and scientific partners of the project. One aspect of the strategy consists in sharing knowledge and local experience for training session for producers and information for any other stakeholders in the region. Another aspect is to share widely more technical and scientific knowledge about climate smart agriculture through open online platforms.

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Local dissemination strategy will be to create interest around the farms, and use farmer's experience and researchers' and facilitators' visits to produce a variety of supports for a variety of local stakeholders and situations (training sessions, local dialogues, community radios etc). This process will help producers to identify for themselves the best innovative techniques, meeting at the same time, economic and food production efficiency and adaptation to climate change and climate risk reduction. It will also help to measure the level of adoption of these agricultural technologies. These good practices will also be translated into multimedia content that will be disseminated through online knowledge sharing platforms. For instance, SOS SAHEL implements a region wide platform of non-state partners of the Great Green Wall (GGW). CSE also has a similar platform with the capacity to reach many actors. This wide dissemination allows other farmers in other regions and neighboring countries to capitalise on the experience of these farms and to strengthen their ownership of adaptation and climate risk reduction processes.

Component 2: Dissemination of climate change adaptation technologies

In this component, the focus is on training producers and also on sharing agricultural technologies in stakeholder platforms. The target farmers for the agroforestry farms will be trained on good agroforestry practices. These good practices will also be translated into multimedia content that will be disseminated in the knowledge sharing platforms. SOS SAHEL has a platform of non-state partners that covers the actors of the Great Green Wall (GNWP). CSE also has a similar platform with the capacity to reach many actors. This wide dissemination allows other farmers in other regions to capitalise on the experience of these farms and to strengthen their ownership of adaptation and climate risk reduction processes.

Component 3: Strengthening the livelihoods and sources of income of vulnerable people

This last component aims at developing the fonio value chain. Fonio is a rustic drought resistant cereal endemic to West Africa. Not all the ethnic groups grow it, but it is more and more eaten in urban areas of West Africa, and exported. However, the culture of fonio slowly regresses because it needs important handwork, and the value chain is weak and disconnected. Producers are not organized, they cannot access seeds and technical advice, and the distribution of the production is poorly organized and economically valued. Selected producers will receive support in agricultural inputs and technical advice to increase the production of fonio. SOS SAHEL has a long and efficient experience of agriculture good practices dissemination. 18 fonio's "school- fields" will be created on volunteers' farmers' land with support of the project and the agriculture governmental local services. As well as the farms, these fonio's "school- fields," are frameworks for the application of good technical itineraries for fonio production and for knowledge and technical skills sharing among producers. The producers will learn by doing and discussing the results of the techniques at the fonio "school- fields". After they agree on the best practices, they decide to apply in their own fonio field. The inputs will be identified according to the standards and their adaptation to the agro-climatic contexts of the 3 regions of intervention of the project. Additionally, in another component of the project, SOS SAHEL develops activities to improve and lighten the transformation process and to

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strengthen the commercialization process. Long perceived as a traditional family crop for the poor, the promotion of this crop in the project aims to increase the area under fonio by 20%, the additional production of fonio by 150 tons and yields by 30%. This increase in production will push producers to market the surplus, which will in turn increase their income by 25%. In this last component, producers who have already been selected will receive support in agricultural inputs and capacity building on fonio production. In the perspective that the producers will learn at the farm level and duplicate on their individual perimeters, the land will be better maintained and will be more fertile to increase the productivity of crops; 18 fonio school fields will thus be created. These fonio school fields will also be frameworks for the application of good technical itineraries for fonio production and for the exchange of knowledge and technical skills among producers. The producers will learn the techniques at the fonio school fields and then they will apply in their own fonio field. The inputs will be identified according to the standards and their adaptation to the agro-climatic contexts of the 3 regions of intervention of the project. Fonio is promoted in this project because it is a plant that adapts well to the current climatic context marked by the scarcity and irregularity of rainfall. It is a resistant plant and does not require fertilizer to produce much. It requires less technical effort in the production process. Beyond these agro-climatic properties, fonio is a plant with high nutritional and therapeutic value. It is especially consumed by diabetic patients because it is a gluten-free cereal. Long perceived as a traditional family crop for the poor, the promotion of this crop in the project aims to increase the area under fonio by 20%, the additional production of fonio by 150 tons and yields by 30%. This increase in production will push producers to market the surplus, which will in turn increase their income by 25%.

The three components of the project are interrelated. The first and second components allow producers to appropriate good agro-pastoral practices. This knowledge will enable these producers to appropriate their climatic data and to restore and preserve their environments. The techniques assimilated will then be applied by the producers in their own areas. This will have a positive effect on the preservation of natural resources. In component 3, the aim will be to take advantage of this restoration and preservation of the environment. By growing fonio as the main crop, the producers will at the same time continue to preserve their environment but also generate agricultural income.

The proposed activities are aligned with the needs of the beneficiaries and will be implemented through a co-construction approach, promoting synergy between all stakeholders:

General Objective:	Develop and promote agro-sylvo-pastoral systems that are ecologically sustainable and economically efficient
Specific Objective 1	Establish a framework for training and experience sharing on good agro-sylvo-pastoral practices Strengthen awareness and ownership of adaptation and climate risk reduction processes of farmers
Expected result 1:	A.1: Execute a vulnerability study and take inventory of agro-sylvo-pastoral practices

Activities:	<p>First, a vulnerability assessment at the community level will enable us to determine the risks and consequences facing communities and/or ecosystems because of climate hazards. It will also allow us to identify responses and adaptation strategies, as well as factors preventing their implementation.</p> <p>As a second step, taking inventory of promising practices of agronomy, forestry/agroforestry, Soil Defense and Restoration (DRS) and breeding will help prioritize key technologies while accounting for: i) sustainable improvement of agricultural productivity; ii) viability as an adaptation strategy; and iii) potential for greenhouse gas emission reduction (mitigation).</p>
Expected result 2:	A.2: Establish 9 climate-smart farms (5 ha each)
Activities:	<p><u>SOS SAHEL has already developed several pilot farms in Burkina Faso within the Beog Puuto ("Fields of the Future") project. These farms are created to support producers who agree on the distribution of their land, in the installation of bocagers perimeters, that is to say networks of live hedges protecting the cultivation plots and bringing the benefits of agroforestry. These bocagers perimeters have demonstrated their efficiency to protect agriculture confronted to climate high variability and climate hazards. This experience will be utilized and inform this program across the additional 9 intervention communes in Senegal. SOS SAHEL has already experimented and tested the establishment of climate-smart agro-sylvo-pastoral farms in Burkina Faso within the framework of the Beog Puuto ("Fields of the Future") project. This experience will be utilized and inform this program across the additional 9 intervention communes in Senegal.</u></p> <p>From an operational view, at the start of the project, the producers will collectively identify a group of approximately ten plots with different characteristics, which will then be the base for practicing technical innovations. The producers will offer their plots on a voluntary basis, supported by an awareness-raising process carried out by the commune with large village landowners to promote the granting of land to vulnerable households. The agroforestry farms provide a framework for training producers in the following seven areas:</p> <ol style="list-style-type: none"> 1. Use of climate forecasts and data. 2. Choice of resilient varieties and best practices for adapting to climate change. 3. Practice of agroforestry with short-cycle fruit trees and fodder.

	<p>4. Management of natural regeneration assisted by producers.</p> <p>5. Concerted management of inter-village sylvo-pastoral areas.</p> <p>6. Planting of priority forest fruit trees in concessions.</p> <p>7. Crop diversification (e.g., maize, fonio, market gardening, watermelon, vegetables) and income opportunities connected to developing small forestry and agricultural enterprises (e.g., baobab fruit, groundnuts, fonio, poultry farming).</p> <p>The producers will learn theoretical and practical knowledge in these farms that they will duplicate in their respective agricultural perimeters. <u>ISRA will establish a collective participatory research action protocol with these farmers and local governmental agriculture services. The farmers will be regularly visited at these farms to monitor the application of the new agroforestry techniques. They will be able to restore degraded lands, apply good farming practices adapted to climate change, restore and maintain vegetation and more.</u></p>
Expected result 3:	A.3: Organize field visits and exchanges with similar sites
Activities:	<p>Through the Farmers of the Future (FF) approach, field visits and exchanges with similar sites will be organized and documented. The FF approach aims to improve adaptive capacity to the effects of climate change through the Climate Analogues tool.</p> <p>This concept has been developed by the CGIAR (Climate Change Agriculture and Food Security) Research Program on Climate Change, Agriculture and Food Security (CCAFS) to allow a user to identify and map spatial and temporal analogue sites.</p>
Specific Objective	<p>Strengthen the capacities of producers on good agro-sylvo-pastoral practices</p> <p>Increase and disseminate adaptive capacities of farmers in agro-sylvo-pastoral practices</p>
Expected result 4:	A.4: Train producers in sustainable agricultural practices and agro-sylvo-pastoral models
Activities:	<p>1,200 producers will be trained in the technicalities of agro-sylvo-pastoral production under the supervision of deconcentrated agricultural services. Trainings will cover the establishment of an agro-sylvo-pastoral farm, management, maintenance, processing and marketing.</p>
Expected result 5:	A.5: Disseminate the best agro-sylvo-pastoral practices

Activities:	Finally, a dynamic environment to disseminate best practices will be established through: (i) the use of the SOS SAHEL-established platform for non-state actors supporting the Great Green Wall, developed in 2020, and (ii) periodic broadcasting of interactive radio programs. best practices dissemination and result monitoring will be carried out by grassroots community organizations and their umbrella organizations, which will be trained and involved in the implementation of climate-smart farms
Specific Objective 3	Support the sustainable development of the fonio value chain Diversify and strengthen livelihoods and sources of income for vulnerable people in targeted areas by developing fonio value chain
Expected result 6:	A.6: Set up 18 farmer field schools dedicated to fonio
Activities:	With the support of ABL and ISRA, 18 farmer field schools will be set up to serve as a framework for training and sharing good fonio production practices. The 18 farmer field schools will be distributed throughout the project intervention zone, with two fields per commune. The production fields will be identified in consultation with local authorities and producers according to criteria relevant to the communities. Regular activities will be held in these fields to enable producers to adopt good fonio production practices. They will be able to duplicate the knowledge and practices acquired in their own farms.
Expected result 7:	A.7: To popularize and accompany the appropriation of the good practices resulting from the farmers' school fields dedicated to fonio
Activities	At the start of the project, 1,200 producers will be identified in a participatory and inclusive manner to benefit from fonio production support activities. Through the "producer field schools", producers will be trained to better understand and master fonio production techniques. To better strengthen the knowledge of producers, ABL will deploy training and support services for fonio producers. ABL will monitor the agricultural performance of producers and the expected results, and will mobilize local advisory support organizations (ANCAR and SDDR). In this sense, farmer monitoring sheets will allow regular monitoring of production from the plot preparation phase to the harvesting and post-harvest management phase. The monitoring of the producer will allow the collection of information for the monitoring of the associated indicators but also the exploitation and the analysis of these monitoring sheets will allow to make feedback to these producers to better guide them on the respect of the good cultural practices adapted to the climate change.

Expected result 8:	A.8 : Support fonio production
Activities	Producers will also be supported with quality seeds and adapted equipment to experiment the knowledge they have learned in the "fonio school fields" in their own farming perimeters. The support will allow them to increase the area of fonio production and consequently increase the production of fonio and their farm income. To reduce the post-harvest hardship of fonio, local agricultural service centers will be set up to support producers with a range of services adapted to their needs (supply of inputs, rental of agricultural equipment, hullers, cowsheds, advisory support, storage, etc.). These services will be paid for at competitive prices and incentives for the functionality and sustainability of the center.

C.B._____Describe how the project provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project will avoid or mitigate negative impacts, in line with the Environmental and Social Policy of the Adaptation Fund.

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The project aims to improve the socio-economic conditions of vulnerable people. 1,200 producers will be selected according to their economic vulnerability and will be supported with inputs and technical supervision. such assistance will allow these producers to increase their fonio production areas and yields. The project aims to improve the socio-economic conditions of vulnerable people. The 1200 producers will be selected according to their economic vulnerability. These producers will be supported with inputs and technical supervision. These different supports will allow these producers to increase their fonio production areas. As fonio is a difficult crop to harvest and process, the project will set up two agricultural service centers. These service centers will be equipped with agricultural equipment to help producers facilitate the harvest. It is expected that this will increase the harvest by an additional 150 tonnes by the end of the project. Fonio is traditionally a family crop and is used entirely for consumption. The project aims to turn this crop into a cash crop that is capable of meeting the food needs of these vulnerable people but also of generating income from the marketable surplus. These marketable surpluses will be subjected to a first transformation and a connection will be made with potential buyers of fonio in the local and international market. Fonio is increasingly coveted by the rich for its therapeutic properties. Fonio is a gluten-free cereal and therefore a food for people with gluten intolerance such as diabetics. The development of this crop allows these producers to master the techniques of production, harvesting and processing. An increase of 25% in agricultural income from the sale of fonio is expected

at the end of the project. This increase in producers' income will contribute to the better provision of vital needs and the provision of secondary needs (health, education, living environment).

On the environmental level, the expected impacts are linked to the awareness of producers on the importance of adapting their production methods according to the cultivation calendar through the mastery of climatic data, the preservation and conservation of soils and natural resources, the technologies of adaptation to climate change and the reduction of climatic risks will be appropriated by the producers and applied in their own fields

Beneficiaries:

The project area is within 3 regions south-east of Sénégal (Tambacounda, Kolda and Kédougou) around the National Park Niokolo Koba, and more precisely in 9 rural communities that have been identified in a former conservation project initiated by the African Union (AU-IBAR) in 2013. The objective was to identify and develop agro-sylvo-pastorales systems well integrated contributing to the conservation of biodiversity measures. It reduces deforestation, and enhances the economic stand of natural resources for a sustainable use.

~~The project area is within 3 regions south-east of Sénégal (Tambacounda, Kolda and Kédougou) around the National Park Niokolo Koba, and more precisely in 9 rural communities that have been identified in a former conservation project initiated by the African Union (AU-IBAR) in 2013. The objective was to identify and develop agro-sylvo-pastorales systems well integrated contributing to the conservation of biodiversity measures. It reduces deforestation, and enhances the economic stand of natural resources for a sustainable use.~~

Within those 9 communities (3 per region) 45 villages have been targeted, based on vulnerability criteria and prone to fonio production. Finally, 1200 producers were selected along with the local and technical partners. (mayor & team, village chiefs and relevant state services)

The project pays particular attention to gender reach and inclusion, as well as promoting expanded professional opportunities for women and youth.

D.C. Describe how the project encourages or accelerates development of innovative adaptation practices, tools or technologies and/or describe how the project helps generate evidence base of effective, efficient adaptation practices, products or technologies, as a basis for potential scaling up.

The 9 climate-smart farms set up as part of the project constitute a bridge ~~The 9 climate-smart farms set up constitute a bridge~~ between the world of agricultural research and the actors in the field (agricultural producers). This connection facilitated by the project allows the co-construction with the producers of proven tools and a useful knowledge base related to the agro-sylvo-pastoral system sensitive to climate change for the 9 communes.

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In the same way, the model of farmer field schools specific to fonio will make it possible to enhance local good practices and promote new production practices better adapted to climate change ~~in order~~ to significantly improve the yield and the conditions of sustainable production of fonio.

One of the major problems raised by and common to all the producers we met is the post-harvest difficulty of fonio. This is a major constraint to significant fonio production, especially for the women who are mostly active in the sector. To respond to this pressing need, in addition to the initial technical support, SOS SAHEL intends to set up local agricultural service centres to support producers with a range of paid services adapted to their needs (supply of inputs such as quality or certified seeds, organic fertilizers, rental of agricultural equipment, hullers, cowsheds, advisory support, storage, etc.)

These centres will be accompanied in their administrative and financial management so that they are profitable and sustainable. These service centres will also be hubs for aggregating and storing production, enabling them to develop the warranty system to access financing for producers. This system will allow producers to sell at better prices at a more favourable time, while having the possibility to have part of their money in advance to carry out other activities.

~~A part from the 9 agro-sylvo-pastoral farms sensitive to climate change, 18 other farmer field schools focused on fonio production will be set up to train and support the fonio producers targeted by the project. These 18 fonio field schools will be identified among the 45 intervention villages of the Djigui Niokolo project. A part from the 9 agro-sylvo-pastoral farms sensitive to climate change, 45 other farmer field schools focused on fonio production will be set up to train and accompany the selected producers. In other words, each of the 45 villages will have a farmer school field to benefit all the farmers in the village.~~ Those farmer field schools will be chosen and put into place through champions (model farmers) who in their turn will disseminate and support their fellow farmers. At least 1200 producers will be the direct target that will share the message with other across different villages.

E.D. Please confirm whether the project meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and is in line with the Environmental and Social Policy of the Adaptation Fund.

At this stage, the project has not been subjected to an environmental assessment in accordance with the technical standards at national level in force. However, CSE, through its Environmental and Social Safeguards Unit, is committed to carrying out an environmental screening of the project prior to its implementation in order to comply with national standards and norms as well as the environmental and social policy of the Adaptation Fund.

F.E. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

It is important to document and share the lessons learnt from positive experiences resulting from the achievement of the project objectives or the negative ones resulting

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from these failures. This information is a huge potential to bring crucial knowledge to the design and implementation of strategies enhancing resilience to climate change. To make sure that throughout the project steps, lessons are documented and shared; documentation of lessons learnt will be included in the monitoring-evaluation process. Such approach helps ensure that the project can be reviewed at each stage and the lessons learnt and best practices can be valued in planning the next steps. It also helps record knowledge and enters them into a common reservoir where they can be shared with other stakeholders and the sub-region level.

The project plans to capture and disseminate the knowledge produced in the climate-smart farms and farmer field schools dedicated to fonio through the CSE knowledge management system developed with the support from the Adaptation Fund.
~~The project plans to valorise the knowledge produced in the climate-smart farms and farmer field schools dedicated to fonio through the CSE knowledge management system developed with the support from the Adaptation Fund.~~

The process will comprise four major steps:

1. Make an inventory of knowledge: the project managers and the Monitoring & Evaluation Team will collect information through structured or non-structured approaches (interviews and observations) by filling out "lessons learnt" cards;
2. Check and summary: the project managers check the accuracy and applicability of knowledge gained in relation with the Monitoring-Evaluation officer. The reports are then forwarded to the project coordinator who will ask experts to determine whether a lesson is specific to a particular component of the project, the entire project or the projects in general;
3. Reporting: the project coordinator will then produce a general report on the lessons learnt for the period under review;
4. Dissemination: the coordinator distributes the report internally (to the steering committee, the project managers and members of the project team) and externally (on the project website and other electronic forums). By the end of the project, a lessons-learning document will be prepared and published.

The project will work with other projects and programmes to disseminate the information with cost-effectiveness.

G.F. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project. Describe how the project will engage, empower and/or benefit the most vulnerable communities and social groups, including gender considerations, in line with the Environmental and Social Policy of the Adaptation Fund.

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The project proposal includes unidentified sub-projects (SPNI), making it difficult, if not impossible, to transparently and comprehensively define the risks associated with the implementation of the sub-activities. The results of the vulnerability study will allow to effectively define the proposed solutions at the level of each of the 9 farms that will be implemented by the project. Based on this, an environmental screening will be carried out by the CSE experts to determine the environmental and social risks.

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~~Translated with www.DeepL.com/Translator (free version)~~ **Human rights**

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~~Senegal is not among countries cited in any Human Rights Council Special Procedures. Therefore, there is no relevant human rights issue to consider.~~

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Gender Equality and Women's Empowerment

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~~Senegal has ratified several treaties and Conventions with regard to Gender. This includes the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) in 1985, the CEDAW optional protocol in 2000, and the protocol to the African Charter on Human and Peoples' Rights (ACHPR) in 2004.~~

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~~At national level several mechanisms promoting women have been established: the parity law adopted in May 14, 2010; two national action plans for Women developed respectively in 1982 and 1997; the National Strategy for Gender Equality and Equity (SNEEG) which is an operational tool to mainstream Gender in policies and programs.~~

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~~Thus, the Government of Senegal expresses a clear vision on issues related to gender equality and equity outlined as follows: "Making Senegal an emerging country, without discrimination, where men and women will have equal chances to participate in its development and enjoy the benefits of its growth".~~

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Indigenous people

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~~There is no risk related to indigenous people for this project~~

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Involuntary Resettlement

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~~The project activities do not require any resettlement of people or goods.~~

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Risks identified

Potential lack of project ownership by the populations, as well as the possible lack of commitment of various stakeholders, pose a primary risk to this project. This risk will be limited by

1. creating and facilitating a dialogue framework with political/local authorities and the population (i.e., continuous communication and awareness-raising),
2. and building local decision-maker capacity to engage in participatory and inclusive consultation processes. Constant dialogue, as well as capacity building according to the needs expressed by implementing partners, will be supported by complete transparency in organization and actions. This will motivate local operators as well

as the populations concerned to become actively and constructively involved in project implementation.

H.G. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

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This funding request is addressed to the AF for the implementation of various activities enabling producers to adapt their agricultural production systems but also to strengthen their resilience to climate change. Indeed, Senegal, like many developing countries, is experiencing the effects of climate change with the advance of the sea, very irregular rainfall, high temperatures and frequent flooding in urban areas. Economic activities such as agriculture, livestock breeding and fishing, which employ nearly 70% of the country's active population and are highly dependent on climatic factors, are severely affected. This situation has a negative impact on the living conditions of the population, with a drop in income, a recurrence of food and nutritional insecurity, an increase in migration and a rise in poverty. Through this project, SOS SAHEL, in partnership with the CSE, aims to contribute to the improvement of agricultural production conditions with an approach of adaptation to Climate Change (CC) in the peripheral communes of the KNP. This area is increasingly confronted with strong winds causing enormous damage, falling trees, climatic variation (alternating between heavy rainfall and a drop in rainfall, periods of high heat ...), floods that cut off access to villages ... The project aims to strengthen the knowledge of local actors and populations on climate change and the adaptation strategies to adopt. The project aims to strengthen the knowledge of local actors and populations on climate change and the adaptation strategies to adopt. It will thus set up agroforestry farms that are a framework for sharing and learning techniques for adaptation and reducing climate risks. The idea is to help producers understand and master new adaptation technologies (soil preservation and conservation, tree maintenance, choice of resilient varieties, knowledge of climatic data to adapt the cropping calendar, etc.). This production will enable them to strengthen their agricultural income and reduce their socio-economic vulnerability to climate change. Fonio is a resilient plant whose cultivation is an adaptation to climate change.

These funds will be used to support the adaptation activities of objective 2 of the Djigui Niokolo project. This project is being carried out in the same communes of intervention by SOS SAHEL with funds from AFD. The pooling of the two funds will make it possible to strengthen the effectiveness of the action and to reinforce adaptation to climate change and risk reduction.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

Several institutions are involved in fighting climate change in Senegal. For the implementation needs of this project, only the main stakeholders in this project will be analyzed.

The **Direction of the Environment and Classified Establishments (DEEC)** of the Ministry of the Environment and the Sustainable Development (MEDD) is the Designated Authority (DA) of the Adaptation Fund (AF) in Senegal; she has endorsed the current request of financing. (See letter of endorsement)

National Implementing Entity:

Centre de Suivi Ecologique (CSE) is semi-autonomous body created in 1993 with the long-term mission of contributing to the economic development of Senegal by facilitating the participative management of natural resources and the environment by gathering, treating, analyzing and disseminating data and information about the territory and the resources. CSE covers a wide range of interventions, including the monitoring of the environment, town and country planning, decentralization, early warning, disasters management, capacity-building, coastal area management, etc. Its activities, across all these areas, are based on the use of the geomatics combined with field work. CSE was accredited as National Implementation Entity (NIE), with the Adaptation Fund (AF) and with the Green Climate Fund (GCF). CSE successfully led an adaptation project in Senegal's coastal zone (Adaptation to coastal erosion in vulnerable zones). It has also recently — and successfully — submitted to the GCF a project proposal, which is one of the three first projects approved for Africa by the Green Climate Fund.

Executing Entity

Founded in Senegal 45 years ago, **SOS SAHEL** is an international NGO that works to bring lasting, sustainable development to rural areas across the Sahelian belt. Their mission is to ensure food and nutritional security for communities in sub-Saharan Africa and amplify local voices on an international stage. SOS SAHEL and its partners share similar values of inclusion, sustainability, trust, respect, collaboration, innovation and responsibility. Furthermore, they share a common vision to promote entrepreneurship and innovation, built on local expertise, while working towards the Sustainable Development Goals and the African Union's Agenda 2063.

Within this region, SOS SAHEL has established and launched flagship programs such as the Green Initiative, which provides adaptive solutions to climate change and food and nutritional security for local communities. SOS SAHEL prioritizes women's empowerment, recognizing the central role women play in producing agriculture.

Their strength lies in solidarity and collaboration with the network of partners and expertise gained from multiple generations of experience and commitment to the Sahel. SOS SAHEL brings ingenuity and innovation to all that we do, introducing modern methods of farming that respect the environment and promise sustainable development for a resilient and nourishing Sahel.

Delivery partners

A Better Life (ABL), is the social enterprise that helps SOS SAHEL develop the entrepreneurship components of our projects to ensure sustainability through a robust economic model that is community owned and led. ABL will then bring its technical expertise to develop this in partnership with all stakeholders

Senegalese Institute of Agricultural Research (ISRA) is a parapublic research organization made up of a group of specialized institutes, including the National Center for Forestry Research (NCFR), which will mainly be involved in the project to develop agro-sylvo-pastoral models through climate-smart farms. The NCFR will mobilize other institutes as needed, particularly for the supply of quality fonio seeds. ISRA has a strong research expertise on agro-sylvo-pastoral models that contribute to improving the resilience of communities and ecosystems to climate change constraints. ISRA also works in close collaboration with the international research community (IRD, CIRAD, ...). With this partnership, SOS SAHEL strengthens its expertise by investing in related fields - through research/action

The **three local partners** implementing the project in each of the regions are as follows:

- The Fédération Yakaar Niani Wulli (FYNW) in Tambacounda
- The NGO Solidarité - Action – Développement (SADEV) in Kedougou
- The NGO Action pour le Secours de l'Éducation et le développement (ASED) in Kolda

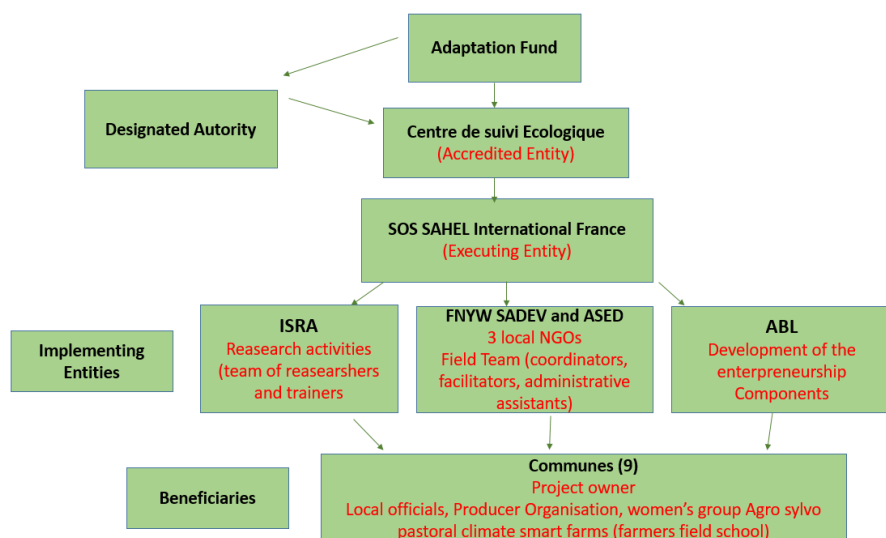
The above entities will provide:

They will provide:

- 3 Regional Coordinators: In their assigned area, they are responsible for planning, preparing and supervising the operational and financial execution of project activities. They ensure project consistency across technical and methodological aspects, organize interventions by various service providers, draft narrative reports and ensure synergy with other actions. They also coordinate the facilitators;
- 9 facilitators: They supervise and accompany target groups to execute program activities, providing needed support and reinforcing their capacity. They periodically collect and record project data for the monitoring and evaluation database. They are located in the 9 communes of the intervention regions;
- 3 administrative assistants: They verify, record and file accounting documents for each partner. The accounting is done by SOS SAHEL in Dakar.

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Implementation arrangements of the project

B. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

The Monitoring and Evaluation of the project will be made according to the procedures established by CSE and by the AF. The Results framework gives the performance indicators against which the project will be evaluated and specifies the baseline as well the objectives to be achieved. The M&E system proposed describes the main planned activities to be executed in the M&E, reporting and project analysis system (MERAS).

For this project, SOS SAHEL will ensure the monitoring and evaluation of activities in accordance with the established results framework and in parallel, the CSE will ensure the overall supervision of the activities in its role as an accredited entity.

SOS SAHEL has structured its organization to ensure monthly monitoring of project and program operations and finances. It involves the Operations Department, the Finance Department and the Knowledge Management Department (in charge of monitoring-evaluation-capitalization) who work in symbiosis to ensure the relevance and efficiency of actions.

SOS SAHEL has a monitoring and evaluation system that integrates all the components of the project and involves the delegated project managers. This system is piloted by the

project's Monitoring and Evaluation Manager who, alongside the Project Manager, organizes regular monitoring points with the coordinators of SADEV, ASED and FYNW and feeds the project monitoring into the DELTA software every month. This software allows for a precise follow-up of the indicators (productions, results, impact) of the projects and programs of SOS SAHEL and its network of partners. The Delta software includes integrated survey and mapping tools. All the activities and indicators of the project are entered into the software with the possibility of detailed planning of the realization of the activities and the achievement of the indicators. The person in charge of monitoring carries out, according to the periodicity retained in the monitoring plan of the indicators, via the Delta mobile application or Kobo collect, data collection to inform the effectiveness of the activities and the achievement of the indicators. The software offers an interface for processing and analyzing the project's progress and the progress of the indicators. It also provides quarterly technical reports and sectoral reports. In addition to technical monitoring, to better ensure the proper use of resources and compliance with procedures, financial monitoring is carried out on a monthly and quarterly basis according to a reporting procedure and templates on which the implementing partners have been trained. The SOS SAHEL Finance team carries out regular internal controls to verify the completeness, accuracy and reality of project expenditures. This regular monitoring will ensure accurate and efficient management of the project budget.

An overall evaluation of the program is planned and may take into account the specific requirements of the donor. A final financial audit by a certified accounting firm is planned at the end of the project. The CSE will not be directly involved in executing project's activities, but will be supervising the project execution.

Activities	2023	2024	TOTAL Dollar
Project monitoring activity	1 440	1 440	2 880
ISRA producer monitoring	2 000	2 000	4 000
Monitoring CSE land restoration	4 000	4 000	8 000
Monitoring mission in charge	3 000	3 000	6 000
Monitoring evaluation			

C. Include a simple results framework for the project proposal, including milestones, targets and indicators.

	Results chain	Performance indicators			Means of verification	Timeline
		indicators	Baseline	targets		
Establish a framework for training and experience sharing on good agro-sylvo-pastoral practices	Execute a vulnerability study and take inventory of agro-sylvo-pastoral practices	Number of vulnerability studies of Agro Sylvo Pastoral practices carried out	0	1	01 Feasibility report is produced by ISRA	Quarter 1
	Establish 9 climate-smart farms (5 ha each)	9 climate-smart agro-sylvo-pastoral farms of 5ha are created	0	9	45 ha of agro-sylvopastoral farms are created	Quarter 2 & 3
	Organize (06) field visits and exchanges with similar sites	At least 60% of the participants in the visits learned new knowledge on good agro-sylvo-pastoral practices	0	6	06 Visit reports and random questionnaire forms	Quarter 5 & 6 & 8
Dissemination of climate change adaptation technologies	Train 12 000 producers in sustainable agricultural practices and agro-sylvo-pastoral models	1,200 producers have increased their knowledge of good agro-	0	1200	Producer training reports	Quarter 2 & 3 & 4 & 5 & 7 & 8

		sylvo-pastoral practices				
	Disseminate the best agro-sylvo-pastoral practices	100% of the platform's producers have access to knowledge and good agro-sylvo-pastoral practices			Connection link to the knowledge management platform	Quarter 3 & 4 & 4 & 5 & 7 & 8
Support the sustainable development of the fonio value chain	Set up 18 farmer field schools dedicated to fonio	18 Farms with the "School Fields" concept are set up	0	18	Mission report	Quarter 3 & 4
	To popularize and accompany the appropriation of the good practices resulting from the farmers' school fields dedicated to fonio	Publication of good practices from the Fonio school fields	0	1	Communication support on Fonio production	Quarter 3 & 4 & 4 & 5 & 7 & 8
	Support fonio production	Increase of Fonio production in the project area to 150 t	T	T+150	Production report at the end of the crop year	Quarter 1 & 2 & 5 & 6

D. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s) ²	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Improve the livelihoods of producers through the development of the fonio sector	An increase in the agricultural income of fonio producers of 25% at the end of the project 150 additional tons of fonio are produced at the end of year 3	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	% of households and communities having more secure access to livelihood assets	963 1 000
Strengthen the capacities of producers on good agro-sylvo-pastoral practices	1200 producers have strengthened their knowledge on good agro-sylvo-pastoral practices 60% of the participants in the visits learned new knowledge on good agro-sylvo-pastoral practices	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies	% of targeted population with sustained climate-resilient alternative livelihoods No. of key findings on effective, efficient adaptation practices, products and technologies generated, and/or "learning and sharing" initiatives undertaken	49 000
Establish a framework for training and experience sharing on good agro-sylvo-pastoral practices	1200 producers were trained on good agro-sylvo-pastoral practices at the end of the project 80% of the trained producers have mastered and applied the adapted agro-sylvo-pastoral	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	% of targeted population with sustained climate-resilient livelihoods	70 440 88 000

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² The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

	models at the end of the project			
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
An inventory of producers' agricultural practices is established.	1 feasibility study of agro-sylvo-pastoral systems	Output 1: Risk and vulnerability assessments conducted and updated at a national level	No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	27 800 (AFD Funding)
Creation of agro-sylvo-pastoral farms	9 agro-sylvo-pastoral climate-smart farms of 5ha are created	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability Output 8: Viable innovations are rolled out, encouraged, and/or accelerated	No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-livelihood strategies No. of partnerships leveraged for exchange of goods or services or ideas, consultations and assistance between grantee and stakeholder/s	796 000 (AF Funding)
Establishment of fonio farmer field schools	18 "fonio school fields" are set up	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts,	No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-	273 000 (AF Funding)

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		including variability	livelihood strategies		
		Output 8: <u>Viable innovations are rolled out, scaled up, encouraged, and/or accelerated</u>	<u>No. of innovators supported who can introduce an innovation</u>		Formatted: Font: (Default) Arial, 11 pt
			<u>No. of key findings generated from an innovation practice, tool, and/or technology</u>		Formatted: Font: (Default) Arial, 11 pt
Organization of exchange visits	6 exchange visits are made	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	No. and type of risk reduction actions or strategies introduced at local level	12 000 (AF Funding)	Formatted: English (United States)
Training of producers	18 training sessions are organized for 1200 producers	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-livelihood strategies	25 000 (AF Funding)	
		Output 8: <u>Viable innovations are rolled out, scaled up, encouraged, and/or accelerated</u>	<u>No. of learning and sharing initiatives undertaken, including communication initiatives</u>		
Best practices are disseminated on the knowledge management platform	100% of the platform members have access to knowledge and good agro-sylvo-pastoral practices	Output 6: Targeted individual and community livelihood	No. and type of adaptation assets (physical as well as knowledge)	24 000 (AF Funding)	

		strategies strengthened in relation to climate change impacts, including variability	created in support of individual or community-livelihood strategies	
		<u>Output 8: Viable innovations are rolled out, scaled up, encouraged, and/or accelerated</u>	<u>No. of learning and sharing initiatives undertaken, including communication initiatives</u>	Formatted: Font: (Default) Arial, 11 pt
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Producers have access to basic services to support fonio production	2 service centres for producers are set up	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Type of income sources for households generated under climate change scenario	225 000 (AFD Funding)

E. Include a budget, including a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

Component	Outputs	Activities	Year 1	Year 2	Total	Notes
Management fees						
		CSE Staff allowances	2500	2500	5000	
		Field supervisions	2110	2000	4110	
		Control of works	1000	1500	2500	
		Inception workshop (Contribution to execution ressources)	3277	0	3277	
		Financial fees	1500	1500	3000	
Total Project Management Fees			10 387	7500	17 887	

Budget detailed:

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)	AFD Co-Financing	AF Financing	AFD Co-Financing	AF Financing	AF Financing
Component 1: Establishment of a framework for exchange and awareness raising among farmers for the appropriation of adaptation and climate risk reduction processes	<u>1 feasibility study of agro-sylvo-pastoral systems</u>		<u>27 800</u>	<u>27 800</u>	<u>0</u>	<u>100%</u>	<u>0%</u>	Formatted Table
	<u>A1.1.. Inventories and prioritisation of climate-smart agro-silvicultural technologies and practices (1 unit)</u>	<u>An inventory of agro-sylvo-pastoral practices is prepared.</u>	<u>6 500</u>					Formatted: Font: 12 pt
	<u>A1.2 Analysis of Vulnerability and Adaptive Capacity to Climate Change</u>		<u>11 000</u>					Formatted: Font: 12 pt, English (United States)
	<u>A1.3 Socio-economic survey</u>		<u>6 500</u>					Formatted: Font: 12 pt
	<u>A1.4. Mapping and inventory of agro-sylvo-pastoral systems</u>		<u>3 800</u>					Formatted: Font: 12 pt
	<u>9 agro-sylvo-pastoral climate-smart farms of 5ha are created</u>		<u>79 000</u>	<u>0</u>	<u>79 000</u>	<u>0%</u>	<u>100%</u>	Formatted: Font: 12 pt, English (United States)
	<u>Missions and consultation frameworks for the identification and securing of plots</u>	<u>1200 producers have applied good agro-sylvo-pastoral practices</u>	<u>11 000</u>					Formatted: Font: 12 pt
	<u>Purchase of inputs and small equipment</u>		<u>25 000</u>					Formatted: Font: 12 pt, English (United States)
	<u>Monitoring and animation costs</u>		<u>43 000</u>					Formatted: Font: 12 pt
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Component 2: Dissemination of climate change adaptation technologies	<u>6 exchange-study visits are made</u>		<u>12 000</u>	<u>0</u>	<u>12 000</u>	<u>0%</u>	<u>100%</u>	Formatted: Font: 12 pt
	<u>A visit is organised in the 3 regions of intervention of the project (Kédougou, Kolda, Tamba) fonio campaign Year 1.</u>	<u>At least 60% of the participants in the visits learned new knowledge about good agro-sylvo-pastoral practices</u>	<u>6 000</u>					Formatted: Font: 12 pt
	<u>A visit is organised in the 3 regions of intervention of the project (Kédougou, Kolda, Tamba) fonio campaign Year 2.</u>	<u>At least 60% of the participants in the visits learned new knowledge about good agro-sylvo-pastoral practices</u>	<u>6 000</u>					Formatted: Font: 12 pt, English (United States)
	<u>18 training sessions are organized for 1200 producers</u>		<u>25 000</u>	<u>0</u>	<u>25 000</u>	<u>0%</u>	<u>100%</u>	Formatted: Font: 12 pt
	<u>9 training sessions for 600 fonio producers first fonio campaign.</u>		<u>12 500</u>					Formatted: Font: 12 pt, English (United States)
	<u>9 training sessions for 600 fonio producers second fonio campaign.</u>		<u>12 500</u>					Formatted: Font: 12 pt
	<u>Best practices are disseminated on the knowledge management platform</u>	<u>1200 producers have strengthened their knowledge of good agro-sylvo-pastoral practices</u>	<u>24 000</u>	<u>0</u>	<u>24 000</u>	<u>0%</u>	<u>100%</u>	Formatted: Font: 12 pt, English (United States)
	<u>Community radio broadcasts for the dissemination of good agro-sylvo-pastoral practices.</u>		<u>13 000</u>					Formatted: Font: 12 pt
	<u>Design of multimedia content for dissemination in the good agro-sylvo-pastoral practice platforms.</u>		<u>11 000</u>					Formatted: Font: 12 pt, English (United States)
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Component 3:
Strengthening
the
livelihoods
and sources
of income of
vulnerable
people

<u>18 "fonio school fields" are set up</u>		<u>27 000</u>	<u>0</u>	<u>27 000</u>	<u>0%</u>	<u>100%</u>	Formatted: Font: 12 pt
<u>Yield per ha of fonio Increased</u>							
<u>Development of a BPC guide for fonio for CBOs and producers</u>							Formatted: Font: 12 pt, English (United States)
<u>Structuring a network of relay farmers to disseminate good agricultural practices in the intervention communes</u>							Formatted: Font: 12 pt
<u>Setting up a CEF system</u>							Formatted: Font: 12 pt, English (United States)
<u>Information sharing and campaign review meetings (ANCAR)</u>	<u>80% of fonio producers have mastered and applied good fonio production techniques</u>	<u>4 000</u>					Formatted: Font: 12 pt
<u>A4.3: Provide seeds and farming tools to producers</u>		<u>17 500</u>					Formatted: Font: 12 pt, English (United States)
<u>Introduce a competition by geographical area for the best producers</u>		<u>2 500</u>					Formatted: Font: 12 pt, English (United States)
<u>Organise fonio exchanges</u>		<u>3 000</u>					Formatted: Font: 12 pt
<u>The exploited land of fonio with good practices is increased</u>	<u>Fonio yield is increased by 30%</u> <u>The area under fonio increased by 20% at the end of the project</u>	<u>135 000</u>	<u>95 000</u>	<u>43 440</u>	<u>70%</u>	<u>30%</u>	Formatted: Font: 12 pt, French (Senegal)
<u>Community radio broadcasts on good fonio farming practices</u>		<u>13 000</u>					Formatted: Font: 12 pt
<u>Design of multimedia content for dissemination on good fonio cultivation practices platforms</u>	<u>The agricultural income of fonio producers is increased by 25%</u>	<u>11 000</u>					Formatted: Font: 12 pt, English (United States)
<u>Support fonio producers with</u>		<u>111 000</u>					Formatted: Font: 12 pt

	ploughing and harvesting equipment							Formatted: Font: 12 pt
	<u>Service centers for producers active in the fonio sector are operational (functional)</u>		<u>225 000</u>	<u>225 000</u>		<u>100%</u>	<u>0 %</u>	Formatted: Font: 12 pt
	<u>Feasibility study CSA</u>		<u>5 000</u>					Formatted: Font: (Default) Arial
	<u>Construction & equipping of equipment rental shops</u>		<u>60 000</u>					Formatted: Font: 12 pt
	<u>Formulation of contracts for the provision of equipment</u>		<u>800</u>					Formatted: Font: (Default) Arial
	<u>Construction & equipping of storage space</u>	<u>Two Agricultural Service centers are in place</u>	<u>60 000</u>					Formatted: Font: 12 pt
	<u>Construction & equipping of administrative building</u>		<u>30 000</u>					Formatted: Font: 12 pt
	<u>Provision of working capital</u>		<u>30 000</u>					Formatted: Font: (Default) Arial
	<u>Support and advice to producers</u>		<u>15 000</u>					Formatted: Font: 12 pt
	<u>Exchange visit on the CSA pilot operation</u>		<u>1 200</u>					Formatted: Font: (Default) Arial
	<u>Organisation of 6 training sessions for centre managers and employees</u>		<u>7 000</u>					Formatted: Font: 12 pt
	<u>Tooling of CSA managers</u>		<u>12 000</u>					Formatted: Font: (Default) Arial
	<u>Accompaniment/monitoring of their CSA management</u>		<u>4 000</u>					Formatted: Font: 12 pt
	<u>6. Project Execution cost</u>					<u>19 992</u>		Formatted: Font: 12 pt
	<u>7. Total Project Cost</u>					<u>230 432</u>		Formatted: Font: 12 pt


<u>8. Project Cycle Management Fee charged by the Implementing Entity (if applicable)</u>				<u>17 887</u>		Formatted: Font: 12 pt
<u>Amount of Financing Requested</u>				<u>248 319</u>		Formatted: Font: 12 pt

F. Include a disbursement schedule with time-bound milestones.

	Upon signature of agreement
Scheduled Date	Janvier 2023
Project Funds	230 432
Implementing Entity Fees	17 887
Total	248 319

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government³ *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

Ms. Mame Faty NIANG Designated Authority of Adaptation Fund Ministry of the Environment and Sustainable Development	Date: August, 08th, 2022  Letter of endorsement for Djigi
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⁶. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (CPDN 2015, Country Programm, CDN 2020) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

Dr Cheikh MBOW
Director General of CSE



Date: August, 08 th , 2022	Tel. +221 77 573 05 55 Email: mbow@cse.sn
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Project Contact Person: Aissata Boubou SALL SYLLA Tel.+221 77 685 15 90 Email: aissata.sall@cse.sn



ADAPTATION FUND

Letter of Endorsement by Government

Dakar, le 08 juillet 2022

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the "Djigui Niokolo: Developing agro-sylvo-pastoral models for sustainable agriculture and environmental preservation"

In my capacity as designated authority for the Adaptation Fund in Senegal, I confirm that the above national grant proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Tambacounda, Kedougou and Kolda regions, located on the outskirts of the Niokolo-Koba National Park (UNESCO Heritage site).

Accordingly, I am pleased to endorse the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by Centre de Suivi Écologique and executed by SOS SAHEL.

Sincerely,



Ms. Mame Faty NIANG
DA/AF-Senegal

Direction of the Environment and Classified Establishments
Ministry of the Environment and Sustainable Development