PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE

Report No.: PIDA99932

<table>
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<tr>
<th>Project Name</th>
<th>Sahel Irrigation Initiative Support Project (P154482)</th>
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<td>Region</td>
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<td>Country</td>
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<td>Project ID</td>
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<td>Borrower(s)</td>
<td>GOVERNMENT OF CHAD, GOVERNMENT OF BURKINA FASO,</td>
</tr>
<tr>
<td></td>
<td>GOVERNMENT OF MALI, GOVERNMENT OF NIGER,</td>
</tr>
<tr>
<td></td>
<td>GOVERNMENT OF MAURITANIA, GOVERNMENT OF SENEGAL</td>
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<td>Implementing Agency</td>
<td>CILSS Interstate Committee for Drought Control in the Sahel</td>
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<td>Environmental Category</td>
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<td>Date PID Prepared/Updated</td>
<td>03-Apr-2017</td>
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Appraisal Review Decision (from Decision Note)

Other Decision

I. Project Context

Country Context

The Sahel population is exposed to a unique set of climatic and environmental risks. The region experiences high and sustained population growth leading to increased pressure on natural resources. Despite rapid urbanization, 64 percent of the Sahel population still lives in rural areas, relying mainly on rainfed agriculture and agro-pastoralism for livelihood. Precipitation in the region is characterized by high variability from one year to the next, with irregular, unpredictable, and short rainy seasons. Continuous erosion, deforestation, and unsustainable agricultural practices result in widespread land degradation and low crop yields. Rural populations regularly face food shortages, and urban populations increasingly rely on food imports, exposing them to food price spikes. The 2008 food price crisis has been a wakeup call for the Sahelian governments and their development partners. Additionally, climate change is expected to amplify the frequency and magnitude of droughts and floods with negative impacts for agricultural productivity, food security, and rural poverty in the region.

Agriculture is a high-level priority for Sahelian countries and will remain the backbone of their economy, despite volatile performance. The agricultural sector still represents a large proportion of the gross domestic product (GDP) in the Sahel, and remains the main reservoir for job creation.
Improving agricultural performance is critical to increasing rural incomes, reducing inequalities between rural and urban areas, and consolidating Governments’ fiscal position. More importantly, agriculture is fundamental to ensuring food security and hedging against international food price fluctuations.

Agricultural water management (AWM) is crucial for improved agricultural performance. Despite erratic rainfalls, Sahel countries enjoy relatively abundant water resources. Current agricultural withdrawals for irrigation represent less than 6 percent of total renewable water resources, and groundwater withdrawals are about 6 percent of the annual recharge. Further, irrigated lands represent less than 5 percent of agricultural lands in the Sahel, as compared to about 20 percent worldwide. The availability of vast tracks of land suitable for agriculture along the major rivers and in inland valley areas (bas-fonds) is an additional opportunity for the Sahel. Moreover, the Sahel benefits from favorable ecological conditions for the production of high-yielding rice varieties and vegetables. Such agricultural products are in high demand on increasingly interconnected subregional markets and can help sustain the creation of well-paying jobs.

**Sectoral and Institutional Context**

The irrigation sector of the Sahelian countries has experienced different stages of evolution with a shifting emphasis between small-scale and large-scale systems. In the 1960s and 1970s, Sahelian countries invested heavily in the development of large scale public irrigation schemes. Fueled by heavy subsidies, public irrigation companies were in charge of the entire agricultural production cycle, including input provision, crop processing and marketing, with limited autonomy for farmers. Following the collapse of this model in the 1980s, institutional reforms refocused the role of public irrigation companies on irrigation development, with partial management transfer to irrigation users associations. At the same time, governments and development partners reoriented a larger share of investments to small-scale irrigation. In the 1980s, the focus was on ensuring food security in the wake of the mid-1980s drought and development programs focused on village irrigation schemes. In several countries, small rural towns (communes) became progressively involved in village irrigation development as a result of the decentralization process. In the late 1990s and 2000s, private irrigation significantly contributed to the further expansion of irrigated areas in the Sahel where water mobilization is affordable and markets for high value crops are accessible. In total, small-scale irrigation now represents the largest part of irrigated and irrigable areas and it still has large development potential.

Despite these efforts, areas suitable for irrigated agriculture in the Sahel are largely underdeveloped and underexploited. Of more than 2 million hectares, only 37 percent (750,000 ha) has been equipped for irrigation, and only 60 percent of the equipped area (428,000 ha) is actually irrigated. Growth in areas equipped for irrigation has slowed from a peak of almost 2 percent per annum between 1961 and 2000, to a more modest 0.8 percent per annum in the past 15 years. Many medium and large schemes face maintenance challenges and require recurrent subsidies to ensure continued operation. In addition, sectoral outcomes have been below expectations due to a variety of factors including: (a) insufficient engagement of local populations in decision-making processes; (b) inadequate consideration of commercial viability; (c) errors in technical design; (d) poor construction quality; (e) absence of a transparent irrigated land allocation process; (f) limited access to finance; (g) unclear responsibilities for scheme operation and maintenance (O&M); and (h) poor coordination between stakeholders.

The SIIP regional project aims to address these recurring issues by scaling up the implementation of the irrigation development agenda in six countries across the Sahel through institutional strengthening and selected irrigation land development. The project concept represents a major shift of the irrigation development paradigm in the Sahel based on three fundamental insights: (a) balancing public
interventions across the different types of irrigation systems in the region to allow for a more efficient use of land and water resources, (b) adopting a market-oriented, production system approach to irrigation development, and (c) engaging stakeholders directly in the planning and implementation in a holistic way early in the project cycle. This change of perspective stems from a careful reflection on lessons and experiences from past irrigation interventions in the Sahel and will result in an increased impact of irrigation development on agricultural productivity and incomes. It will therefore help reduce food insecurity and poverty.

By adopting a regional approach, the project will enable the six countries to reap the full benefits of the potential spillover effects of a shared scale-up strategy in the most cost-effective way. A regional approach for irrigation development will help: (a) facilitate coordinated investment planning in shared natural resource areas; (b) build the knowledge base and facilitate cross-learning at the regional level; (c) attract/facilitate participation of the private sector to innovate and provide high quality services at regional level at lower cost; and (d) facilitate adoption of regional policies through institutional benchmarking. While the regional approach increases project complexity and brings additional political economy risks, it also provides a window of opportunity and entry point for solutions at scale that have not been achievable to date. Experience shows that separate national projects do not provide the scale and depth that’s required to induce lasting institutional changes and that analytical work is not sufficient to create an enabling environment. The Bank, with its convening power and financial instruments including IDA allocation for Regional Integration, is uniquely positioned to support this sort of multi-country approach bringing in a wide array of public, private, and CSO stakeholders.

Project interventions will be based on successful irrigation models that have emerged across the Sahelian countries and will be broadly based on five types of systems commonly found in the Sahel. Successful examples strongly suggest the importance of the right combination of institutional and organizational arrangements, adequate financing mechanisms using a mix of public and private resources, sound design and technologies, and skilled and empowered stakeholders.

- Type 1: Improved rainwater harvesting with partial water control: inland valley bottom development (bas-fonds), flood recession plains or partial control (sometimes thousands of ha), sand dams for groundwater recharge (seuils d’épandage). Crops are rice, sorghum and vegetables.
- Type 2: Small-scale private irrigation systems (less than 1 ha up to a few hectares) for individuals or small groups of producers, involving pumping equipment, devoted to high value crops such as vegetables.
- Type 3: Small-scale community-based irrigation schemes of less than 50 ha, usually promoted by NGOs or governments, for villages or large groups of producers who collectively manage pumping equipment and canals to produce rice or vegetables.
- Type 4: Large-scale irrigation schemes (from 100 ha to 5000 ha with a vast majority below 1000 ha) publicly financed, managed or supervised by public authorities, located usually along large rivers regulated by dams, comprising a combination of pump stations and a network of canal and drainage systems, service roads. They require a complex management structure.
- Type 5: Medium- to large-scale irrigation schemes involving a partnership between the Government, a private party, and the communities surrounding the scheme, for the development and management of the irrigation system (with same technical features as for Type 4).

Improving development and management of irrigation will clearly require some paradigm shifts. Constraints faced by stakeholders are very similar across the Sahelian countries and relate primarily to ‘how’ planning, design, construction, etc. is carried out. Addressing them requires, first, political momentum for reform to allow the necessary institutional changes to take place, and second, the capacity for scaling up interventions to improve economic efficiency across the value chains. The ‘Dakar Declaration’ adopted by the six Sahelian countries that gathered at the High Level Forum on
Irrigation in the Sahel (October 31, 2013), under the CILSS leadership, recognizes the need to address both of these aspects. It calls for a renewed effort to scale up irrigation development and improve irrigation sector performance in the six Sahel countries to contribute to regional food security within natural resource limits. It sets a target of 1 million ha irrigated in the Sahel by 2020.

The proposed project contributes to the overarching goals of the Sahel Irrigation Initiative (2iS), which are “an expanding irrigated agriculture that is productive, sustainable, and profitable for jobs and food security in the Sahel.” It aims to pave the way for the broader investment program needed to achieve the 2iS. The project will (a) enable homogenous and streamlined processes for irrigation investments, (b) increase donor alignment with country approaches, (c) ultimately attract additional funds, following principles established in the Sahel Irrigation Initiative Strategic Framework (S2I-SF). It aims at influencing and expanding the entire irrigation portfolio in the six countries. The project is designed taking into account the anticipated complexities of a regional engagement, and as such has set modest, yet realistic, physical targets. These physical targets are mostly related to small scale irrigation undertakings that can reap rapid benefits. However the project will be preparing a number of feasibility studies that will allow for subsequent quick scale of towards larger scale national investment programs, including through IDA 18 scale up and the private sector window.

The project contributes to the World Bank’s twin goals of reducing extreme poverty and supporting shared prosperity. The project will have a direct impact in the selected intervention areas where irrigation development will translate into improved food security, job creation, and increased incomes for poor rural households. The project will have a broader leverage impact on the viability, performance, and social and environmental sustainability of existing and future irrigation systems and related agricultural development. Additionally, the project will contribute to improved and transparent policy and planning decision-making at national and local levels.

II. Proposed Development Objective(s)

The Project Development Objectives are to improve stakeholders' capacity to develop and manage irrigation and to increase irrigated areas using a regional ‘solutions’ approach in participating countries across the Sahel.

III. Project Description

Component Name
Component A: Modernizing the institutional framework
Comments (optional)
The expected outcome of Component A is an enabling institutional environment and planning for sound irrigation development and management in the project intervention areas. Component A will finance assessments of land and water resources and organizational strengthening with a view to provide a basis for viable and sustainable irrigation development using the various Types of Irrigation System.

Component Name
Component B: Financing irrigation investment solutions
Comments (optional)
The objective of Component B is to craft irrigation solutions for the various types of irrigation systems and to implement them. For small-scale irrigation schemes (Types 1 to 3) which are cost-effective and easily replicable from one site to another and across countries boundaries, the project will finance revitalization and new construction at a significant scale within the PIA so as to demonstrate their scale-out potential. For large scale irrigation schemes (Types 4 and 5) which are
costly undertakings and more context specific, the project will finance studies with a view to building a pipeline of projects ready for implementation. Emerging best practice solutions from all participating countries will be shared through these hard and soft investments.

Component Name
Component C: Information & knowledge management and coordination

Comments (optional)
Component C has two objectives: (a) collect, produce, and disseminate useful knowledge and allow irrigation stakeholders to communicate with one another around solutions; and (b) allow efficient coordination of the project’s activities. This will be achieved through the establishment and operation of a regional knowledge and information system, targeted action research and efficient coordination, communication and M&E system.

IV. Financing (in USD Million)

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<th>Amount</th>
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<td>BORROWER/RECIPIENT</td>
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<td>International Development Association (IDA)</td>
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<td>Global Partnership on Output-based Aid</td>
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<td>LOCAL BENEFICIARIES</td>
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<td><strong>Total</strong></td>
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Financing Gap: 0.00

Total Project Cost: 198.25

Total Bank Financing: 170.00

Financing Source

V. Implementation

The SIIP implementation arrangements follow the existing institutional structure cascading down from regional to national, subnational and local organizations. The seven regional and national implementation agencies have already been working on project preparation for the past several years and as such, are fully prepared to take on project implementation. They will be further strengthened with dedicated technical and fiduciary expertise after project commencement, as stipulated in the conditions of effectiveness and dated covenants included in each Financing Agreement. The project will work with existing institutions and the private sector at subnational and local levels to enhance their implementation capacity. The regional coordination, knowledge exchange, accessible information systems, as well as training activities will ensure that field activities implemented in one country are interrelated with those from other countries and result in economies of scale. The project puts a strong focus on clarifying the role and responsibilities of all stakeholders in the implementation of the irrigation solutions, and on developing the local training capacities, so as to improve the scalability of the solutions.

The CILSS will be the regional project implementing agency and primarily responsible for regional coordination, under the oversight of the existing Comité de Pilotage des Projets et Programmes du CILSS (Regional Steering Committee for the CILSS Projects and Programs, CRP) which will ensure that project activities are consistent with CILSS vision and programs. The CILSS has a solid track record of implementing regional projects funded by various partners including the World Bank. It fulfills all the criteria to receive a regional integration grant from IDA. A Regional Project
Coordination Unit (RPCU) for the SIIP will be set up within the Executive Secretariat of the CILSS (SE-CILSS) in Ouagadougou. It will be responsible for day-to-day administration of regional activities, procurement, financial management (FM), programming, and Monitoring and Evaluation (M&E).

At country-level, though it will be adapted to each country’s context, the institutional and implementation organization of the SIIP project at the country level will be based on common features. These will include: (a) a general implementation structure at the national level including a Steering Committee and a Project Management Unit (PMU) embedded in the line ministry; and (b) shared organizational arrangements for the implementation of irrigation solutions at local (project area) level. These organizational arrangements are designed to be replicable from one area to another so as to facilitate cross-learning and provide scalability to the implementation process.

At the local level (within the PIAs), the beneficiary owners of the small scale irrigation systems (Types 1 to 3) to be developed or improved – be it a group of producers, a commune or an individual farmer – will sign an agreement to formalize the responsibilities that are attached to the ownership of the irrigation scheme. Through this subproject agreement the owner will commit to endorse full responsibility for the efficient and sustainable management of the irrigation scheme and to participate in all stages of the subproject including the capacity building activities. Subproject selection criteria will include: (a) documented land and water use rights and/or allocation (preexisting or established under Component A); (b) a sound business plan with clear market access strategy; and (c) approved applicable safeguard instruments (as stipulated in the ESMF). In addition, the subproject beneficiaries will need to mobilize their own contribution to the investment either directly or through a commercial bank or micro-finance institution, as determined for each Type of irrigation system as part of the solution’s financing mechanism. Irrigation Solutions Operators (OSI) will be contracted by PMUs, assigned each a specific part of the PIA and entrusted with the responsibility to assist subproject owners and ensure the elements of the irrigation solutions are actually implemented (by contractors, consultants, service providers, and the owners themselves with respect to their commitment) from identification and early social mobilization to full transfer of asset management and product marketing. Operators will be referenced in each country and for each solution as potential OSIs in given areas of the country based on their past achievements and knowledge of the local context. Where there is no capable service provider, training sessions and exchanges with such providers from other countries will be organized as part of the capacity-building program facilitated by the CILSS.

VI. Safeguard Policies (including public consultation)

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VII. Contact point

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