
President's memorandum

**Proposed additional Debt Sustainability
Framework grant**

Republic of Guinea-Bissau

**Economic Development Project for the Southern
Regions (PADES)**

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Action: The Executive Board is invited to approve the recommendation for the proposed additional financing contained in paragraph 65.

Technical questions:

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Project delivery team

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Financing summary

Initiating institution:	IFAD
Borrower/recipient:	Republic of Guinea-Bissau
Executing agency:	Ministry of Agriculture and Rural Development
Original total project cost:	US\$18.99 million
Amount of original IFAD loan:	SDR 3.37 million (equivalent to approximately US\$4.7 million)
Amount of original IFAD grant:	SDR 3.37 million (equivalent to approximately US\$4.7 million)
Terms of original IFAD financing:	Highly concessional: 40 years, including a grace period of 10 years, with a service charge of three fourths of 1 per cent (0.75 per cent) per annum
Revised total project cost	US\$22.4 million
Amount of Rural Poor Stimulus Fund allocation	US\$0.773 million
Amount of additional IFAD Debt Sustainability Framework (DSF) grant:	US\$11.57 million
Terms of additional IFAD financing:	Grant
Cofinancier(s):	OPEC Fund for International Development
Amount of cofinancing:	US\$6 million
Terms of cofinancing:	Maturity of 20 years, including a 5-year grace period, an interest rate of 1.0 per cent per annum and a service charge of 1.0 per cent per annum on amounts withdrawn and outstanding; loan to be administered by IFAD
Contribution of borrower/recipient:	US\$2.4 million
Amount of additional contribution of borrower/recipient	US\$1.582 million
Contribution of beneficiaries:	US\$1.7 million
Amount of additional contribution of beneficiaries	US\$0.169 million
Cooperating institution:	IFAD

Proposed additional Debt Sustainability Framework grant

Republic of Guinea-Bissau

Economic Development Project for the Southern Regions (PADES)

I. Background and project description

A. Background

1. The Economic Development Project for the Southern Regions (PADES) was approved on 17 April 2015 for a total amount of US\$18.99 million. The financing package approved by the Executive Board for PADES comprised: (i) an IFAD loan of US\$4.73 million and a Debt Sustainability Framework (DSF) grant of US\$4.73 million from the 2013–2015 allocation under the performance-based allocation system (PBAS); (ii) a financing gap of US\$5.5 million; (iii) a government contribution of US\$2.3 million, mainly in the form of a tax exemption; and (iv) a beneficiary contribution of US\$1.7 million. In 2018 and 2019, new financing was provided by the OPEC Fund for International Development (OPEC Fund) and IFAD in the amount of US\$6.0 million and US\$3 million, respectively, to close the financing gap and cover the cost of infrastructure. In 2021 and 2022, IFAD approved additional financing under the Rural Poor Stimulus Facility (RPSF) in the amount of US\$773,025.
2. The completion and closing dates for IFAD financing are 30 September 2026 and 31 March 2027, respectively. The OPEC Fund loan completion and closing date is 30 April 2024.
3. The Government of Guinea-Bissau requested that IFAD use its PBAS allocation for the Twelfth Replenishment of IFAD's Resources (IFAD12) period to provide additional financing to PADES. This is justified by the project achievements to date and the need to consolidate results and scale up activities to the Bijagós Islands, the Government's priority area. The additional financing will complement the OPEC Fund financing up to completion as no recurrent costs are financed by the OPEC Fund.

B. Original project description

4. The overall objective of PADES is to contribute to poverty reduction in the rural communities of Tombali, Quinara and Bolama-Bijagós.
5. The project's development objective is to boost agricultural production in order to guarantee food security and diversify income in the Tombali, Quinara and Bolama-Bijagós regions. The intended outcomes and outputs are: (i) rice production and productivity sustainably increase; (ii) producers improve their income-diversification activities; (iii) rural professional organizations provide their members with useful services; and (iv) people's mobility and the marketing of their farm products are sustainably improved.

II. Rationale for additional financing

A. Rationale

6. As of 30 April 2022, the overall cumulative financial execution rate of the project stood at 79 per cent. The cumulative financial execution rates in relation to the 2019 additional financing revised COSTAB are as follows: 62 per cent for component 1, support for rice production and productivity and complementary activities (per subcomponent: 105 per cent for 1.1. rehabilitation of hydro-agricultural installations, and 22 per cent for 1.2. site exploitation and

development of livestock and vegetable production activities); 80 per cent for component 2, support for adding value to production and increasing market access (18 per cent for 2.1. promotion of related trades and value-adding activities, and 82 per cent for 2.2. construction and rehabilitation of rural roads); 138 per cent for component 3, project coordination and management (184 per cent for 3.1. coordination and monitoring and evaluation (M&E); 19 per cent for 3.2. partnership management and scaling up of the Committee for Integrated Village Development (CDIT) and Fund for Local Development Initiatives (FIDL) models. As of 17 June 2022, the project had disbursed 88 per cent of the RPSF allocation.

7. The overall progress in terms of mangroves and lowlands hydro-agricultural rehabilitation include 7,415.48 ha of traditional mangrove rehabilitation of a revised objective of 8,754 ha, an achievement rate of 84.71 per cent benefiting 2,163 producers, including 124 women and 526 young people. Regarding mangrove modern type rehabilitation, 2,426 hectares were supported by PADES (68.80 per cent of the project target) targeting 1,085 direct beneficiaries, including 291 women. Lowland rice interventions covered 95 hectares (100 per cent of the initial target), benefiting 179 famers (100 women). Horticulture production was supported on 30 hectares (100 per cent of the initial target).
8. PADES rehabilitated 99 km of rural roads, supporting access to markets and social services in remote regions of intervention. These interventions had a significant positive impact on 17,328 direct and indirect beneficiaries' access to basic services, particularly health and education.
9. The implementation of micro-projects for value addition to agricultural production and the strengthening of rural professional organizations remain incipient and should be reinforced during the coming years.
10. Within this context and according to the findings of the most recent supervision missions, there is a significant opportunity to enhance the results achieved, particularly under component 1, by implementing territorial management plans for the mangrove and lowlands rice production areas and conducting a systematic mapping of the production areas. These should include a relevant methodology to protect mangrove banks and watersheds and to bring a significant portion of rehabilitated agricultural land into climate resilient management models.
11. As of today, PADES intervention in the Bolama-Bijagós region has focused mainly on the Bolama sector. The results achieved in the regions of Quinara and Tombali offer high potential for scaling up into the Bijagós Archipelago, which is composed of more than 80 islands. Given climate risk factors, combined with environmental degradation, the coastal zone where the Bijagós Archipelago is located is vulnerable. Bijagós is the most affected by poverty in terms of both depth (12.9 per cent) and severity (3 per cent) and has the highest incidence of poverty in rural areas (84 per cent compared to 60.3 per cent at national level). It is the second most food-insecure region (20.8 per cent compared to a global average of 15.5 per cent).¹ The island populations are highly dependent on natural resources for their subsistence, as they derive their livelihoods from agriculture, fishery products and natural palm groves. Agriculture, the main activity, is dominated by rice (rainfed, mangrove and lowland) and cashew nut cultivation. Agricultural harvests, and therefore the income and food security of the rural people living on the islands, are highly dependent on climate, and conditions are deteriorating, particularly with a pronounced shortening of the rainy season and a decrease in annual rainfall volumes.

¹ Republic of Guinea Bissau. 2011. Second National Poverty Reduction Strategy Paper (DENARP II) 2011-2015. Ministry of Economy, Planning and Regional Integration, June 2011. / World Food Programme (WFP). 2017. Guinea-Bissau: Food Security and Nutrition Monitoring System survey. WFP, FAO, European Union, Republic of Guinea-Bissau, July 2017.

12. Scaling up the intervention to the Bijagós Islands will require a major investment in means of transport (vessels) to improve access to agricultural produce markets and social services, as was the case in the Quinara and Tombali regions for roads rehabilitation.
13. The PADES scaling up and extension will require sound technical assistance and the engagement of implementing partners with the capacity to: (i) implement sustainable management plans for agriculture and water management; (ii) engage farmers in their design and implementation; and (iii) regularly monitor the results achieved.
14. The additional financing will focus on: (i) consolidating PADES results in the Quinara and Tombali regions to increase productivity on selected sites and promote climate resilient management models; (ii) scaling up lowlands interventions by rehabilitating an additional 800 ha in Bijagós Islands; (iii) consolidating horticulture production results and decreasing women’s burden of work by supporting the rehabilitation of an additional 15 ha and improving infrastructure; (iv) scaling up the partnership with the World Food Programme (WFP) by promoting institutional contracts between local producers and the school feeding programme; (v) promoting rural young entrepreneurship by providing seed funding for small-scale social projects that can provide relevant social and market-oriented services to local communities; (vi) rehabilitating rural roads and establishing a transport network in the Bijagós Islands; and (vii) selecting implementing partners based on PADES experience and screening by the Family Farming Diversification, Integrated Markets, Nutrition and Climate Resilience Project (REDE), an IFAD-funded project in the northern and eastern regions.
15. The requested additional financing will be invested over a period of four years. Upon approval of the additional financing, PADES will organize an outcome and impact assessment to serve as the baseline for scaling up.

B. Description of geographical area and target groups

16. PADES geographic coverage will remain the same. PADES will continue to operate in the regions of Quinara, Tombali and Bolama-Bijagós, focusing on areas with high potential for rice cultivation and horticulture production development. PADES will scale up its intervention in Bolama/Bijagós, targeting new areas in the Bijagós islands, one of the country’s most remote regions with high levels of food insecurity and very limited access to markets and social services. Within the Bijagós Islands, PADES will focus on Caravela and Uno (production and transport) as well as Bubaque (commercialization and access to markets).
17. The project’s priority target group remains: (i) rice growers and horticulture producers using the sites to be rehabilitated; (ii) micro-entrepreneurs along the targeted commodity chains; (iii) members of grassroots producers’ organizations; and (iv) beneficiaries of the rehabilitated roads in Quinara and Tombali and vessels to be installed in the Bijagós Islands. PADES will reach 45,000 direct beneficiaries, 40 per cent of them women.

C. Components, outcomes and activities

18. **Components, outcomes and activities remain unchanged.** The project will continue to be structured around the original three components:
19. **Component 1: Support for rice production and productivity and complementary activities**, promoting the two-fold project priority: rice production and horticulture production.
20. Subcomponent 1.1: Rehabilitation of hydro-agricultural installations. Activities will consist of: (i) rehabilitating 800 additional ha of modern mangrove swamps and 500 additional ha of traditional mangrove swamps in Quinara and Tombali; (ii) mapping and development of hydro-agricultural management plans in 3,500 of

the 8,000 ha of mangrove swamps; (iii) protection of 3,000 ha of mangroves and watersheds; and (iv) support to lowland production on 800 ha in the Bijagós Islands. The main outcome of this intervention will be to promote climate resilient production models and a sound system for agriculture promotion that can lead to best practices enhancing rice production in Guinea-Bissau.

21. Subcomponent 1.2: Site exploitation and the development of livestock and vegetable production activities. The activities are: (i) rehabilitation of an additional 15 ha of land for vegetable growing in the Bijagós Islands; (ii) strengthening of capacity in producer's organizations; and (iii) market access support to local farmers. The reinforcement of technical support to producers by mobilizing stronger implementing partners will improve the productivity of selected vegetable crops and, consequently, boost the sales and earnings of women as the main users of the vegetable gardens supported by PADES. PADES investment in infrastructure for the horticulture sites will also alleviate agricultural water scarcities.
22. **Component 2: Support for adding value to production and increasing market access.** The objective of this component is to add value to the project's priority products and support their transport to local and national markets.
23. Subcomponent 2.1: Promotion of related trades and value-adding activities. These activities facilitate: (i) the improvement of rural entrepreneurship in commodity chains, offering project beneficiaries supply and mechanization services – the project will promote seed funding and technical assistance to selected micro-projects in the target communities; and (ii) institutional contracts with the school feeding programme and WFP, scaling up the RPSF experience and leveraging the school feeding market to structure local associations and cooperatives.
24. Subcomponent 2.2(a): Construction and rehabilitation of rural roads. In this subcomponent, financing will be provided for the construction and rehabilitation of rural roads to increase mobility and producers' ability to sustainably bring their products to market.
25. Subcomponent 2.2(b): Operationalization of a network of community managed vessels in Bijagós Islands. In this subcomponent, financing will be provided for the operationalization of co-managed vessels, increasing mobility and producers' ability to sustainably bring their products to market as well as access to social services.

D. Costs, benefits and financing

Project costs

26. The total costs of the additional financing, including physical and price contingencies, are estimated at US\$13.32 million. The base costs are US\$12.07 million. Provisions for physical and price contingencies are US\$0.31 million and US\$ 0.93 million respectively. Taxes amount to US\$1.58 million or 11.9 per cent of the total project cost.
27. **Cost per component.** The base costs of the project by component are as follows: (i) support for rice production and productivity and complementary activities, US\$5.85 million, 48 per cent of the total base cost; (ii) support for adding value to production and increasing market access, US\$3.06 million, 25 per cent of the total base cost; and (iii) coordination and institutional strengthening, US\$3.16 million, 26 per cent of the total base cost.

Table 1
Original and additional financing summary
(Thousands of United States dollars)

	<i>Current financing</i>	<i>Additional financing</i>	<i>Total</i>
IFAD loan	6 925		6 925
IFAD grant	6 318	11 570	17 888
OPEC Fund	5 978		5 978
Beneficiaries	1 704	169	1 873
Borrower/recipient	2 400	1 582	3 982
Total	23 325	13 322	36 646

Table 2
Additional financing: project costs by component (and subcomponent) and financier
(Thousands of United States dollars)

	<i>IFAD DSF grant</i>		<i>Beneficiaries</i>		<i>Government</i>		<i>Total</i>	
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>
1. Support for rice production and productivity and complementary activities								
1.1. Rehabilitation of hydro-agricultural installations	4 963	79.8	169	2.7	1 089	17.5	6 222	46.7
1.2. Sites exploitation and the development of livestock and vegetable production activities	277	94.1	-	-	17	5.9	294	2.2
Subtotal	5 240	80.4	169	2.6	1 107	17.0	6 516	48.9
2. Support for adding value to production and increasing market access								
2.1. Promotion of related trades and value-adding activities	1 016	98.1	-	-	20	1.9	1 036	7.8
2.2 Construction and rehabilitation of rural roads	2 010	87.3	-	-	293	12.7	2 303	17.3
Subtotal	3 026	90.6	-	-	313	9.4	3 339	25.1
3. Project coordination and management								
3.1. Coordination and M&E	3 098	95.2	-	-	158	4.8	3 256	24.4
3.2. Partnership management and scaling up of CDIT and FIDL models	206	97.7	-	-	5	2.3	211	1.6
Subtotal	3 304	95.3	-	-	162	4.7	3 466	26.0
Total	11 570	86.9	169	1.3	1 582	11.9	13 322	100.0

Table 3
Additional financing: costs by expenditure category and financier
 (Thousands of United States dollars)

	<i>IFAD DSF grant</i>		<i>Beneficiaries</i>		<i>Government</i>		<i>Total</i>	
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>
I. Investment costs								
A. Equipment, vehicles and inputs								
1. Equipment and materials	435	98.9	-	-	5	1.1	440	3.3
2. Vehicles	53	82.0	-	-	12	18.0	64	0.5
Subtotal	488	96.8	-	-	16	3.2	504	3.8
B. Grants	1 081	100.0	-	-	-	-	1 081	8.1
C. Civil works	4 105	79.3	169	3.3	901	17.4	5 175	38.8
D. Services								
1. Assets and inputs	-	-	-	-	-	-	-	-
2. Training and workshops	384	100.0	-	-	0	-	384	2.9
3. Consultancies	3 043	83.3	-	-	610	16.7	3 654	27.4
Subtotal	3 427	84.9	-	-	610	15.1	4 038	30.3
Total investment costs	9 100	84.3	169	1.6	1 528	14.1	10 787	81.1
II. Recurrent costs								
A. Salaries and operating costs								
1. Salaries and benefits	2 115	100.0	-	-	-	-	2 115	15.9
2. Operating costs	355	86.7	-	-	54	13.3	409	3.1
Subtotal	2 470	97.8	-	-	54	2.2	2 524	18.9
Total	11 570	86.9	169	1.3	1 582	11.9	13 322	100.0

Table 4

Project costs by component and project year

(Thousands of United States dollars)

	2022	2023	2024	2025	2026	Total
	Amount	Amount	Amount	Amount	Amount	Amount
1. Support for rice production and productivity and complementary activities						
1.1. Rehabilitation of hydro-agricultural installations	502	1 612	1 592	1 464	1 052	6 222
1.2. Sites exploitation and the development of livestock and vegetable production activities	-	217	25	26	26	294
Subtotal	502	1 829	1 617	1 489	1 078	6 516
2. Support for adding value to production and increasing market access						
2.1. Promotion of related trades and value-adding activities	-	209	368	379	81	1 036
2.2. Construction and rehabilitation of rural roads	-	1 536	763	3	-	2 303
Subtotal	-	1 746	1 131	382	81	3 339
3. Project coordination and management						
3.1. Coordination and M&E	114	853	710	730	849	3 256
3.2. Partnership management and scaling up CDIT and FIDL models	-	65	66	39	40	211
Subtotal	114	918	776	769	889	3 466
Total	616	4 493	3 524	2 640	2 048	13 322

Financing and cofinancing strategy and plan

28. **Financing plan.** IFAD's contribution will be US\$11.57 million, 87.0 per cent of the total project cost, in the form of a grant. The contribution of the Government of Guinea-Bissau (taxes and duties), is estimated at about US\$1.58 million, 11.9 per cent of the total project cost. The beneficiaries' contribution is estimated at US\$169,000, 1.3 per cent of the project cost. The additional financing plan will complement the undisbursed OPEC Fund loan funds available, covering the cost of 10 km of rural roads in addition to the 35 km covered by the IFAD additional financing.

Summary of benefits and economic analysis

29. The financial analysis shows that the targeted activities are sound. The economic analysis also shows that the project is economically viable. Taking into account the current assumptions, the economic rate of return for the overall project is equal to 20.23 per cent and the net present value equals US\$12.69 million. The project is sensitive to changes in some of the model's variables (changes in benefits and costs, lags in the realization of benefits and adoption rates).

Exit strategy and sustainability

30. The additional financing builds on the results of PADES and focuses on creating the framework for sustainability and dissemination of good practices. The strategy of developing hydro-agricultural management plans in the communities already working with PADES will allow the project to define and implement agricultural itineraries, combine productive interventions with ecosystem restoration activities and monitor results. The rehabilitation of rural roads combined with production support will have a decisive impact on market access and income generation. The incorporation of the school feeding programme as a market for local producers will strengthen local producers from production to commercialization. Moreover, support provided to local young entrepreneurs will enable the creation of social businesses with an impact on rural livelihoods. Finally, the introduction of vessels in the Bijagós Islands will build upon best practices in the Archipelago, such as the community managed vessels in the Urok Islands led by local communities over the last 15 years with the support from a local NGO, Tiniguena.
31. The project will engage experienced NGOs as implementing partners, based on PADES experience and the NGO capacity assessment and analysis by REDE. This will ensure technical capacity and a solid presence in the intervention regions. In turn, this will contribute to better coordination with other ongoing projects and stronger capacity to promote sustainable interventions.
32. State services will be closely engaged in all activities and all regions to ensure project sustainability. Working with government technical departments has proven to be a resilient instrument in PADES despite the political instability.

III. Risks

A. Risks and mitigation measures

33. **Risks related to country instability and institutional weakness.** The project will secure appropriate technical assistance and IFAD will strengthen its partnership with international institutions and donors to support the Government. The additional financing will also mobilize specialized technical assistance to reinforce local capacities. This will be decisive to address the challenge that the proposed implementation strategy represents as learned from PADES.
34. **High vulnerability to climate change.** PADES will address climate issues across all its activities (awareness-raising and training of actors as part of the advisory assistance and the technology package, etc.). The main outcome of this intervention will be to promote climate resilient production models and a sound

system for agriculture promotion that can lead to best practices, enhancing rice production in Guinea-Bissau.

35. **Risks related to the quality of service providers.** The additional financing requires the mobilization of highly qualified implementation partners that can improve the technical assistance to local producers both on rice and horticulture production. The recruitment of the implementation partners will be based on detailed terms of reference and will consider the capacity assessment recently led by REDE.
36. **Fiduciary risks.** Although fiduciary risks still exist, the most recent supervision missions reported that PADES had made improvements in financial reporting and execution and assessed overall financial management quality as moderately satisfactory. The annual pre-audit financial statements are being sent to IFAD on time. The majority of the audit and supervision recommendations have been implemented.

B. Environment and social category

37. The project actions, centred around the rehabilitation and development of hydro-agricultural infrastructure, development of market gardening, reforestation of rice field perimeters, improvement of water and soil management methods and capacity-building of producers to adopt sustainable agricultural practices, will have a moderate environmental and social impact. Although some project interventions are located in protected areas (particularly in the Bolama/Bijagós region), agricultural development, sustainable water and soil management, market gardening development and economic diversification are compatible with the management objectives of these protected areas. The project activities will contribute to improving the living conditions of the resident populations in the protected areas while reducing pressures on the threatened forest habitats of these protected areas. In addition, the project will inform the Secretariat of the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat of any changes in the ecological characteristics of the wetlands in the Ramsar site in the Bolama/Bijagós region that are likely to occur during implementation, pursuant to article 3.2 of the Convention. Such impact will be mitigated by measures to be included in the environmental and social management plan and in the mandates of companies responsible for hydro-agricultural developments and the rehabilitation of rural roads. On this basis, and in accordance with the environmental and social safeguards screening checklist, the environmental and social category of the project can be considered substantial. It will therefore be necessary to elaborate an abbreviated environmental, social and climate management framework (including an environmental, social and climate management plan and a biodiversity management plan). The abbreviated framework will be elaborated in the last quarter of 2022.

C. Climate risk classification

38. The project will seek to increase climate and environmental resilience through better water management in the rehabilitated rice fields; development of sustainable economic activities; preservation and restoration of vegetation cover on rice field perimeters; use of short-cycle stress-tolerant varieties; and promotion of good agricultural practices contributing to adaptation to climate change. The project will intervene in the Bolama/Bijagós archipelago and in the coastal zone of Guinea-Bissau (Quinara and Tombali). These are considered particularly vulnerable to the impacts of climate change given the risk of ocean and river flooding, lack of water and irregularity of rainfall, all of which affect agricultural activities. For this reason, the project will contribute to strengthening the climate resilience of farmers by providing the conditions for better control of agricultural water in rice fields and in irrigated market gardening areas. On this basis and in accordance with the climate risk-screening checklist, the climate risk category of the project can be

considered substantial. It will therefore be necessary to develop a targeted climate change adaptation assessment. The assessment will be conducted in the last quarter of 2022.

IV. Implementation

A. Compliance with IFAD policies

39. The following changes were made to the original project design report following the most recent supervision mission recommendations and technical findings:
40. **Budget reallocation.** A reallocation of resources was approved in March 2022, following the 2021 supervision mission recommendations and project extension.
41. All undisbursed funds from the OPEC Fund, with an assumed balance of US\$0.6 million to be available as of September 2022, will be used to cofinance the rehabilitation of rural roads during the implementation of the additional financing and until the OPEC Fund loan completion and closing date in 2024.
42. **Logical framework and M&E indicators** – The logical framework was revised to reflect the additional financing strategy including a set of IFAD’s core indicators and updating targets regarding production to better reflect the conclusions and recommendations from the 2021 and 2022 supervision missions. Targets were also revised to reflect the effective area of intervention. Technical studies promoted by the project reflect a reduction in the total area of intervention when compared with initial targets and these revised targets need to be included in the logical framework.

B. Organizational framework

Management and coordination

43. **Lead agency.** The lead agency will remain the Ministry of Agriculture and Rural Development.
44. **Project coordination.** The project is coordinated by a project management unit (PMU) based in Buba, in the Quinara region. For the additional financing, the existing PMU² will be reinforced with an M&E assistant. The technical team will comprise a rural engineering expert, an agronomist and a gender and targeting expert.

Key implementation partners

45. The key implementing partners will remain the same, as indicated in the 2019 report (see footnote 2).
46. The main implementation partners for the additional financing will be NGOs. They will be responsible for the technical support to farmers, participatory design of hydrological and agricultural management plans, support to the school feeding programme, strengthening of local associations and cooperatives, and continuous support to horticulture production. In the Bijagós Islands, their tasks will also include facilitating vessels management.

Financial management, procurement and governance

47. **Project administrative and financial unit.** The administrative and financial unit includes an administrative and financial Officer, an accountant and a procurement officer. In terms of financial and accounting management, the administrative and financial unit will maintain the same responsibilities as described in the 2019 report (see footnote 2).
48. **Budgeting.** PADES is implemented on the basis of annual workplans and budgets (AWPBs) approved by the project steering committee and by IFAD. Each AWPB

² [2019/DOA/3](#).

includes a procurement plan for the year and potential contracts for the following year. Monitoring of AWPBs is done on a monthly basis.

49. **Flow of funds and disbursement arrangements.** The administrative and financial management procedures are detailed in the letter to the borrower and the administrative, financial and accounting management procedures manual.
50. **Initial deposit.** IFAD made an initial deposit of CFAF 750 million to the designated account at project start-up to cover the estimated average expenditure authorized for funding for a period of six months. The maximum amount allocated to the designated account for the additional financing was CFAF 455.500 million.
51. **Accounting systems, principles and procedures.** PADES accounting is in compliance with the following guidelines and procedures: (i) general accounting according to the West African Economic Union accounting standards (SYSCOA), which call for accrual accounting; and (ii) analytical and budgetary accounting by source of financing, category of expenditure, component, subcomponent and activity, and geographical code.
52. **Financial reporting.** The PMU uses the same financial monitoring system as described in the 2019 report (see footnote 2).
53. **External audit.** The project is subject to an annual audit of financial statements as required by IFAD guidelines. This audit is conducted in accordance with international auditing standards and IFAD's audit guidelines. The external auditors are recruited by the PMU based on terms of reference approved by IFAD. They are recruited in accordance with international tender procedures under a selection method based on quality and cost.
54. **Procurement.** The administrative and financial unit includes a procurement specialist to ensure compliance with all procurement guidelines and procedures and to ensure the quality of all contract files prepared at all levels of project implementation. Particular attention is paid to the application of the public procurement code and IFAD guidelines in the event of contradictory provisions.
55. **Governance.** With the additional financing, PADES will have a new technical structure to support the PMU across project implementation. The technical committee will be composed of independent experts with experience and technical knowledge in relevant areas of PADES intervention. This new structure will reinforce project's technical supervision between supervision missions.
56. **Social, environmental and climate assessment.** The PADES additional financing was designed considering the moderately unsatisfactory performance of PADES in terms of Social, Environmental and Climate Assessment Procedures (SECAP) as assessed during the 2021 supervision. The steps to be taken to improve PADES performance include international or national technical assistance in areas where there is a lack of skills, such as for developing and implementing SECAP monitoring and evaluation; collaboration with NGOs experienced in sustainable development, natural resource management and biodiversity conservation; development of territorial and water management plans for each intervention site, ensuring all stakeholders participate in the identification of habitat restoration priorities and implement restoration actions; and national technical committee with experience and technical knowledge in environmental, social and climate issues.

C. Monitoring and evaluation, learning, knowledge management and strategic communication

57. The PADES results-based M&E system is aligned with the requirements of the Government of Guinea-Bissau and IFAD, and built around the logical framework. Indicators are disaggregated by gender.

58. The M&E system is structured around three functions: monitoring AWPB implementation, monitoring results and measuring impact.
59. The primary data comes from the grassroots. Data and information collected at the grassroots level will be supplemented by thematic and outcome surveys, including an outcome assessment in 2023 that will provide elements on PADES impact and serve as the baseline for scaling up. Considering the technical requirements for productivity measurement, local NGOs will need to have experienced staff with the necessary training to implement M&E tasks.
60. The project will develop an M&E system based on cartography as a primary instrument complemented by activities, outputs and outcome indicators, to be reflected and analysed from a socio-spatial perspective. This will be an update when comparing to previous phases of PADES and it will be decisive as a planning and monitoring instrument. To properly implement this instrument, international technical assistance will be provided.
61. The M&E system is complemented by a sound knowledge management system that allows for more informed decision-making. The knowledge management system capitalizes on best practices in the field and shares key information in various formats based on the different target audiences.

V. Legal instruments and authority

62. A financing agreement between the Republic of Guinea-Bissau and IFAD will constitute the legal instrument for extending the proposed additional financing to the borrower/recipient. The signed financing agreement will be amended following approval of the additional financing.
63. Republic of Guinea-Bissau is empowered under its laws to receive financing from IFAD.
64. I am satisfied that the proposed additional financing will comply with the Agreement Establishing IFAD and the Policies and Criteria for IFAD Financing.

VI. Recommendation

65. I recommend that the Executive Board approve additional financing in terms of the following resolution:

RESOLVED: that the Fund shall provide a Debt Sustainability Framework grant to the Republic of Guinea-Bissau in an amount of eleven million five hundred and seventy thousand, two hundred and seventy one United States dollars (US\$11,570,271) and upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

Gilbert F. Hougbo
President

Updated logical framework incorporating the additional financing

Results hierarchy	Indicators					Means of verification			Assumptions/notes
	Name	Baseline	Midterm	Original target	End target	Source	Frequency	Responsibility	
Outreach	1.b Estimated corresponding total number of households members					Project Reports	Annual	Monitoring and Evaluation Responsible	The project should reflect on the need to update the number of beneficiaries in order to present: i) the number of direct beneficiaries from rice support activities; ii) the number of direct number of horticulture beneficiaries; iii) the number of indirect beneficiaries with the rural roads interventions. Considering the actual project information no more than 4.500 direct beneficiaries are receiving support from the project. If we include the rural roads the beneficiaries are currently 23.676
	Household members - Number of people		225,194	288,000	324,000				
	1.a Corresponding number of households reached								
	Households - Number		31,277	40,000	45,000				
	1 Persons receiving services promoted or supported by the project								
	Males - Number			24,000	27,000				
	Females - Number			16,000	18,000				
	Young- Number			16,800	18,900				
	Not young - Number			23,200	26,100				
	Total number of persons receiving services - Number of people		31,277	40,000	45,000				
Project/programme goal Contribute to the reduction of poverty in the rural communities of Tombali, Quinara and Bolama	per cent beneficiaries having improved their asset accumulation index					Outcome surveys Vulnerability Assessments	Baseline in 2023 and Final Evaluation	External Consultants Monitoring and Evaluation Responsible	The additional financing will allow to promote outcome assessments, improving the M&E system. The inclusion of a food security and vulnerability
	beneficiaries - Percentage (per cent)			30 per cent	30 per cent				
	per cent beneficiaries in a situation of food insecurity and vulnerability								
	beneficiaries - Percentage (per cent)	To be defined in 2023		Reduction of 20 per cent					
	per cent beneficiaries who report an improvement in their food security								
beneficiaries - Percentage (per cent)				30 per cent					

									indicator will represent a more robust methodology to assess project achievements
Development Objective Reviving agricultural production to ensure food security and income diversification in the regions of Tombali, Quinara and Bolama Bijagós	Nb additional tons rice production over project duration					Project reports	Annually	Monitoring and Evaluation Responsible	The project was not measuring the number of additional tons of rice in result of the absence of a baseline. The additional financing will allow to measure this specific outcome over 4 years of implementation.
	Additional tons of rice production – Percentage (%)	23,000			30 per cent improvement	Monitoring Data			
	Productivity in rice production					Supervision Reports	Final Evaluation	External consultants	
Productivity per hectare	To be assessed in 2023			2.5 ton	Outcome survey				
Outcome 1 Nb de tonnes de riz produites par an en année de croisière	Nb tons rice produced per year – in peak period					Project Reports, Monitoring Data, Supervision Reports, Final Evaluation	Annually	Monitoring and Evaluation Responsible	The targets are updated to reflect the effective production area and the average productivity of 2.5 tons per hectare
	Tons Number		28,070	36,000	30,237				
	CI 1.2.4 Percentage of producers reporting an increase in production					IFAD Core Outcome Indicators Surveys	Baseline in 2023 and Final Evaluation	External Consultants	New indicators
	percentage				80 per cent				
CI 1.2.2 Percentage of persons/ households reporting adoption of new/improved inputs, technologies or practices									
Percentage				80 per cent					
Output 1 Mangroves and lowlands are developed and rehabilitated, and producers trained in good management of irrigation water	Nb of ha of mangroves					Project Reports Monitoring and Evaluation System	Annually	Monitoring and Evaluation Responsible	The current targets need to be revised to correspond to the effective area that is being supported. This area was defined after the technical studies and it is lower than the initial expectations. The proposed targets reflect the
	Traditional type mangrove rice fields – Productive Surface (ha)		6,950	14,509	8,000				
	Modern type mangrove rice fields – Productive Surface (ha)		1,500	4,029	3,200				
	Lowlands rice fields – Productive Surface (ha)		50	95	895				
	Vegetable gardens – Surface (ha)		30	30	45				
	CI 1.1.4 Persons trained in production practices and/or technologies								
Men trained in crop - Number			4,640	5,140					

	Women trained in crop - number			3,360	3,860				real actual targets and the initial intervention in the Bijagós Islands + additional interventions in Quinara and Tombali
	Nb ha mangroves banks and watersheds protected		422	927	3,000				New target reflecting the need to protect around 25 per cent of the total area of intervention
	CI 3.1.4 Number of hectares of land brought under climate-resilient management				3,500	Project Reports, Monitoring and Evaluation System, Management Plans		Monitoring and Evaluation Responsible / Technical Assistance	New indicator
Outcome 2 Producers adopt income diversification activities	Productivity of selected vegetable cultures					Project reports, Monitoring Data, Supervision Reports, Final Evaluation	Annually	Agronomist / Monitoring and Evaluation Responsible	New indicator. The previous indicator (additional tons of horticulture products) does not allow a proper monitoring since it sums different cultures and the baseline does not exist.
	Productivity per hectare onion (ton)	7			20				
	Productivity per hectare – tomato (ton)	10			40				
	per cent of producers declaring an increase in their sales					Outcome survey	Baseline in 2023 and Final Evaluation	External Consultants	New Indicator
	Percentage (per cent)		80	80	80				
	CI 1.2.3 Percentage of persons/households reporting reduced water shortage vis-à-vis production needs					IFAD Core Outcome Indicators survey			
Percentage				90 per cent					
Output 2 Agricultural producers are supported in the implementation of microprojects for breeding and valorization of agricultural production.	CI 1.2.2 Farmland under water-related infrastructure constructed/rehabilitated					Project Reports, Monitoring and Evaluation System	Annually	Monitoring and Evaluation Responsible	New Indicator
	Surface(ha)				45				
	Number of women benefiting from project support in horticulture					2,250			

Outcome 3 Rural professional organizations provide services to their members	CI 2.2.5 Percentage of rural producers' organizations reporting an increase in sales				IFAD Core Outcome Indicators survey	Baseline in 2023 and Final Evaluation	External Consultants	New indicators			
	Percentage			60 per cent							
	CI 2.2.3 Percentage of rural producers' organizations engaged in formal partnership, agreements or contracts with public or private entities										
	Percentage	To be assessed in 2023		50 per cent							
Output 3 Rural professional organizations are structured and strengthened	CI 2.1.3 Number of rural producers' organizations supported				Project Reports, Monitoring and Evaluation System	Annually	Monitoring and Evaluation Responsible	Target updated to include the Bijagós Island interventions			
	OP - number		40	60							
	CI 2.1.4 Number of supported rural producers that are members of a rural producers' Organization										
	Number	To be assessed in 2023		4,000				New indicator			
	Number of community projects receiving seed-funding										New indicator
	Number			50							
Outcome 4 The mobility of people and the commercialization of products is improved in a sustainable way	per cent of people / households reporting improved physical access to social services				IFAD Core Outcome Indicators survey	Baseline in 2023 and Final Evaluation	External Consultants	New target regarding access to markets and additional indicator to evaluate the impacts on the access to social services			
	Persons- Percentage (per cent)		30	50							
	CI 2.2.6 per cent of people / households reporting improved physical access to markets and storage facilities										
Persons - Percentage (per cent)		60	80								
Output 5 Road infrastructures and market infrastructures are realized, operational and sustainable	Nb of Maintenance Committees of roads created and equipped				Project Reports , Monitoring and Evaluation System	Annually	Monitoring and Evaluation Responsible	Targets updated. New indicator – boats to facilitate transport of agricultural products and access to markets in Bijagós Islands			
	Maintenance committees – Number	5	15	30							
	Storage built / rehabilitated										
	Storage Number		10	10							
	Transformation and post-harvest processing equipment installed and operational by type (milling units, drying areas										
	Equipment Number	20	20	20							
	Number of boats installed and operational in Bijagós Island										
	Boats			3							
CI 2.1.5 Roads constructed, rehabilitated or upgraded											
Length of roads - Length (km)		44.5	133	144							

Updated summary of the economic and financial analysis

1. La présente annexe présente l'analyse économique et financière (AEF) du Projet d'appui au développement économique des régions du sud (PADES). L'approche méthodologique de l'AEF suit les principes directives de Gittinger (1982)³ et Belli et al (2001)⁴. Elle est conforme aux récentes lignes directives publiées par le FIDA⁵ et la Banque mondiale sur les analyses économiques et financières. L'objectif est d'identifier, de calculer et de comparer les coûts et les avantages/revenus du projet afin d'apprécier sa viabilité d'une part du point de vue des agents économiques (analyse financière) et d'autre part du point de vue de l'économie nationale dans son ensemble (analyse économique).
2. La méthodologie utilisée est une analyse coûts-bénéfices qui repose sur l'estimation en termes monétaires des coûts et des avantages du projet. La présente analyse est basée sur des données et les informations ont été fournies par l'équipe nationale PADES.
3. L'analyse financière du PADES montre que les activités ciblées sont saines. L'analyse économique montre également que le projet est économiquement viable. Compte tenu des hypothèses actuelles, le taux de rentabilité économique (TRIE) pour l'ensemble du projet est de 20,23 per cent et la valeur actualisée nette (VAN) est de 12,69 millions de dollars américains (\$US).
4. L'analyse a été axée sur les impacts découlant des activités principales de gestion durable des ressources naturelles et de l'agriculture sur les mangroves et de la gestion durable des bas-fonds. Neuf modèles financiers ont été développés, dont cinq pour les activités agricoles (composante une) et quatre pour la composante deux.
5. Cinq modèles financiers de production ont été préparés, notamment : deux modélisés pour la production de riz de mangrove (traditionnel et moderne), un modèle de riziculture de bas-fond, un modèle pour le maraîchage mixte (oignon, tomate et poivron) et le dernier modélisé de multiplicateurs de semences du riz aux mangroves.
6. En plus, trois modèles ont été développés pour les jeunes entrepreneurs (motoculteur, petite usine de transformation de l'huile de palme et décortiqueuse de riz). De plus, l'analyse économique a également modélisé l'impact que les infrastructures de pistes rurales, auront sur la production additionnelle et les prix. Ces impacts s'avèrent positifs.

I. Analyse financière

7. L'analyse financière du PADES est basée sur la comparaison des flux financiers nets (produits – charges) obtenus dans la situation « avec projet » à ceux qui seraient obtenus dans la situation « sans projet ». Elle vise à évaluer l'impact des investissements en infrastructures (aménagements de mangroves et bas-fonds, et pistes rurales) et de l'adoption des nouvelles pratiques proposées par le projet sur la situation financière des parties prenantes. Un taux d'actualisation de 10 per cent est utilisé, ce qui reflète le coût d'opportunité du capital, sur la base de l'expérience d'autres projets et des discussions avec les institutions de microfinance en Guinée Bissau.
8. En fonction de l'objectif, du cadre de résultats et de la structure des composantes, on s'attend à ce que le projet génère des avantages de natures différentes. De tels avantages comprennent : (i) un appui à la production et productivité rizicole et activités complémentaires ; (ii) un appui à la valorisation des productions et accès au marché ; (iii) coordination et renforcement institutionnel.

³ Gittinger, P. 1982. *Economic Analysis of Agricultural Projects*.

⁴ Belli, P., J.R. Anderson, H.N. Barnum, J.A. Dixon, and J-P. Tan. 2001. *Economic Analysis of Investment Operations: Analytical Tools and Practical Applications*. WBI Development Studies. World Bank Institute. Washington, DC: World Bank.

⁵ IFAD. 2015. *Economic and Financial Analysis of Rural Investment Projects, Basic Concepts and Rationale*.

1. Méthodologie et hypothèses

9. **Prix financiers.** L'information sur les prix (intrants, prix du marché, prix au producteur, etc.) a été obtenue au cours d'entretiens avec les producteurs et les commerçants durant la mission en juin 2022. Tous les modèles sont exprimés en prix constants 2022. L'analyse s'appuie sur les données primaires recueillies par la mission, par le gouvernement de Guinée Bissau et par le projet PADES même. Des hypothèses et des paramètres modérés ont été appliqués afin d'éviter une surestimation des prestations et de fournir des résultats réalistes.

10. **Budgets de cultures.** Pour apprécier la viabilité financière des cultures susmentionnées, il a été élaboré des budgets de cultures sur une superficie théorique d'un hectare pour les autres activités de production.

11. Dans la situation sans projet, les budgets de cultures ont été élaborés pour une année, il est tenu compte du fait que les rendements et les charges d'exploitation resteront à leurs niveaux actuels sans l'intervention du projet. Dans la situation avec projet, les budgets de cultures ont été élaborés sur 10 ans, de façon à faire ressortir l'évolution graduelle des rendements après l'adoption des nouvelles technologies par les producteurs. Pour éviter une surestimation des bénéficiaires du projet, les pertes post récolte ont été prises en compte. Pour la situation sans projet, les taux des pertes utilisés sont de 25 per cent pour toutes les cultures à exception de la production du riz de bas-fonds avec 20 per cent. Pour la situation avec projet, les taux des pertes diminuent de 15 per cent pour toutes les cultures à l'exception du bas-fond traditionnel où le taux diminue de 10 per cent et 18,75 per cent pour mangrove traditionnelle et moderne. La situation avec projet et sans projet se basent sur 75 per cent de main-d'œuvre familiale et 25 per cent de main-d'œuvre salariée.

12. **Rendements.** Le projet encouragera l'utilisation des bio pesticides pour améliorer la fertilité des sols et réduire l'utilisation de produits chimiques sur les mangroves. Les rendements moyens sont de l'ordre de 1,5 t/ha pour le riz. Avec les améliorations proposées par le projet, notamment des variétés de semences améliorées et la construction de digues, et de diguettes et une meilleure utilisation des intrants, les rendements moyens seraient de l'ordre de 2,5 t/ha pour le riz.

13. Pour la situation sans projet, la production de maraîchage mixte est de l'ordre de 5,0 t/ha pour l'oignon, 3,0 t/ha pour la tomate, 2,5 t/ha pour le poivron. Avec le projet, les rendements augmenteront entre 100 et 300 per cent. Toutes ces estimations sont basées sur les discussions avec l'équipe technique agronomique de la mission et l'expérience actuelle du même projet.

Tableau 1 : Résumé des modèles financiers

Rendements (Kg/ha)	Sans Projet	Avec Projet	Accroissement
Production de riz de bas-fonds			
riz	1,500	2,500	67 per cent
Production de riz de mangrove (moderne et traditionnel)			
riz	1,500	2,500	67 per cent
Multiplicateur de semences (riz)			
semences certifiées riz	1,500	2,500	67 per cent
Production maraîchage			
oignon	5,000	10,000	100 per cent
tomate	3,000	12,000	300 per cent
poivron	2,500	10,000	300 per cent

2. Résultats financiers

14. Les indicateurs de rentabilité témoignent de la viabilité des modèles financiers, avec des marges additionnelles et des retours sur investissement importants. Tous les modèles ont des valeurs nettes actuelles (VAN) positives et des ratios bénéfices-coûts supérieurs à un. Pour le modèle de production de riz avec un système traditionnel et également pour le système moderne de mangrove, le revenu additionnel obtenu une fois que les rendements et autres bénéfices sont réalisés se situe à 232 823 FCFA/ha/an. Pour le modèle de riz de bas-fonds, le revenu additionnel est de 274 669 FCFA/ha/an. Pour le modèle de maraîchage, il est de 7,97 millions FCFA/ha/an. Pour le modèle de semences, il est de 0,38 million FCFA/ha/an. Pour la production de semences de riz, ce revenu additionnel est de 0,38 million FCFA/ha/an. Dans les modèles de jeunes entrepreneurs, les revenus additionnels sont les suivants : pour le modèle de motoculteur de 2,62 millions FCFA/ha/an. Pour le petit transformateur d'huile de palme est 3,07 millions FCFA/ha/an. Finalement, pour la décortiqueuse de riz, le revenu additionnel est de 5,49 millions de dollars.

Tableau 2 : Résumé des modèles financiers

		Production de riz de mangrove (traditionnel)	Production de riz de mangrove (moderne)	Production de riz de bas-fonds	Multiplicator de semences (riz)	Production maraîchage	Motoculteur	Usine de transformation de huile de palme	Usine de décortiqueuse de riz
ANALYSE FINANCIERE	AN1	(410,125)	(498,400)	(243,400)	(360,669)	(14,298,040)	(1,123,500)	(2,074,850)	2,890,000
	AN2	90,100	126,450	135,500	88,050	5,119,095	2,138,220	2,080,875	5,490,000
	AN3	144,400	203,950	211,200	218,256	7,064,493	2,416,406	3,085,650	5,490,000
	AN4	232,823	232,823	287,169	375,453	7,965,780	2,623,939	3,411,010	5,490,000
	AN5	242,823	242,823	314,669	402,953	7,950,780	2,753,939	3,439,560	5,490,000
	AN6	257,823	257,823	314,669	252,953	7,965,780	2,753,939	2,616,410	5,490,000
	AN7	217,823	217,823	274,669	377,953	7,950,780	2,623,939	3,321,010	5,490,000
	AN8	257,823	257,823	314,669	402,953	7,965,780	2,753,939	3,349,560	5,490,000
	AN9	242,823	242,823	314,669	402,953	7,950,780	2,753,939	3,319,560	5,490,000
	AN10	232,823	232,823	274,669	377,953	7,965,780	2,623,939	3,071,010	5,490,000
TRI (financier)		40%	38%	83%	61%	46%	201%	124%	#NUM!
VAN (@10%, '000 FCFA)		690	803	1,297	1,439	29,654	16,416	18,342	39,394
B/C		1.40	1.38	1.58	1.45	2.12	2.00	1.15	2.36

II. Analyse économique

15. L'analyse économique vise à évaluer la viabilité du projet du point de vue de l'économie nationale. Compte tenu de sa complexité, le PADES a aussi d'autres avantages économiques qui sont difficiles à quantifier. Cependant, cette analyse comprend les principaux avantages attendus du projet, résultants des appuis aux filières rizicoles et maraîchage, ainsi que l'impact des infrastructures sur la production additionnelle.

1. Méthodologie et hypothèses

16. L'analyse économique ainsi que l'analyse financière reposent sur la comparaison entre la situation avec projet et la situation sans projet, le résultat imputable au projet étant le bénéfice net additionnel. Pour l'analyse économique, la méthodologie utilisée évalue les coûts et les bénéfices en se basant sur les prix financiers et, ensuite, réévalue ces prix en termes économiques pour refléter les coûts d'opportunité pour la société (prix économiques). L'analyse économique a été conduite sur une période de 20 ans, correspondant à la durée de vie estimée des avantages générés par le projet.

17. **Taux d'actualisation social.** Conformément à la Note technique de la Banque mondiale sur l'actualisation des coûts et avantages dans l'analyse économique, un taux d'actualisation de 8 per cent a été utilisé pour refléter le coût d'opportunité social du capital en Guinée Bissau. Ce taux d'actualisation a été appliqué pour calculer la VAN économique et les avantages différentiels nets futurs.

18. **Prix économiques.** Conformément aux estimations de l'*Economist Intelligence Unit* (EIU), le taux de change officiel a été fixé à 1,00 \$US pour 596,2 CFA franc (FCFA), le taux moyen prévu en 2022, selon les projections de l'*Economist Intelligence Unit* (EIU).

19.

20. Les prix financiers ont été convertis en prix économiques en appliquant des facteurs de conversion (FC). Pour les biens non échangeables, on a utilisé un FC égal à un, car ils sont généralement achetés au niveau local, sans distorsions fiscales significatives. Pour la main-d'œuvre, le facteur de conversion du coût d'opportunité est de 0,94. Pour les autres biens et équipements échangeables, un facteur de conversion de 0,85 a été retenu en considérant que les prix financiers comportent au moins la TVA dont le taux est actuellement de 18 per cent. Des prix de parité à l'importation ont été calculés pour les principaux produits agricoles et intrants (riz et urée), qui sont commercialisés au niveau international. La CF est de 0,71 pour le riz et de 0,71 pour l'urée et les intrants importés. Finalement, un facteur de conversion de 1,00 a été utilisé pour d'autres intrants locaux non soumis à la TVA.

Tableau 3 : Résumé des facteurs de conversion

Facteurs de Conversion	Facteur de conversion
Riz	0.80
Imported inputs	2.20
Domestic tradeable inputs	0.85
Domestic non-tradeable inputs	1.00
Labour *	0.94

21. L'analyse a également estimé le taux de change de référence (SER) de 596,2 FCFA pour 1 US\$ et un facteur de conversion standard de 1.06, sur la base des données de la Banque mondiale (WDI) concernant les importations et exportations et les droits et taxes sur les importations et les exportations, en appliquant la formule suivante :

$$SER = OER \cdot \frac{[(M + Tm) + (X - Tx)]}{(M + X)}$$

Où SER représente le taux de change de référence,

OER le taux de change officiel,

M le volume des importations,

Tm le taux des droits de douane sur les importations,

X le volume des exportations,

Tx le taux des taxes sur les exportations.

2. Analyse économique des infrastructures d'accès aux marchés

22. Au-delà de l'appui à la production agricole, le projet va aussi investir dans des infrastructures – 149 km de pistes rurales.

23. Ces investissements entraînent des effets positifs directs et indirects sur les populations et les économies locales, au-delà du cadre des filières appuyées par le projet. Les bénéfices quantifiés et pris en compte comprennent : (i) l'augmentation des superficies cultivées et des rendements grâce aux routes permettant un meilleur accès au marché; (ii) la diminution des pertes grâce à l'amélioration des conditions de transport, et (iii) l'accroissement des prix au producteur en raison du meilleur accès aux marchés. Les bénéfices additionnels non-comptabilisés comprennent : i) l'amélioration de l'accès aux centres de santé et d'éducation, qui a un impact positif sur le développement du capital humain, ii) la diminution du coût d'exploitation des véhicules (entretien, réparation, consommation de carburant), iii) le développement plus général du commerce, grâce à une réduction du coût et du temps de transport.

24. Plus spécifiquement, dans le cadre de la présente analyse, le modèle a pris en compte les bénéfices suivants : i) une augmentation des superficies cultivées de 2 per cent ; ii) une augmentation des rendements agricoles/productions vendus de 5 per cent ; iii) une réduction du taux des pertes de 20 per cent à 10 per cent pour le riz de bas-fonds, de 25 per cent à 18,75 per cent pour le riz de mangrove traditionnel et moderne, et de 25 per cent à 15 per cent pour les cultures maraichères ; et iv) une augmentation du prix payé aux producteurs de 5 per cent. Le modèle économique est basé sur l'hypothèse d'un rayon d'influence de 5 km de part et d'autre d'un tronçon de piste de 10 km. La zone d'influence est exploitée principalement pour la production de riz et des cultures maraichères. Par ailleurs, le modèle économique est basé sur l'hypothèse d'un taux de mise en culture de 10 per cent de la superficie de la zone d'influence. Le coût total pour la réhabilitation ou construction des pistes rurales.

25. L'analyse économique sur la base de ces hypothèses aboutit à un taux de rentabilité économique de 55 per cent et une VAN de 14,569 milliards FCFA.

Tableau 4. Bilan économique des infrastructures d'accès aux marchés

Taille moyenne du tronçon de piste (Km)	10,0
Linéaire total (Km)	149
Bénéfice additionnel par Km/an (millions de FCFA)	30
TRI économique pour les 149 Km (20 ans)	55 per cent
VAN économique pour les 149 Km (20 ans; @ 8 per cent; millions de FCFA)	14,569

3. Coûts et bénéfices économiques

26. Les trois composantes du projet ont été prises en compte dans le calcul du coût économique du projet. Dans tous les cas, pour les années 12 à 20, un coût récurrent a été estimé à 15 per cent du coût total du projet pour prendre en compte le coût prévu pour le secteur public en vue de poursuivre l'appui technique. Les coûts économiques du projet

ont été calculés en déduisant 18 per cent, qui déduit des imprévus financiers, les taxes et les provisions pour hausse de prix puis applique le taux de change de référence pour la conversion en monnaie locale de la partie du coût du projet en devises.

27. Sur la base de la méthodologie et des hypothèses exposées ci-dessus, les cash-flow des modèles financiers élaborés pour les différentes activités ont été transformés en valeurs économiques, ce qui a permis d'obtenir des bénéfices nets additionnels en prix économiques. Afin de prendre en compte la possibilité que, pour diverses raisons, il puisse y avoir des incidents ou des difficultés dans le développement des activités et tenir compte d'hypothèses prudentes, un taux d'adoption de 80 per cent a été appliqué.

5. Résultats économiques et analyse de sensibilité

28. La période d'analyse est de 20 ans pour tenir compte du phasage des interventions proposées. Les avantages économiques des modèles d'exploitation agricole ont été regroupés à l'aide des avantages nets différentiels moyens et des bénéficiaires pour chaque activité agricole dans le cadre des interventions du projet et en supposant des taux d'adoption extraits de l'exercice de calcul des coûts. Les prestations sont introduites progressivement pour tous les types d'interventions.

29. Les coûts économiques associés à l'amélioration de la productivité agricole, de l'agrobusiness et des pistes rurales ont été estimés à 43 millions de \$US. Les coûts économiques ont ensuite été déduits du flux global des avantages économiques pour obtenir le flux net des avantages supplémentaires du projet. L'analyse économique montre des résultats satisfaisants, avec une valeur actuelle nette qui s'élève à 12,687 millions de \$US au coût d'opportunité du capital de 8 per cent, et un taux de rentabilité interne économique (TRIE) du Projet qui s'établit à 20,23 per cent.

Tableau 5. Résumé des analyses d'économique

Millions de FCFA		Production de riz de mangrove (traditionnel)	Production de riz de mangrove (moderne)	Production de riz de bas-fonds (traditionnel)	Multiplicateur de sementes (riz)	Production maraichage	Motoculteur	Usine de transformation de huile de palme	Usine de décortiqueuse de riz	TOTAL BNA Pistes et infrastructures économiques	Adoption rate	Coûts eco projet	Bénéfices nets additionnels
		Millions de FCFA											
	AN1	-	-	-	-	-	-	-	-	-	80%	-	-
	AN2	-	-	7	3	-	-	-	-	695	80%	-	(703)
	AN3	1,190	874	21	1	337	-	-	-	252	80%	133	(2,322)
	AN4	332	35	7	7	104	-	-	-	131	80%	3,237	(3,567)
	AN5	395	166	12	16	40	-	-	-	236	80%	2,137	(2,030)
	AN6	385	408	19	26	191	-	-	-	1,328	80%	558	1,594
	AN7	1,116	451	21	35	203	-	-	-	1,981	80%	355	3,086
	AN8	1,309	381	42	40	135	-	-	-	1,981	80%	1,604	1,836
	AN9	1,327	350	30	43	157	25	31	21	1,981	80%	1,087	2,311
	AN10	1,428	431	6	43	189	22	22	15	1,981	80%	993	2,607
	AN11	1,399	449	31	43	296	7	8	1	1,981	80%	748	3,009
	AN12	1,449	578	134	44	309	7	35	14	1,981	80%	1,628	2,409
	AN13	1,462	592	164	44	312	8	40	14	1,981	80%	1,628	2,462
	AN14	1,436	592	180	44	312	8	37	14	1,981	80%	1,628	2,451
	AN15	1,429	596	185	43	312	8	36	14	1,981	80%	1,628	2,452
	AN16	1,429	596	185	43	312	8	38	14	1,981	80%	1,628	2,454
	AN17	1,427	592	178	43	335	8	40	14	1,981	80%	1,628	2,463
	AN18	1,428	594	178	43	335	8	38	14	1,981	80%	1,628	2,465
	AN19	1,426	590	172	43	342	8	33	14	1,981	80%	1,628	2,455
	AN20	1,425	588	165	43	342	8	33	14	1,981	80%	1,628	2,448
VAN@ 8% (millions de FCFA)		7,563											
VAN@ 8% (US\$)		12,686,127											
EIRR		20.23%											

30. Ce résultat est plutôt satisfaisant. Les bénéfices, qui ne sont pas reflétés dans le TRIE, comprennent notamment les bénéfices liés à l'amélioration des conditions de vie et de la sécurité alimentaire et nutritionnelle grâce à l'accroissement des revenus et des disponibilités alimentaires, les conséquences de l'amélioration des circuits de commercialisation, les impacts des compétences transmises via les formations sur d'autres types d'activités économiques exercées par les bénéficiaires et des effets multiplicateurs sur les acteurs des secteurs en amont (fournisseurs d'intrants, équipements, services) et en aval (transformateurs, commerçants) des filières, dont les femmes et les jeunes.

31. Les résultats ont été soumis à un test de variation des avantages et des coûts et à divers retards dans la réalisation des avantages. Un retard de trois ans dans la génération de prestations ou une baisse de 30 per cent par rapport au scénario de base réduirait le TRIE à 10,32 per cent et 12,50 per cent respectivement, ce qui est nettement supérieur au taux d'actualisation. Tous les scénarios montrent des résultats robustes dans tous les scénarios hypothétiques, le taux de rentabilité économique reste supérieur au coût d'opportunité du capital.

Tableau 6. Résumé des analyses de sensibilité

Scénarios	TRIE	VAN (8 per cent, million FCFA)	VAN (8 per cent, US\$)
cas de base	20.23 per cent	7,563	12,686,127
coûts +10 per cent	18.36 per cent	6,458	10,832,542
coûts +20 per cent	16.54 per cent	5,353	8,978,958
coûts +30 per cent	14.76 per cent	4,248	7,125,374
revenues +10 per cent	21.98 per cent	9,425	15,808,323
revenues +20 per cent	23.48 per cent	11,286	18,930,520
revenues +30 per cent	24.79 per cent	13,148	22,052,717
revenues -10 per cent	18.16 per cent	5,702	9,563,930
revenues -20 per cent	15.65 per cent	3,841	6,441,733
revenues -30 per cent	12.50 per cent	1,979	3,319,536
revenus retardés d'un an	16.56 per cent	5,375	9,015,159
revenus retardés de 2 ans	13.28 per cent	3,347	5,613,758
revenus retardés de 3 ans	10.32 per cent	1,467	2,461,282
Taux d'adoption de 50 per cent	9.38 per cent	536	899,320
Taux d'adoption de 60 per cent	14.08 per cent	2,854	4,786,352
Taux d'adoption de 70 per cent	17.50 per cent	5,171	8,673,385
Taux d'adoption de 90 per cent	22.31 per cent	9,806	16,447,449
Taux d'adoption de 100 per cent	24.09 per cent	12,123	20,334,481