



Investing in rural people

Executive Board

President's memorandum
Proposed additional financing to
Republic of the Niger
Family Farming Development Programme (ProDAF)
in Maradi, Tahoua and Zinder Regions

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

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Financing summary

Initiating institutions:	Republic of the Niger and IFAD
Borrower/recipient:	Republic of the Niger
Executing agency:	Ministry of Agriculture
Total programme cost:	US\$207.2 million
Amount of original IFAD financing:	US\$97 million
Terms of original IFAD financing:	50% in the form of a loan on highly concessional terms and 50% in the form of a debt sustainability grant
Amount of additional IFAD financing:	US\$40 million
Terms of additional IFAD financing:	80% in the form of a loan on super highly concessional terms and 20% in the form of a loan on highly concessional terms: without interest, with a repayment term of 50 years and 40 years, respectively, with a service fee of 0.10% and 0.75%, respectively, payable semi-annually on the unpaid balances, in USD, SDR or EUR
Cofinancier(s):	Global Environment Facility (GEF)
Amount of cofinancing:	GEF: US\$20 million
Terms of cofinancing:	Grant
Contribution of borrower:	US\$12.09 million
Contribution of beneficiaries:	US\$6.83 million

I. Background and programme description

A. Background

1. [The Family Farming Development Programme \(ProDAF\) in Maradi, Tahoua and Zinder Regions](#) was approved by the April Executive Board in 2015 for a total amount US\$207.2 million over an eight-year period, entering into force on 31 March 2015. The original financing plan consisted of: the two allocations under IFAD's performance-based allocation system (PBAS)(2013–2015 and 2016–2018 cycles) for a total amount of US\$97 million (50 per cent loan, 50 per cent grant), plus the remaining funds from earlier programmes, totalling US\$10.5 million; a grant from the Global Environment Facility (GEF) in the amount of US\$8.0 million, and a grant from the Adaptation for Smallholder Agriculture Programme (ASAP) for US\$13.0 million; a loan from the OPEC Fund for International Development (OPEC Fund) in the amount of US\$6.0 million, a loan from Italian Cooperation for US\$28.2 million, as well as domestic cofinancing from the Government of Niger of US\$33.4 million, and a beneficiary contribution of US\$11.1 million. Despite the resource mobilization after programme start-up,¹ a financing gap of US\$27.2 million remains to be filled. The original dates for programme completion and financial closing are 30 March 2023 and 31 March 2024, respectively.
2. In its letter to IFAD of 24 June 2022, the Government of Niger requested additional financing for the programme to ensure that all the indicators defined during the design phase would be achieved. In compliance with Decree No. 0218/MAG/SG/DEP of 28 July 2022, Niger formed a multisectoral technical committee charged with formulation to work with IFAD.
3. This memorandum seeks Executive Board approval of additional financing of US\$40 million from the PBAS 2022-2024, 80 per cent in the form of a loan on super highly concessional terms and 20 per cent in the form of a loan on highly concessional terms, calculated from the date of approval.
4. The programme's goal, objectives and components, as well as its implementation mechanism and financial terms will remain as originally stipulated. Given the ground lost, due in part to the COVID-19 pandemic and the nature of the activities involved (infrastructure), the completion and closing dates will be extended 36 months – that is, to 31 March 2026 and 30 September 2026 , respectively.
5. The additional financing to ProDAF is fully aligned with national strategies and the IFAD Strategic Framework 2016-2025. The programme is gender-sensitive, addresses youth and climate concerns and is aligned with the priorities of the Twelfth Replenishment of IFAD's Resources (IFAD12). It is also consistent with IFAD targeting guidelines as revised in 2019 and the Social, Environmental and Climate Assessment Procedures (SECAP 2017) and contributes to the Rural Youth Action Plan 2019-2021, as well as IFAD's Policy on Gender Equality and Women's Empowerment.

B. Original programme description

6. The programme is being implemented over an eight-year period, from 2015 to 2023; its intervention area is in the Maradi, Tahoua and Zinder regions. The target population is estimated at 290,000 households (2,030,000 people), mainly on family farms worked largely by women and youth.
7. The programme's general objective is to help sustainably guarantee food and nutrition security and the resilience of rural households to crises. The development objective is to sustainably increase the income of family farms, their adaptive capacity and resilience to external shocks, including climate change, as well as

¹ All the financing envisaged was mobilized, except for the government and beneficiary contributions, only US\$3.3 million and US\$4.8 million of which, respectively, were honored. However, the amount of the loan from the OPEC Fund increased from US\$6 million to US\$15 million.

their access to markets. It has two technical components: (i) strengthening sustainable family farming; and (ii) access to markets.

8. The expected outcomes are: (i) a reduction in the incidence of poverty and child malnutrition; and (ii) a 30 per cent increase in income from agricultural production and in the volume of agricultural products marketed.

II. Rationale for additional financing

A. Rationale

9. While the programme has largely met its objectives for most of the indicators, it has been unable to implement certain structuring activities, as certain unit costs were seriously underestimated at design and the level of cofinancier contributions turned out to be too low (especially domestic contributions, due to efforts to fight the terrorism raging in the country, for which substantial domestic resources were mobilized). The additional financing will cover part of this financial gap.
10. The additional financing will contribute to poverty reduction in Niger thanks to the structuring, higher productivity and greater climate resilience of farms in the regions covered by the programme. It will help to reduce chronic malnutrition in the most vulnerable groups, especially women and youth. The programme aims to lower the constraints on access to marketing platforms and create management structures for all the commercial rural infrastructure built or rehabilitated. It will boost Niger's institutional capacity in the area of cross-border trade.
11. This financing will enable the programme to meet its original targets in the current intervention area and be replicated on a wider scale in the Dosso region, benefitting 20,000 rural households, or 140,000 people.

Table 1

Financing gap by component
(Thousands of United States dollars)

<i>Components</i>	<i>Financing gap</i>	
	<i>Amount</i>	<i>%</i>
1. Strengthening sustainable family farming	25 683	57
2. Access to markets	12 161	35
3. Programme management and coordination, monitoring and evaluation and knowledge management	1 091	8
Total	38 935	100

Special aspects relating to IFAD's corporate mainstreaming priorities

12. During the design phase, the programme was not reviewed to determine its alignment with the commitments made under IFAD11. However, following a review of the activities carried out, the programme has been validated as:
- Gender-transformational
 - Nutrition-sensitive
 - Youth-sensitive
 - Including climate finance
13. **Gender and youth.** Poverty affects women and men differently in Niger. In 2020, Niger's human development index (HDI) stood at 0.321 for women and 0.443 for men. Similarly, the gross national product per capita was US\$536 for women and US\$1,859 for men. These factors exacerbate inequalities; the gender inequality rate in Niger is high (0.642), ranking it 154th out of the 162 countries evaluated. The country has the world's highest fertility rate – around 6.2 children per woman.
14. In addition to economic challenges, women are more exposed to problems related to insecurity and climate change.

15. Women, youth and persons with disabilities will benefit from viable economic opportunities and acquire the skills and competencies necessary for their empowerment to increase their participation in decision-making. Quotas will be established for direct beneficiaries – at least 40 per cent for youth (under the age of 35), at least 30 per cent for women and 5 per cent for persons with disabilities. This will increase their opportunities for employment and income generation: (i) in agricultural production, by increasing its attractiveness through start-up support; and (ii) in business activities connected with production (services, transport, transformation, marketing).
16. **Nutrition.** According to UNICEF, 15.0 per cent of children in Niger have been suffering from acute malnutrition since 2018 as a result of soil degradation, drought, poverty, limited access to staple foods and basic services and population growth. The COVID-19 pandemic and already fragile situations propelled the country into a malnutrition emergency. Some 47.8 per cent of children suffer from stunting, which has consequences for their survival and cognitive development, as well as the country's economic development. Micronutrient deficiencies are endemic, and more than 70 per cent of children under 5 are anaemic.
17. A nutrition strategy will be developed to guide nutrition mainstreaming, with particular emphasis on family farming to fight malnutrition.
18. **Climate change and the food crisis.** The most visible effects of climate change in Niger are drought, lower and unevenly distributed rainfall, and the inexorable advance of desertification and extreme temperatures. According to the Global Climate Risk Index, Niger ranks 9th among the countries in the world most affected by extreme weather events.²

B. Description of geographical area and target groups

19. **Geographic targeting.** ProDAF will operate in the original economic development hubs (EDH) in the Maradi, Tahoua and Zinder regions and will be expanded to three EDH in the Dosso region. In all, 24 communes are targeted, based on: (i) the regional poverty rate; (ii) geographical continuity of the current interventions; (iii) the potential for grain and pastoral production, and market opportunities; (iv) government demand; and (v) the presence of organized economic actors.
20. **Beneficiary targeting.** The additional funds will enable the programme to serve the 290,000 households originally targeted, as well as 20,000 rural households in Dosso, or 140,000 people, for a total of 2,170,000 people.

C. Components, outcomes and activities

Component 1: Strengthening sustainable family farming

Subcomponent 1.1: Structured, productive farms resilient to climate risks

21. Family farm productivity will be sustainably increased through: (i) the consolidation and development of some 50,000 hectares in watersheds (structural activity [AS] 1); and (ii) the construction or rehabilitation of 75 water mobilization works (AS2), developing 2,600 hectares for floodplain expansion.
22. In keeping with the programme's geographical continuity aim, the sites retained are located in sub-watersheds that have benefitted from upstream improvement activities (AS1) and are part of the EDH that promote surplus production flows (Component 2).
23. The programme will pursue the improvement of 570 hectares of irrigable land (AS3). To promote small irrigation projects, it will pursue cost-shared financing through institutions, based on parcel production guarantees, as well as a business plan accompanied by self-financing.

² Global Climate Risk Index 2019.

Subcomponent 1.2: Capacity building for rural dwellers

24. At each improved site, the programme will pursue the organization of water and natural resource users' associations, as well as infrastructure maintenance squads for the new sites, with the participation of service providers operating in the programme area.
25. Assistance to irrigators will include the development of important irrigated crops through environmentally friendly practices.

Subcomponent 1.3: Women's leadership and the improvement of nutrition security

26. A series of specific nutrition activities will be carried out to benefit women, youth, adults and persons with disabilities, including refugees, displaced persons and returnees, in which participation will be voluntary. These activities will mainly involve: (i) the creation and revitalization of multipurpose women's groups linked with the Mata Masu Dubara (MMD) national network; (ii) the creation of home gardens for the production of highly nutritious foods for the most vulnerable households, which will also benefit from small livestock kits; (iii) the installation of women's granaries for dry periods; (iv) the promotion of income-generating activities through the processing of agropastoral products; (v) the promotion of women's literacy; and (vi) information on basic family nutrition practices through the creation of learning and nutritional rehabilitation centres.
27. The additional funds will also improve access to clean water to alleviate women's workload, with financing for the construction of 10 independent water points.

Component 2: Access to markets**Subcomponent 2.1: Structures for access to marketing platforms**

28. The additional financing will facilitate the rehabilitation of 176 km of rural tracks and three quasi-wholesale markets in the three EDH in the Dosso region. All interventions will be preceded by environmental and social impact assessments (ESIA).

Subcomponent 2.2: Modes of infrastructure management and the financing of economic operators

29. The programme will support infrastructure management mechanisms and the co-signing of local public-private partnership agreements. Three new multi-actor groups (*Hadin Gwiwa* in Hausa), and three market management mechanisms, as well as 10 village track maintenance committees, will be set up, along with social engineering activities.
30. The programme expects to assist 300 market-oriented rural microenterprises that have profitable activities, 30 of them with processing activities with high nutritional value.

Subcomponent 2.3: Regional trade integration

31. The integration of the regional and subregional economy is aimed at promoting greater food security for area populations. Therefore, cross-border trade based on a dense network of trade along the Niger-Nigeria, Niger-Chad and Niger-Benin corridors is essential for ensuring food security in Niger.
32. As part of the current subregional dynamic, the programme's achievements will be strengthened in partnership with the Niger Chamber of Commerce and Industry, ensuring: (i) the promotion of border trade information and assistance offices; (ii) widespread use of the *bon d'enlèvement et de commercialisation* customs form; (iii) support for the private sector and cross-border traders through implementation of the African Continental Free Trade Area, etc.

D. Costs, benefits and financing

Programme costs

33. The total programme cost, including the additional financing, is US\$286.1 million. The total revised programme costs by component are: (i) Strengthening sustainable family farming, US\$143.1 million (50 per cent); (ii) Access to markets, US\$111.5 million (39 per cent); and (iii) Programme management and coordination, monitoring and evaluation and knowledge management, US\$31.5 million (11 per cent).

Table 2

Financing summary (original* and additional)

(Thousands of United States dollars)

	<i>Original financing*</i>	<i>Additional financing</i>	<i>Total</i>
Funds from earlier programmes	10 500	-	10 500
IFAD loan	48 500	40 000	88 500
IFAD grant	48 500	-	48 500
ASAP	13 000	-	13 000
GEF	8 000	20 000	28 000
OPEC Fund	6 000	-	6 000
Italian cooperation (DGCS)	28 200	-	28 200
Beneficiaries	11 100	6 838	17 938
Borrower	33 400	12 097	45 497
Total	207 200	78 935	286 135

*See tables 1 and 2 in document EB 2015/114/R.8/Rev.1 for a detailed breakdown.

Table 3
Additional financing: programme costs by component and funding source
 (Thousands of United States dollars)

Components	Additional financing											
	Additional IFAD loan		Other cofinanciers (GEF)		Beneficiaries			Borrower/recipient			Total	
	Amount	%	Amount	%	Cash contributions	In-kind contributions	%	Cash contributions	In-kind contributions	%	Amount	%
1. Strengthening sustainable family farming	13 966	35.2	19 357	48.8	517	2 572	7.8	-	3 238	8.2	39 649	50.2
2. Access to markets	21 023	63.4	-	-	3 750	-	11.2	1 645	6 766	25.4	33 184	42.0
3. Programme coordination, monitoring and evaluation and knowledge management	5 011	82.1	643	10.5	-	-	-	-	448	7.4	6 102	7.8
Total	40 000	50.7	20 000	25.3	4 267	2 572	8.7	1 645	10 452	15.3	78 935	100

Table 4
Additional financing: programme costs by expenditure category and funding source
 (Thousands of United States dollars)

Expenditure category	Additional financing											
	Additional IFAD loan		Other cofinanciers (GEF)		Beneficiaries			Borrower/recipient			Total	
	Amount	%	Amount	%	Cash contributions	In-kind contributions	%	Cash contributions	In-kind contributions	%	Amount	%
1. Works	20 323	46.1	11 661	26.4	-	2 010	4.5	-	10 133	23.0	44 128	55.9
2. Equipment and materials	964	68.9	117	8.4	-	-	0.0	-	319	22.7	1 400	1.8
3. Consultations (services)	10 976	59.7	6 833	37.2	-	562	3.1	-	-	-	18 371	23.3
4. Subsidies and grants	3 582	35.3	644	6.4	4 267	-	42.1	1 645	-	16.2	10 137	12.8
5. Salaries, indemnities and operating costs	4 155	84.8	745	15.2	-	-	0.0	-	-	-	4 899	6.2
Total	40 000	50.7	20 000	25.3	4 267	2 572	8.7	1 645	10 452	15.3	78 935	100

Table 5
Programme costs by component and year
 (Thousands of United States dollars)

<i>Components</i>	<i>2015/2016</i>		<i>2016/2017</i>		<i>2017/2018</i>		<i>2018/2019</i>		<i>2019/2020</i>		<i>2020/2021</i>		<i>2021/2022</i>		<i>2022/2023</i>	
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>
1. Strengthening sustainable family farming	4 752	3.3	12 945	9.0	20 177	14.1	26 015	18.2	21 144	14.8	12 840	9.0	3 360	2.3	2 231	1.6
2. Access to markets	7 284	6.5	18 713	16.8	15 192	13.6	14 410	12.9	11 297	10.1	5 476	4.9	3 480	3.1	2 440	2.2
3. Programme management and coordination, monitoring and evaluation and knowledge management	2 839	9.0	2 679	8.5	4 267	13.5	3 062	9.7	2 501	7.9	2 639	8.4	4 916	15.6	2 539	8.0
Total	14 875	5.2	34 337	12.0	39 636	13.9	43 487	15.2	34 942	12.2	20 955	7.3	11 756	4.1	7 210	2.5

Table 5 (continued)

<i>Components</i>	<i>2023/2024</i>		<i>2024/2025</i>		<i>2025/2026</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. Strengthening sustainable family farming	18 716	13.1	16 349	11.4	4 585	3.2	143 114	50.0
2. Access to markets	15 890	14.3	14 600	13.1	2 693	2.4	111 476	39.0
3. Programme management and coordination, monitoring and evaluation and knowledge management	2 839	9.0	1 629	5.2	1 634	5.2	31 545	11.0
Total	37 445	13.1	32 578	11.4	8 913	3.1	286 135	100.0

Financing and cofinancing strategy and plan

34. The failure to mobilize government counterpart funds, mainly in cash, has created a US\$27.2 million financing gap. When the cofinancing ratios are taken into account, the total financing gap increases to US\$78.9 million; it will be covered by additional IFAD financing of US\$40 million (80 per cent in the form of a loan on super highly concessional terms, 20 per cent in the form of a loan on highly concessional terms), expected cofinancing of US\$20 million from GEF and a government and beneficiary contribution of US\$18.9 million, US\$13.0 million of which will be in kind.

Disbursement

35. IFAD will increase its authorized allocation for the various expenditure categories to take the additional financing into account. No change is expected in the current disbursement mechanism as described in the Letter to the Borrower as amended to date.

Summary of benefits and economic analysis

36. **The results of the economic analysis** show that the programme is profitable, with an economic internal rate of return of 21.1 per cent (base case scenario) and a net present value of US\$75.6 million, or FCFA 42.9 billion, for a total cost of US\$286.1 million. These results are highly satisfactory. A sensitivity analysis based on the potential risks identified during the implementation of programme activities confirms their robustness.
37. **Benefits and beneficiaries.** The economic and financial analysis of the programme was updated using the same opportunity cost of capital (OCC) as the original financing (10 per cent). The programme's economic internal rate of return is estimated at 21.1 per cent, which is higher than the OCC. The programme's net present value is positive (US\$75.6 million), and the benefit-cost ratio is over 1 (1.6). These indicators confirm the programme's economic feasibility and justify pursuit of the investment and reduction of the financing gap identified at design.
38. **Sensitivity analysis.** The programme is still viable if profits fall by 15 per cent to 35 per cent or total costs increase by the same percentage. In terms of the scenario analysis, the programme remains feasible with a simultaneous reduction in profits and 20 per cent increase in costs. However, a simultaneous 25 per cent reduction in profits and 25 per cent increase in costs, or a 15 per cent reduction in profits and a 35 per cent or more increase in costs would compromise the programme's viability. The programme is therefore a robust investment, and this analysis justifies the pursuit of its financing.

Exit strategy and sustainability

39. Implementation of the activities hinges on social engineering, which constitutes a bridge between the interventions and the participants, through management committees and associations who are recognized at the commune level. The approach respects the principle of territorial continuity, bringing actors together around a local development dynamic, and takes into account the links between, whether through interregional and cross-border trade corridors or pastoral corridors. The mechanisms for commercial infrastructure management have made it possible to maintain the infrastructure³ and ensure the quality and sustainability of the services rendered. Finally, the mechanisms for rural track maintenance guarantee functional maintenance⁴ whatever the season, sustainably freeing territories from their isolation.

³ The heavy maintenance costs, however, remain the responsibility of the local authorities, as the owners of the infrastructure.

⁴ The multi-year rehabilitation costs, however, remain the responsibility of the public authorities.

III. Risk management

A. Risks and mitigation measures

40. The programme's overall risk level with implementation of the mitigation measures is **moderate**.
41. The risks associated with the programme are linked to: (i) re-emerging insecurity due to armed groups of non-state actors; (ii) the preference given to other government programmes; (iii) delays and problems creating synergy between the different sources of financing; iv) an excessive workload due to the procedural requirements of the different sources of financing; (v) climate change, as well as its environmental and social impact; and (vi) financial and procurement management.
42. The mitigation measures are: (i) the participation of local authorities and alignment with the regional and communal development plans; (ii) a contribution to the policy dialogue for EDH to scale up the approach, and especially, its integration in the agribusiness hub programme; (iii) organized civil society engagement in rural areas, with quality control exercised by the deconcentrated and centralized technical services; (iv) strengthening of the technical and fiduciary capacity of autonomous regional project management units (RPMU) by the national representation and technical assistance cell (CENRAT); and (v) the dissemination of approaches that increase the resilience of rural populations to climate change.

B. Environment and social category

43. **Environmental impacts.** The programme is aimed at reducing agriculture's environmental impact by encouraging practices that are more efficient (in land, water, input use, etc.) and sustainable (technical itineraries, the promotion of assisted natural regeneration, water and soil conservation and soil protection and restoration, management of rangelands). Definitive designation of the intervention sites confirms that no activity will be conducted in a location designated by a national regulation as a protected area.
44. **The social impacts** of the programme's activities are positive and linked to (i) a sustainable increase in household income; (ii) job creation in agricultural production and marketing; and (iii) the opening up of communities through new economic and social opportunities. The main social risk remains access to land for women and youth, and to financing through financial institutions for all small-scale rural investors. Mitigation measures have been introduced, namely: (i) participatory land audits, in collaboration with land committees; (ii) support for the establishment of inclusive management mechanisms; and (iii) support for setting up youth in business.
45. The programme has been classified in **category A**.

C. Climate risk classification

46. By the year 2100, temperatures will have increased by 3° C to 6° C across the country, especially in the Maradi, Tahoua, Zinder and Dosso regions. These higher temperatures will exacerbate food insecurity and water scarcity, as well as conflicts and humanitarian crises. Total annual rainfall in certain regions has been increasing since 2020 and, according to the projections, this trend is likely to continue. No general trend is noted for the upper Niger River region. The three regions, however, are looking at a potential increase in the frequency of extremely heavy rains in the future.
47. The programme allows for more efficient mobilization of surface water, and eventually, groundwater. As for the contribution to the reduction of greenhouse gas emissions, the proposed interventions are expected to yield a reduction in CO₂ emissions (assisted natural regeneration).

48. Local climate projections predict higher rainfall during the rainy season due to an increase in extreme climate-related phenomena, such as floods. While the programme includes efforts to mitigate the effects of climate change, these phenomena can nonetheless impact programme activities. Therefore, a **high climate risk** classification is proposed.

IV. Implementation

A. Compliance with IFAD policies

49. The proposed additional financing is compliant with IFAD policies, in particular: the IFAD Strategic Framework 2016-2025; the Policy on Rural Enterprise; the Inclusive Rural Finance Policy; the Policy on Gender Equality and Women's Empowerment; the Nutrition Action Plan (2019-2025); and the IFAD Targeting Policy: Reaching the rural poor and the Social, Environmental and Climate Assessment Procedures (SECAP).

B. Organizational framework Management and coordination

50. The programme's existing supervision, steering and implementation mechanism remains unchanged and is handled by the autonomous RPMUs in Dosso, Maradi, Tahoua and Zinder, which manage the programme under the supervision of a coordinator. At the national level, CENRAT is responsible for strategic coordination, representation, intervention quality control and consolidation among the RPMUs. Management capacity will be strengthened to manage the workload generated by the growing volume of activities.
51. The programme's technical activities are carried out by implementation partners, and monitoring and quality control are exercised by the central and deconcentrated technical services.

Financial management, procurement and governance

52. Programme funds are managed in compliance with domestic and IFAD financial and operational management procedures. The administrative and financial procedures are described in the Letter to the Borrower and the programme's administrative and financial manual.
53. Programme disbursements comply with IFAD's disbursement procedures. The direct and dedicated account payment methods, as well as a disbursement method based on the transmission of interim financial reports, are applied as indicated in the Letter to the Borrower. Two dedicated accounts – one for each IFAD loan (super highly concessional and highly concessional) – have been opened in the Central Bank of Niger to facilitate the payment of eligible expenditures. The programme is registered in the IFAD Client Portal to facilitate withdrawals. Through competitive bidding and subject to IFAD's no objection, the borrower will select external auditors to audit the programme accounts at the end of each fiscal year. The staff of CENRAT's fiduciary unit will be increased to ensure the performance of these tasks.
54. The programme's current procurement mechanism will be replicated with some adjustments, notably in the establishment of IFAD review thresholds to take the assessed risk level into account;⁵ the application of IFAD's default procedure for the selection of consulting firms; and CENRAT support to RPMUs through a quality review of procedures, especially those related to important markets.

⁵ Programme risk assessment through the Fund's matrix yields a low level of risk.

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

55. **Monitoring and evaluation.** The programme will comply with IFAD monitoring and evaluation modalities and its results-based monitoring and evaluation system to monitor and transmit information on key logframe indicators.
56. The monitoring and evaluation system will facilitate: (i) preparation of the annual workplan and budget (AWPB); (ii) monitoring of the investments' progress; and (iii) the evaluation of programme outcomes. It will rely on the following tools: (i) baseline and thematic studies; (ii) the geographic information system; (iii) sampling, to monitor the impact on beneficiary households; (iv) economic and financial performance monitoring; (v) an information platform (geoportal and database); and (vi) the multi-year strategic planning matrix.
57. The monitoring and evaluation system will be participatory and consist of: (i) internal monitoring; (ii) beneficiary and stakeholder self-evaluations; (iii) joint government-IFAD supervision missions; and (iv) periodic external evaluations.
58. **Lessons learned.** The lessons learned and experiences to replicate or avoid in the future have been discussed and analysed with the stakeholders and programme team. They involve the following themes: (i) the need for flexible implementation approaches during security, environmental, pastoral and food security crises; (ii) the difficulty monitoring and evaluating results; (iii) the installation of RPMUs in the regions, a choice that is key to the success of interventions on the ground; (iv) water and soil resources, which are priority issues for the beneficiaries and can serve as a vehicle for local development.
59. **Strategic communication, learning and knowledge management.** The programme will continue its current collaboration, especially with the National Network of Chambers of Agriculture and regional and national university institutions, and will contribute to the development of national sectoral policies on: (i) the transformation of family farming, contributing to rural poverty reduction; (ii) resilience to climate shocks through technical and social innovation (especially under the Great Green Wall initiative); and (iii) consideration of the economic development hubs (EDH) when drafting the national strategy for the promotion of regional development and agribusiness hubs.
60. The programme will emphasize dissemination of the lessons learned. It will also produce annual reports, documentaries and a range of communication products. Peer-to-peer communication will take place through groups for thematic exchange, learning tours and national and regional workshops, as well as community radio and social media.⁶

D. Proposed amendments to the financing agreement

61. The programme's financing agreement will be amended to include the amount of additional IFAD financing (US\$40 million), specifying the new loan modalities and terms that will be negotiated.

V. Legal instruments and authority

62. An amendment to the current financing agreement between the Republic of the Niger 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. The Republic of the Niger is empowered under its laws to receive financing from IFAD.

⁶ <https://www.facebook.com/niger.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 loan on super highly concessional terms to the Republic of the Niger in an amount of thirty-two million United States dollars (US\$32,000,000) and upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

RESOLVED FURTHER: that the Fund shall provide a loan on highly concessional terms to the Republic of the Niger in an amount of eight million United States dollars (US\$8,000,000) and upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

Alvaro Lario
President

Cadre logique mis à jour incorporant le financement additionnel

Chaîne logique	Indicateurs						Moyens de vérification			Hypothèses
	Nom	Situation de référence	Mi-parcours	Cible Finale	Cible additionnelle	Cible Finale révisée	Source	Fréquence	Responsabilité	
Portée ProDAF	1.b Estimation correspondante du nombre total des membres des ménages									N.B Portée HH size: 7 pers/HH
	Membres des ménages - Nombre de personnes			2 030 000	140 000	2 170 000				
	1.a Nombre correspondant de ménages touchés									
	Ménages dirigés par une femme - Nombre			99 825	6 800	106 625				
	Ménages autres que ceux ayant une femme pour chef - Nombre			190 175	13 200	203 375				
	Ménages - Nombre		34%	290 000	20 000	310 000				
	1 Nombre de personnes bénéficiant de services promus ou appuyés par le projet									
	Femmes - Nombre			87 000	10 000	97 000				
	Hommes - Nombre			203 000	10 000	213 000				
	Jeunes - Nombre			87 000	6 000	93 000				
	Personnes autres que les jeunes - Nombre			203 000	14 000	217 000				
Nombre total de personnes bénéficiant de services - Nombre de personnes			290 000	20 000	310 000					
Objectif du projet Contribuer à assurer durablement la sécurité alimentaire et nutritionnelle, et les capacités de résilience aux crises des ménages ruraux des régions de	Réduction du taux de malnutrition chronique chez les enfants de 0 à 59 mois						Rapports UNICEF et PAM			La stratégie d'accélération de l'i3N est opérationnelle et harmonisée avec le PNIA Mécanismes conjoints (Gouvernement du Niger et Partenaires Techniques et
	Réduction malnutrition chronique - Pourcentage	52		51		51				
	Amélioration de la sécurité alimentaire et nutritionnelle des ménages ciblés						Enquêtes d'impact SYGRI			
	1.2.8 Femmes déclarant une diversité alimentaire minimale (MDDW)			50%		50				

Maradi, Tahoua et Zinder	Femmes - Nombre					600	9 350				Financiers) performants de gestion des crises	
	Ménages - Nombre					600	9 350					
	Membres des ménages - Nombre					4 200	65 450					
Objectif de développement Augmenter durablement les revenus de 240 000 exploitations agricoles familiales, leur résilience aux chocs extérieurs, dont les changements climatiques, ainsi que leur accès aux marchés locaux, urbains et régionaux des régions de Maradi, Tahoua et Zinder	Augmentation en moyenne de 30% de la marge brute additionnelle dans les 190,000 ha de cultures pluviales (mil/niebé de FCFA 36,000/ha à FCFA 46,800/ha)								"§ Rapport INS, i3N § Enquêtes d'impact SYGRI et complémentaire Effets/impact § Rapports partenaires et études spécifiques "			"Les risques éventuels identifiés (baisse des rendements suite à des aléas climatiques ou chocs phytosanitaires et/ou baisse des prix de vente des produits agricoles) restent dans la marge des hypothèses de l'analyse économique et financière "
	Marge brute-culture pluviale - Nombre	36000	40 000	48 000			48 000					
	Pour l'oignon, une marge brute en moyenne de FCFA 1,7 million/ha dans les 7,500 ha irrigués								"§ Rapport INS, i3N § Enquêtes d'impact SYGRI et complémentaire Effets/impact § Rapports partenaires et études spécifiques "			
	Oignon, marge brute - Nombre	284538	1 000 000	1 700 000			1 700 000					
	Membres des ménages de petits exploitants pauvres ayant reçu un appui pour faire face aux effets du changement climatique								Rapport INS, I3N, Enquetes d'impact Sygri			
	Femmes - Nombre											
	Hommes - Nombre											
	Membres des ménages - Nombre		150 000	240 000	16 800	256 800						
	SF.2.1 Ménages satisfaits des services soutenus par le projet (La cible est 80% de satisfaction (sur un total de 310000 HH)						COI					
	Membres des ménages - Nombre de personnes						1 736 000					
Ménages dirigés par une femme - Ménages						85 300						

	Ménages (%) - Pourcentage (%)												
	Ménages (nombre) - Ménages												
Effet direct L'émergence d'exploitations agricoles familiales durables permettra aux producteurs ruraux, femmes et jeunes inclus, de diversifier leurs productions, d'augmenter leurs rendements et leurs capacités d'adaptation aux chocs externes, notamment climatiques	1.2.1 Ménages faisant état d'un accès amélioré à la terre, aux forêts, à l'eau ou aux plans d'eau à des fins productives												
	Ménages faisant état d'un accès amélioré à l'eau - Nombre		18 000	36 000	2 400	38 400							
	1.2.4 Ménages faisant état d'une augmentation de la production												
	Membres des ménages - Nombre de personnes		120 000	240 000	16 600	256 600	"Enquêtes d'impact SYGRI et complémentaire Effets/impact"						
	2.2.1 Emplois nouveaux créés (Opportunités): At least 25% of the targeted people would get new employment/opportunities (1 in 4 people supported).												
	Emplois nouveaux - Emplois				5 000	77 500	COI						
	Emplois nouveaux - Femmes				2 500	38 750							
	Emplois nouveaux - Hommes				2 500	38 750							
	Emplois nouveaux - Jeunes				2 500	38 750							
	Petits éleveurs déclarant une augmentation de la production												
	Petits éleveurs/augmentation de leur cheptel - Nombre de personnes		18 000	15 256	1 000	16 256							
	Groupes locaux participant à des activités de gestion des ressources naturelles et du risque climatique												
	Groupes - Nombre		150	288	20	308							
	Groupements MMD installés pour 3 fédérations												
	Groupements MMD installés - Nombre		1	3	1	4							
3.2.1 Tonnes d'émissions de gaz à effet de serre (CO2) évitées ou de carbone fixé							"Dispositif EX-ACT de la FAO"	annual					

"Conditions climatiques favorables"
"Conditions zoo-phyto-sanitaires favorables"
"Partenariat effectif des différents projets et PTF pour un développement rationnel de la petite irrigation"
"Le système d'alerte précoce au niveau décentralisé est fonctionnel"

	Tonnes - Nombre	0	1 130 448	7 536 328	1 055 086	8 591 414					
Produit 1.1 Les aménagements productifs structurants ont accru la gestion rationnelle de l'eau et la fertilité des sols, et ainsi la résilience des exploitations familiales	3.1.4 Hectares de terres soumises à une gestion résiliente au climat						§ Rapports prestataires				"Sécurisation foncière préalable aux aménagements et modes de gestion négociés des sites" "Capacité d'appliquer les mesures recommandées suite à l'analyse du suivi piézométrique"
	Superficie en hectares - Superficie (ha)		20 000	21 725	2 730	24 455					
	Nbre de personnes dont les droits de propriétés ou d'usage de ressources naturelles ont été enregistrés dans les cadastres nationaux et/ou systèmes de gestion des informations géographiques										
	Persones - Nombre de personnes										
	Ouvrages de mobilisation des eaux construits/réhabilités+ (par type) (35 seuils de type 1 et 2 + 2 mini barrages en étude)						§ Rapports des STD (environnement, hydraulique)				
	Ouvrages de mobilisation des eaux construits/réhabilités - Nombre		75	134	8	142					
	Périmètres d'irrigation aménagés ou remis en état										
	Hectares of land - Superficie (ha)			2 030	280	2 310					
	1.1.2 Terres agricoles dotées d'infrastructures hydrauliques construites/remises en état										
	Superficie en hectares - Superficie (ha)		4 000	7 000	580	7 580					
	Groupes de gestion des ressources naturelles opérationnels (AUE, COGES sites,)										
	Groupes de gestion des ressources naturelles - Nombre		150	288	20	308					
	1.1.5 Personnes ayant accès à des services financiers dans les zones rurales										
	Nombre total d'accès aux services financiers - Nombre										
	Femmes-accès services financiers en zones rurales-épargne - Nombre										
Jeunes-accès services financiers en zones rurales-épargne - Nombre											
Person.s autres que jeunes-accès services financiers en zones rur.-épargne - Nombre											
Hommes-accès services financiers dans les zones rurales-épargne - Nombre											

	Hommes-accès services financiers dans les zones rurales-crédit - Nombre			20 546	1 400	21 946				
	Femmes - accès à des services financiers dans les zones rurales-crédit - Nombre			8 805	600	9 405				
	Jeunes-accès à des services financiers dans les zones rurales-crédit - Nombre			8 805	600	9 405				
	Person.s autres que jeunes-accès services financiers dns les zones rur.-crédit - Nombre			20 546	1 400	21 946				
	Personnes ayant accès-services financiers dans les zones rurales-épargne - Nombre de personnes									
	Personnes-accès à des services financiers dans les zones rurales-crédit - Nombre de personnes			29 351	2 000	31 351				
Produit 1.2 Les capacités de production, de post-production et d'organisation des acteurs ruraux sont renforcées	1.1.4 Personnes formées aux pratiques et/ou technologies de production						"§ Rapports des prestataires et des STD partenaires"			Accès à des intrants de qualité (engrais, semences) à un prix abordable
	Nombre total de présences aux sessions de formation - Nombre									
	Hommes formés à la production végétale - Nombre									
	Femmes formées à la production végétale - Nombre									
	Jeunes formés à la production végétale - Nombre									
	Personnes autres que les jeunes formées à la production végétale - Nombre									
	Personnes autochtones formées à la production végétale - Nombre									
	Personnes autres que des autochtones formées à la production végétale - Nombre									
	Hommes formés à la production animale - Nombre									
	Femmes formées à la production animale - Nombre									

	Jeunes formés à la production animale - Nombre								
	Personnes autres que les jeunes formées à la production animale - Nombre								
	Hommes formés à la production halieutique - Nombre								
	Femmes formées à la production halieutique - Nombre								
	Jeunes formés à la production halieutique - Nombre								
	Personnes autres que les jeunes formées à la production halieutique - Nombre								
	Personnes formées à la production végétale - Nombre de personnes	120 000	240 000	16 600	256 600				
	Personnes formées à la production animale - Nombre de personnes	12 000	30 000	2 075	32 075				
	- Nombre de personnes								
	Personnes formées à la production halieutique - Nombre de personnes								
	Superficies cultivées par des méthodes résilientes au climat								
	Superficie de terre - Superficie (ha)	150 000	210 785	27 300	238 085				
	1.1.3 Producteurs ruraux ayant accès aux facteurs de production et/ou aux paquets technologiques								
	Femmes - Nombre								
	Hommes - Nombre								
	Jeunes - Nombre								
	Producteurs ruraux - Nombre								
Produit 1.3 Les femmes sont organisées et leaders pour la sécurité alimentaire et nutritionnelle des ménages	Groupements de femmes (MMD) sont créés/redynamisés					§ Rapports des prestataires et des STD partenaires			Les GFS sont gérés sans ingérence des communes en charge de la supervision
	Groupements de femmes (MMD) sont créés/redynamisés - Nombre		675	1 350	100		1 450		
	Greniers féminins de soudure (GFS) construits/réhabilités								
	Greniers féminins de soudure - Nombre		45	54	18	72			
	Banques d'intrants installés								
Banques d'intrants - Nombre		18	29	6	35				

	Kits productifs distribués										
	Kits productifs distribués - Nombre		12 288	15 360	300	15 660					
	Groupes de gestion d'infrastructures créés et formés										
	Groupes de gestion d'infrastructures - Nombre		63	109	29	138					
	1.1.8 Ménages recevant un soutien ciblé pour améliorer leur nutrition						COI, MDDW methodology	baseline, mid term, completion	UGP, prestataire		
	Membres des ménages bénéficiaires - Nombre										
	Nombre de personnes qui participent - Nombre										
	Ménages - Nombre			17 500	1 200	18 700					
	Femmes - Nombre	0		15 750	1 080	16 830					
	Hommes - Nombre	0		1 750	120	1 870					
	Non jeunes	0		12 250	360	12 610					
	Jeunes	0		5 250	840	6 090					
7	Effet direct 2: Les producteurs valorisent mieux leurs surplus de production agro-sylvo-pastorale en les commercialisant sur des marchés de demi-gros qui approvisionnent les centres de consommation nationaux et marchés transfrontaliers	2.2.6 Ménages déclarant une amélioration de l'accès physique aux marchés et aux installations de transformation et de stockage								Echanges commerciaux stables avec les pays de la sous-région dont le Nigéria. Les institutions financières (SFD, BAGRI, banques commerciales) financent les groupes cibles.	
		Taille des ménages - Nombre de personnes		96 000	240 000	16 600	256 600				
		Augmentation des volumes de transaction des produits agricoles sur les 21 marchés réhabilités					§ Bilans des structures de gestion des centres de collecte satellites et des marchés de demi-gros				
		Augmentation des volumes de transaction des produits agricoles - Pourcentage		12	30	30		30			
	Contrôle pour améliorer le commerce transfrontalier le long des 3 corridors										
	Contrôle - Nombre		12	17	4	21					
7	Produit 2.1. Les plateformes de commercialisation des produits agricoles sont construites dans les zones de concentration des productions	2.1.6 Installations de commercialisation, transformation et stockage construites ou remises en état					"§ SIG § Rapports des prestataires de services § Cartes des risques climatiques § PDC/PIA des communes "			Partenariat Public-Privé soutenu par les communes	
		Nombre total d'installations - Nombre									
		Installations de commercialisation construites ou remises en état - Nombre		6	9	3		12			
		Installations de transformation construites ou remises en état - Nombre		-	-	-		-			
	Installations de stockage construites ou remises en état - Nombre		10	18	3	21					

Produit 2.2 Les pistes rurales facilitant la circulation dans les PDE (désenclavement des zones de production et accès aux centres de collecte satellites et marchés de demi-gros) sont réhabilitées/ construites	2.1.5 Kilomètres de routes construites, refaites ou améliorées					"§ Rapports des prestataires de services et des STD (DRA/GR) § SIG § Cartes des risques climatiques"			Fonds d'entretien routier opérationnel
	Longueur des routes (km) - Longueur (km)		400	782	66				
Produit 2.3 Les acteurs ruraux (secteur privé et public) utilisent et/ou tirent profit des infrastructures économiques gérées durablement	Groupes de gestion des infrastructures financées par le programme créés (SARL, Unions de producteurs)					§ Rapports des prestataires de services (CRA, CCIAN), des institutions financières et des STD			Une culture d'épargne et de crédit se développe en milieu rural
	Groupes de gestion des infrastructures - Nombre			27	6				
	Réseaux de brigades d'entretien routier liés aux marchés créés et équipés					§ Rapports des prestataires de services (CRA, CCIAN), des institutions financières et des STD			
	Réseaux de brigades d'entretien routier - Nombre		6	9	1				
	Groupes de commercialisation créés/consolidés (par type)					§ Rapports des prestataires de services (CRA, CCIAN), des institutions financières et des STD			
	Groupes de commercialisation - Nombre		15	40	12				
	Institutions financières participant au programme* (par type)					§ Rapports des prestataires de services (CRA, CCIAN), des institutions financières et des STD			
	Institutions financières - Nombre			4	2				
1.1.6 Prestataires de services financiers soutenus dans la mise en place de stratégies de desserte, et de services et produits financiers dans les zones rurales									
Prestataires de services - Nombre			4	2				6	

Produit 2.4 Les échanges transfrontaliers sont facilités pour les acteurs des pôles de développement ciblés, pour une plus grande intégration régionale des échanges	Dispositif de suivi des flux transfrontaliers est mis en place					§ Rapports/cartes du CILSS, SIG			"Stabilité socio-politique au Nigéria; Absence de crise alimentaire majeure"
	Dispositif de suivi des flux transfrontaliers - Nombre			3	2				
	Dispositif de suivi des tracasseries routières par corridor est mis en place					§ Rapport du prestataire (CCIAN)			
	Dispositif de suivi des tracasseries routières - Nombre			3	1				
	Politique 2 Nombre de plateformes opérationnelles multi-acteurs appuyées					§ Rapports d'activités des cadres de concertation			
Nombre - Nombre			9	3	12				

Résumé mis-à-jour de l'analyse économique et financière

Tableau A

Modèles de cash flow financiers

Modèles financiers		Année1	Année2	Année3	Année4	Année5	Année6	Année7	Année8	Année9	Année10	TRI	VAN@10% (FCFA)	B/C
Production maraichères Marres, barrages, PPC, Microprojets	Oignon irrigué (ha)	-2 666 448	1 079 553	1 193 228	1 307 336	1 427 150	1 552 955	1 685 050	1 685 050	1 685 050	1 685 050	46,5%	5 035 389	1,56
	Tomate irriguée (ha)	-2 783 675	973 325	1 014 175	1 099 068	1 188 205	1 281 799	1 380 072	1 380 072	1 380 072	1 380 072	37,7%	3 717 125	1,56
	Choux irrigué (ha)	-3 042 025	754 226	813 288	875 304	940 420	1 008 792	1 080 583	1 246 283	1 246 283	1 246 283	26,7%	2 365 045	1,48
	Patate douce (ha)	-2 746 840	1 065 660	1 136 535	1 210 954	1 289 093	1 371 140	1 457 289	1 457 289	1 457 289	1 457 289	42,0%	4 246 512	2,01
	Canne à sucre (ha)	-3 101 240	701 510	762 148	825 817	892 670	962 865	1 036 570	1 036 570	1 036 570	1 036 570	23,5%	1 849 640	1,39
Micro-projets Elevage	Caprin(15-20 têtes)	-379 584	164 916	137 691	164 916	137 691	164 916	137 691	164 916	137 691	164 916	38,3%	455 462	1,77
Périmètres irrigués incubateurs pour les jeunes	Maraichage (ha)	-18 752 500	6 445 088	6 764 932	7 257 933	7 205 433	457 933	7 205 433	7 257 933	7 205 433	7 257 933	30,8%	15 988 609	1,54
Production céréalières	AssociationMil/Niébé (ha)	7 449	22 756	22 756	22 756	22 756	22 756	22 756	22 756	22 756	22 756	N/A	125 909	1,47
	AssociationMil/Sorgho/Niébé (ha)	2 330	9 245	9 245	9 245	9 245	9 245	9 245	9 245	9 245	9 245	N/A	50 520	1,22
	AssociationMil/Arachide(ha)	13 339	23 108	23 108	23 108	23 108	23 108	23 108	23 108	23 108	23 108	N/A	133 105	1,44

Tableau B

Coûts du Programme et cibles du cadre logique

COÛTS DU PROGRAMME ET INDICATEURS DU CADRE LOGIQUE		
COUT TOTAL DU PROJET (million USD)		286,1
Coût de base (million USD)		258,9
Bénéficiaires	2 170 000 personnes	310 000 ménages
Coût par bénéficiaire	132 USD par personne	923 USD par ménage
Composantes		Coût total (million USD)
I. Renforcement de l'agriculture familiale durable		143,1
II. Accès aux marchés		111,5
III. Coordination du programme, suivi évaluation et gestion des savoirs		31,5

Tableau C

Hypothèses principales et prix virtuels

Prévisions d'augmentation des rendements			
Cultures	Rendement (kg/ha)		Augmentation avec projet (%)
	Sans projet	Avec projet	
Céréales			
Mil en culture pure	350	560	60%
Mil en association	336	538	60%
Sorgho en culture pure	350	560	60%
Sorgho en association	162	259	60%
Légumineuses			
Niébé en association	137	219	60%
Niébé en culture pure	450	720	60%
Arachide en culture pure	490	784	60%
Arachide en association	205	328	60%
Maraichage (cultures irriguées, nouveaux aménagements) 1/			
Tomates	N/A	18 761	
Choux	N/A	12 061	
Patates douces	N/A	18 091	
Canne à sucre	N/A	28 142	
Oignon (irrigué)	N/A	24 122	

Tableau: prix financiers et économiques				
Rubrique	Unité	Prix Financier	Prix écon (FCFA)	Facteur de conversion
Productions végétales				
Mil	kg	210	210	1,0
Mil tige	kg	21	21	1,0
Sorgho	kg	200	200	1,0
Sorgho tige	kg	20	20	1,0
Niébé	kg	350	371	1,1
Niébé fane	kg	35	35	1,0
Arachide	kg	450	477	1,1
Arachide fane	sac	42	42	1,0
Oignons	kg	185	196	1,06
Feuilles Oignon	sac	500	500	1
Chou	kg	125	125	1
Tomate	kg	110	110	1
Poivron	kg	230	230	1
Patate douce	kg	100	100	1
Canne à sucre	kg	55	55	1
Acquisition des Intrants				
Semences				
Semence mil	Kg	198	198	1
Semence mil améliorée	Kg	500	500	1
Semence sorgho	Kg	196	196	1
Semence sorgho améliorée	Kg	478	478	1
Semence niébé	Kg	204	204	1
Semence niébé améliorée	Kg	500	500	1
Semence chou	Kg	25 000	25 000	1
Semence chou améliorée	Kg	1 000	1 000	1
Semence oignons	Kg	40 000	40 000	1
Semence oignons améliorée	Kg	50 000	50 000	1
Semence tomate	Kg	600	600	1
Semence tomate améliorée	Kg	-	-	1
Semence poivron	Kg	600	600	1
Semence poivron améliorée	Kg	600	600	1
Semence arachide	Kg	800	800	1
Semence arachide améliorée	Kg	1 500	1 500	1
Semence canne a sucre	bouture/ha	45 000	45 000	1
Semence patate douce	Kg	-	-	1
Semence p. douce améliorée	Kg	-	-	1
Engrais				
NPK	Kg	317	379	1,19
Sulfate de potasse	Kg	317	379	1,19
Fumure organique	charette	1 500	1 500	1,00
Engrais DAP	Kg	317	379	1,19
Urée	Kg	334	399	1,19
Produits phytosanitaires				
insecticide	sachet	5 000	3 750	1,19
Fongicide	sachet	300	225	1,19
Pesticides	litre	5 000	3 750	1,00
Main d'œuvre familiale				
Main d'œuvre saisonnière	Jour	2 000	1 500	0,75
Main d'œuvre familiale	Jour	1 000	750	0,75
Coût d'opportunité du capital	10%			
Taux de change-moyenne periode	569,3			

Tableau D
Phasage et taux d'adoption des bénéficiaires

	Unité	BENEFICIAIRES, TAUX D'ADOPTION ET PHASING												
		année 1	année 2	année 3	année 4	année 5	année 6	année 7	année 8	année 9	année 10	année 11	Total	
Cultures pluviales														
	<i>Cumulés</i>	<i>ha</i>	16 356	16 356	34 245	34 245	34 245	30 156	23 512	-	17 625	16 450	4 700	227 891
		<i>ha</i>	16 356	32 712	66 957	101 203	135 448	165 605	189 116	189 116	206 741	223 191	227 891	227 891
		<i>Ménages</i>	10 904	10 904	22 830	22 830	22 830	20 104	15 675	-	11 750	10 967	3 133	151 928
Cultures maraîchères - mini barrages, mares														
	<i>Cumulés</i>	<i>ha</i>	-	-	885	295	295	-	-	-	-	-	590	-
		<i>ha</i>	-	-	885	1 180	1 475	1 475	1 475	1 475	1 475	1 475	2 065	2 065
Cultures maraîchères - mares														
	<i>Cumulés</i>	<i>ha</i>	-	-	100	200	-	-	-	-	-	-	200	-
		<i>ha</i>	-	-	100	300	300	300	300	300	300	300	500	500
		<i>Ménages</i>			5 000	5 000	3 940	1 980	1 180	0	0	0	3 160	20 260
Marchés de demi-gros	<i>Additionnels</i>	#	3	3	2	-	-	-	-	-	-	1	3	
	<i>Cumulés</i>	#	3	6	8	8	8	8	8	8	8	9	12	12
Centres de collecte	<i>Additionnels</i>	#	10	8	-	-	-	-	-	-	-	3		
	<i>Cumulés</i>	#	10	18	18	18	18	18	18	18	18	21	21	21
Pistes rurales		<i>km</i>	-	108,0	100,0	264,0	89,5					176,0		
	<i>Cumulés</i>	<i>km</i>	-	108,0	208,0	472,0	561,5	561,5	561,5	561,5	561,5	737,5	737,5	737,5
Surfaces sous GDT														
	<i>Cumulés</i>	<i>ha</i>	1 636	3 271	8 331	13 391	19 423	22 592	24 202	20 368	17 633	12 633	9 167	152 647
		<i>ha</i>	1 636	4 907	13 238	26 630	46 052	68 644	92 846	113 214	130 847	143 480	152 647	152 647
		<i>Ménages sans double comptage Pistes, Marchés, microprojets</i>	14 720	59 766	39 440	2 921	2 517	1 346	6 575	1 464	1 429	5 141	2 493	137 813
		<i>Total-Ménages ProDAF MTZ *</i>	25 624	70 670	67 270	30 752	29 287	23 430	23 430	1 464	13 179	16 108	8 786	310 000
Même hypothèse qu'à la conception du ProDAF Initial			10%	20%	40%	60%	75%							
Ménages présentés après application de taux d'adoption progressifs			10%	20%	40%	60%	75%							

Tableau E
Cash flow économique

Tableau de calcul du TRIE et de la VAN	Année 1	Année 2	Année 3	Année 4	Année 5	Année 6	Année 7	Année 8	Année 9	Année 10	Année 11	Année 12	Année 13	Année 14	Année 15	Année 16	Année 17	Année 18	Année 19	Année 20	
BENEFICES M. FCFA																					
Bénéfices issus de l'agriculture pluviale	9	28	75	151	262	390	489	653	763	847	908	948	967	971	971	971	971	971	971	971	
Bénéfices issus de l'agriculture irriguée	0	1 781	5 027	5 963	6 761	7 207	7 692	8 203	8 608	8 763	8 813	8 821	8 821	8 821	8 821	8 821	8 821	8 821	8 821	8 821	
Bénéfices issus des marchés (PDE et CC)	0	299	1 140	2 021	2 695	2 695	2 695	2 695	2 695	2 903	3 698	3 698	3 698	3 698	3 698	3 698	3 698	3 698	3 698	3 698	
Bénéfices issus des pistes	0	0	931	1 792	4 067	4 838	4 838	4 838	4 838	4 838	6 355	6 355	6 355	6 355	6 355	6 355	6 355	6 355	6 355	6 355	
Externalités environnementales	23	69	185	373	645	961	1 300	1 585	1 832	2 009	2 137	2 137	2 137	2 137	2 137	2 137	2 137	2 137	2 137	2 137	
Bénéfices totaux	32	2 177	7 358	10 301	14 430	16 092	17 014	17 975	18 736	19 153	21 117	21 959	21 978	21 982	21 982	21 982	21 982	21 982	21 982	21 982	
COÛTS																					
Coûts économiques du programme* (COSTAB**) FCFA	11 394	15 368	17 034	15 859	11 629	6 764	3 322	2 014	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	
Coûts totaux	11 394	15 368	17 034	15 859	11 629	6 764	3 322	2 014	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	4 169	
Bénéfice additionnel du PRODAF	-11 362	-13 190	-9 675	-5 558	2 801	9 328	13 692	15 961	14 567	14 984	16 948	17 790	17 809	17 813	17 813	17 813	17 813	17 813	17 813	17 813	
TRIE	21,1%																				
VAN (@10%, 20 ans, M FCFA)	43 022,6																				
VAN (@10%, 20 ans, M USD)	75,6																				
VAN M (@10%, 20 ans, M FCFA)	116 646																				
VAN c (@10%, 20 ans, M FCFA)	73 623																				
B/C	1,6																				

Tableau F
Analyse de sensibilité

Variable	TRIE	Matrice risque DCP
Scénario de base	21,1%	
Diminution des prix de production de 15%	17,9%	
Diminution des prix de production de 20%	16,8%	
Diminution des prix de production de 30%	14,6%	
Augmentation des prix des intrants de 50%	20,7%	
Diminution des rendements de 15%	18,0%	Test risques environnementaux: "aléas climatiques défavorables", "baisse de niveau de la nappe phréatique"
Diminution des rendements de 20%	16,8%	Test risques économiques: "renouvellement des investissements"
Diminution des rendements de 30%	14,7%	Test risque technique: "améliorations techniques confinés aux premiers bénéficiaires"
Diminution des volumes de transaction de 20%	20,2%	Test risque économique: "durabilité des marchés de demi-gros"
		Test risque environnemental: "dégradation infrastructures suite aux aléas climatiques"