



Investir dans les populations rurales

Chairman's report

Proposal for additional funding for Burkina Faso

Projet d'appui aux filières agricoles dans les régions du Sud-Ouest, des Hauts Bassins, des Cascades et de la Boucle du Mouhoun(PAFA-4R)

Project number: 2000001925

Sustainable Strengthening of Resilience to Food Insecurity Project and nutrition (P2RIA/GAFSP)

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Summary of funding

Initiating institution:	IFAD-GAFSP
Borrower/beneficiary:	Burkina Faso
Implementing body:	Ministère de l' Agriculture, des Ressources Animales et Fisheries
Total cost of the project:	EUR 128.7m
Amount of initial IFAD funding:	51.4 million EUR equivalent to approximately 55.47 million USD)
Conditions of IFAD's initial financing:	100% in the form of a highly concessional loan for Burkina Faso
Amount of funding additional GAFSP:	13.9 million EUR equivalent to approximately 15.00 million USD
Terms and conditions of additional financing :	100% in the form of a GBFT donation
Co-financier(s):	GAFSP
Amount of co-financing :	13.9 million EUR equivalent to approximately 15.00 million USD
Co-financing conditions :	100% in the form of a GBFT donation
Borrower's contribution beneficiary :	12.00 million EUR equivalent to approximately 12.95 million USD
Additional contribution of the borrower/beneficiary :	1.70 million EUR equivalent to approximately 1.83 million USD
Contribution from beneficiaries :	7.80 million EUR equivalent to approximately 8.42 million USD
Additional contribution from beneficiaries :	1.05 million EUR equivalent to approximately 1.13 million USD
Amount of initial IFAD funding (climate action) :	28.39 million EUR equivalent to approximately 30.64 million USD
Amount of additional IFAD funding (climate action) :	"[Click here to insert the amount in figures]" million(s) of USD
Cooperating institution :	IFAD for PAFA-4R and AfDB for PAVAL co-financing

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I. Background and description of the project

A. Context

1. Burkina Faso is classified as a fragile country¹ due to the effects of climate change and the persistent security crisis since 2015. The result is a worrying food insecurity situation exceeding the 20% threshold in some provinces². In the last quarter of 2022³, more than 2.5 million people were in a crisis or emergency situation (phases 3-4).⁴
2. Insecurity has led to massive population displacement, the abandonment of agricultural production areas, the loss of livestock and the disruption of social infrastructure (markets, health centres, schools, water points). At 31 December 2022, Burkina Faso had almost 2 million internally displaced persons (IDPs)⁵ of whom 23.93% were women and 58.44% were children.⁶
3. Climatic shocks⁷ and attacks by granivorous birds in the Sahel have resulted in lower yields for the 2021-2022 agricultural season. Compared with the previous season, production was down by 10% for cereals⁸, 28.36% for other food crops and 19.54% for cash crops. What's more, 52% of farming households were unable to cover their cereal needs from their production. The war in Ukraine and fluctuating oil prices have exacerbated the rise in input and food prices⁹, affecting household purchasing power and the ability to replenish national stocks.
4. Food and nutritional insecurity has increased in areas hosting internally displaced persons (IDPs), due to the increased pressure on resources by the populations (hosts and IDPs). In addition, precarious access to health, hygiene and drinking water services is undermining the nutritional status of vulnerable people, particularly children under 5 and pregnant and breast-feeding women.

B. Description of the initial project

5. The funding granted by GAFSP will strengthen the initial Agricultural Sectors Support Project (PAFA-4R), which is helping to achieve the objectives of the 2018-2027 Sectoral Agro-Sylvo-Pastoral Production Policy (PSPASP), the National Sustainable Livestock Development Policy (PNDEL) and the National Food and Nutritional Security Policy (PNSAN). It will also enable the priorities of the Action Plan for Stabilisation and Development (PA-SD 2023-2025) and the COSOP to be taken into account in the PAFA-4R.
6. The development objective of PAFA-4R is to sustainably improve food security and farm incomes in the Cascades, Hauts-Bassins, Boucle du Mouhoun and Sud-Ouest regions.
7. Approved for a 6-year implementation period (2020-2025), PAFA-4R was designed to intervene in areas vulnerable to poverty and food and nutritional insecurity in order to support sustainable improvements in productivity, production and market access in the rice, market gardening, sesame and cowpea sectors,

¹ FY23 FCS List

² FEWSNET 2021 report: 21.1% of the country's population lived in provinces classified as CPI3+, exceeding the 20% threshold set by rule 1.

³ Harmonised Framework <https://www.food-security.net/datas/burkina-faso/>

⁴ 10.2% in crisis situations and 1.5% in emergency situations.

⁵ CONASUR had counted 1,882,391 IDPs at that date

⁶ National Council for Emergency Relief and Rehabilitation (CONASUR).

⁷ Pockets of drought (North, Centre-North, Boucle du Mouhoun and Sahel) and flooding (Boucle du Mouhoun and East)

⁸ Cereal production fell short of the population's needs by 29,7812 tonnes (Food Security Forecast Committee, 2022).

⁹ According to the results of the Harmonised Framework (2022), prices of the main cereals have risen by 33% for millet, 42% for sorghum and 39% for maize. These price surges are fuelled by production cuts in previous seasons, the security and health crisis, and soaring world prices for agricultural inputs and products.

fish farming and non-timber forest products (NTFPs). The target group is made up of small-scale farmers and agro-entrepreneurs, including related trades.

8. PAFA-4R targets 70,000 direct beneficiaries, 50% of whom are women and 30% young people. Particular attention is being paid to the integration of people with disabilities.

9. PAFA-4R contributes to the creation of decent jobs, particularly for young people and women, to strengthening the resilience of agricultural systems in the face of climate change and to improving the nutritional situation of vulnerable populations. Implementation is based on a do-it-yourself approach, with a focus on empowering stakeholders. The activities/investments are organised into two components.

- Component A: "Improving productivity and agricultural production associated with education on good nutritional practices" including a sub-component (A1) aimed at improving yields by facilitating access to inputs (seeds, seedlings, fertilisers, broodstock or fry, feed), equipment, quality advice, reasoned technical itineraries and innovations (organic inputs); and a sub-component (A2) aimed at developing land and water resources in lowland rice fields, market garden areas and small dams. Implementation is based on market access sub-projects (SPAMs) run by grassroots farmers' organisations (OPBs), with support in the form of inputs, equipment and supervision.
- Component B: "Support for improving the development and marketing of agricultural products", focusing on structuring value chains, increasing the added value of agricultural products and NTFPs (moringa, baobab, honey, shea), and supporting rural microenterprises (REM). The first sub-component, B.1, concerns the strengthening of value chains (interaction between stakeholders, structuring of POs, PPP partnerships). A second sub-component, B.2, concerns the professionalisation of rural microenterprises, the provision of services by rural entrepreneurship resource centres (CREER) and the financing of microprojects by rural microenterprises.

II. Justification for additional funding

A. Raison d'être

10. The initiative approved by the GAFSP, entitled *Projet de renforcement durable de la résilience à l'insécurité alimentaire et nutritionnelle (P2RIA)*, constitutes Additional Financing (AF) to the PAFA-4R. It takes account of the current context marked by worrying inflation in the cost of inputs and materials, exacerbated by the security crisis, and an increase in the needs of the most vulnerable populations.

11. This AF will make it possible to consolidate the impact of the PAFA-4R while considering the response to the security crisis defined as a priority in the PA-SD, the main reference¹⁰ for cooperation and development programmes. This plan promotes a strategic approach to stabilisation that combines security, emergency and development actions¹¹. It federates the joint action of the United Nations system through the preparation and implementation of the United Nations Interim Development Plan (UNIDAP) to support the transition. The P2RIA will increase the number of direct beneficiaries (from 70,000 to 91,700) mainly by including IDPs through the provision of agricultural inputs and equipment, the strengthening/enhancement of the potential of lowland rice fields and market gardening sites, the adoption of agroecology techniques, the promotion of nutrition-sensitive agricultural practices, and support for REMs offering employment and empowerment opportunities.

¹⁰ The PA-SD 2023-2025 is considered to be the central instrument for operationalising the National Development Policy (PNDES-II).

¹¹ The PA-SD 2023-2025 is based on four pillars: (i) Combating terrorism and restoring territorial integrity; (ii) Responding to the humanitarian crisis; (iii) Rebuilding the State and improving governance; and (iv) Working towards national reconciliation and social cohesion.

Specific aspects relating to IFAD's priority cross-cutting themes

12. In line with the cross-functional commitments, the project was validated as follows:

- including climate finance;
- bringing about gender transformations;
- taking into account nutritional issues;
- focused on young people;

13. **Climate change.** The effects of climate change are expected to increase in frequency and severity in the coming years, with sharp variations in rainfall, water shortages and poor agricultural harvests. As part of the National Adaptation Programme, simulations based on climate modelling adopted by the Government predict a rise in average temperatures of 0.8°C by 2025 and a rise of 1.7°C by 2050, as well as a relative fall in rainfall of -3.4% by 2025 and -7.3% by 2050. The drop in precipitation will be associated with very high seasonal and interannual variability in climatic factors, further worsening the climatic impacts on agriculture and livestock farming and the main economic sectors. Water resource and flood management, forestry and food security will also be affected (NAPA, 2007; CDN, 2021). The AF will strengthen the promotion of agroecology and agroforestry practices and technologies, as well as water-saving technologies and the use of solar pumps.

14. **Gender.** Women represent 51.7% of the population¹² and 55% of the agricultural workforce. Equity in women's access to productive resources and the application of their rights remains a major constraint. Although texts and laws advocate equality and equity between the sexes, socio-cultural constraints remain in the allocation of land to women and young people, and access to production factors, including financing, represents a major challenge. The P2RIA will support sectors and activities to which women have easy access, including market gardening, small ruminant farming, the production of food with high nutritional value and product processing. Women will make up 50% of the beneficiaries. Their empowerment will be a lever for change and sustainable transformation of the agricultural sector and food systems through professionalisation, income diversification, integration into financial services and access to more nutritious food. The PAFA-4R gender action plan will be strengthened by workshops on the gender action learning system (GALS) and training on women's leadership to increase their capacity to participate in decision-making at both household and community level.

15. **Young people** (aged 15 to 35). 77.9% of the population is under 35. Young people suffer from the same constraints as women: socio-cultural constraints, poor access to land and finance, low technical and entrepreneurial capacity. The AF will strengthen the inclusion of young people in value chains, facilitating their access to developed land, agricultural inputs and equipment, financing for micro-projects, as well as training and information on opportunities for inclusion in value chains.

16. **Nutrition.** Food insecurity remains alarmingly high in a context of fragility. The results of the 2021 Demographic and Health Survey (DHS)¹³ reveal that 23% of children under the age of five are stunted or chronically malnourished, and 11% suffer from wasting or acute malnutrition. Inadequate diet in terms of quantity and quality, insufficient food rations and poor nutrition are among the causes. The AF will strengthen the actions of the PAFA-4R aimed at increasing the availability and nutritional value of food, as well as the

¹² <https://burkinafaso.opendataforafrica.org/lmuycw/tableaux-r%C3%A9capitulatifs-de-la-r%C3%A9partition-spatiale-de-la-population>

¹³ INSD and ICF. 2022 Burkina Faso Demographic and Health Survey 2021. Ouagadougou, Burkina Faso and Rockville, Maryland, USA: INSD and ICF. <https://dhsprogram.com/pubs/pdf/PR139/PR139.pdf>

diversification of the diet with a focus on nutrient-rich market garden produce and NTFPs.

B. Description of geographical area and target groups

17. The P2RIA will operate in the PAFA-4R regions, particularly in communes hosting internally displaced persons. In particular, it will target 23 communes not covered by the PAFA-4R with productive potential, including 15 in the South-West, 2 in the Hauts-Bassins, 2 in the Cascades and 4 in the Boucle du Mouhoun. These Communes will be concerned in particular with the creation and/or extension of lowland development and market gardening areas. The sites will be selected on the basis of 1) the presence of readily available water resources and 2) in the case of lowlands, the existence of studies carried out by PAFA-4R and/or the fact that they are adjacent to land that has already benefited from support.

18. The P2RIA will directly benefit 21,700 people, enabling the PAFA-4R to increase the total number of people affected from 70,000 to 9,700 and households from 40,000 to 52,400. Women will account for 50% of beneficiaries and young people (aged 18 to 35) 40%. Attention will be paid to the inclusion of people with disabilities (PSH) and IDPs, with a quota of at least 2%¹⁴ and 10%¹⁵ of direct beneficiaries¹⁶ respectively. IDPs will be targeted in collaboration with the regional departments responsible for social action and agriculture.

19. With the exception of fish farming, P2RIA will target the same commodities (rice, cowpeas, market gardening, NTFPs) as those promoted by PAFA-4R, to which it will add small ruminants. In addition to the impact on food and nutritional security, the local economy and the well-being of the population (residents and displaced persons), these commodities, based on the lessons learned from PAFA-4R, will offer women, young people and IDPs opportunities for employment and integration into the local and national socio-economic fabric and for improving their income and living conditions.

20. The targeting strategy will be that of PAFA-4R, which provides for direct targeting and targeting by activity. The target group will be small-scale farmers and their POBs supported through the SPAM approach, and agro-entrepreneurs.

C. Components, results and activities

21. P2RIA is consistent with PAFA-4R's theory of change and aligned with its development objective as well as its component and sub-component structure.

22. The project will intervene at the request of the POs or the SEAs. Implementation will involve government technical services, local communities, POs, civil society and service providers.

23. Component A: Sustainable improvement of agro-pastoral production and productivity of small producers

Effect 1	The productivity of farming systems in the targeted sectors is improved.
Product 1.1	Stakeholders have mastered the techniques and knowledge needed to sustainably improve agricultural productivity and the nutritional situation.
Product 1.2	Sustainable infrastructure improves productivity in targeted sectors

24. The LEF will increase the number of producers with better access to factors of production (inputs and technology) and the number of people benefiting from support.

¹⁴ Approximately 1.03% of the population in the 4 intervention regions live with a disability (National Statistics 2019).

¹⁵ At 31 January 2023, the number of IDPs in the 4 regions was estimated at 20% of the population.

¹⁶ For the inclusion of people living with disabilities, PAFA-4R has a working partnership with the NGO Light for

the world through the SPARK project.

to improve their nutrition. The acquisition of inputs and equipment follows the PAFA-4R approach based on the SPAMs supported by the OPBs.

25. **Sub-component A1: Access to agricultural inputs, equipment and advice.** The initiative to improve crop and livestock yields includes:

- a) Provision of improved seeds and agricultural inputs for 3,800 members of 108 farmers' organisations¹⁷. Seeds adapted to climate change and other quality inputs will enable 500 hectares of lowland rice fields and 100 hectares of market garden areas to be developed over 2 seasons, and 400 hectares of cowpeas over 3 seasons.¹⁸
- b) Support for agricultural equipment for the 108 OPBs receiving inputs. The acquisition of equipment (20 power tillers and 400 manual seed drills)¹⁹ will be accompanied by training for producers and supervisors in its use and maintenance.
- c) The provision of zootechnical inputs and breeding stock to 2,000 people (50% women, 40% young people), members of 100 POs²⁰. In total, the involves the distribution of 2,000 breeding nuclei (1,000 goats and 1,000 sheep) and cattle feed²¹, as well as animal health monitoring.
- d) The dissemination of good agropastoral practices and resilient technical itineraries through (i) the setting up of 60 farmer field schools (FFS) attended by around 1,800 people, and (ii) targeted training for around 960 farmers on efficient and resilient agricultural technical itineraries, including SRI²², good small ruminant rearing practices²³, and harvesting, post-harvesting and product conservation practices, including products with a high nutritional value.²⁴
- e) Promoting agroecology by providing support in terms of equipment²⁵ and training in agroecological practices. Training will be provided for producers and supervisors.
- f) The promotion of high nutritional value crops to improve and diversify household diets through 40 nutritional gardens²⁶ (baobab, moringa, vegetables, PDCO²⁷, etc.) involving 2,000 producers (women in particular), and 100 school gardens²⁸. The support will involve the supply of equipment, materials and inputs, as well as training.
- g) Promotion of nutrition education, gender and women's leadership through awareness-raising campaigns on food safety, facilitation of 80 infant and young child feeding learning and monitoring groups (GASPA), and training on fortification, preparation and use of nutritious foods. Women's participation in decision-making will be strengthened through training on the GALS approach²⁹ and women's leadership³⁰. At least 3,000 people will take part in these activities.

¹⁷ 50 for rice, 33 for cowpeas and 25 for vegetables.

¹⁸ Seeds: 65 tonnes of rice, 21 tonnes of cowpeas, 30 kg of tomatoes, 300 kg of onions. Fertilisers and biopesticides: 270 tonnes NPK, 174 tonnes Urea, 690 tonnes Phosphate (BP), 1500 litres biofertilisers, 1000 tonnes organic manures, 1500 litres biopesticides.

¹⁹ The equipment will be acquired through the Société nationale de l'aménagement des terres et de l'équipement rural (SONATER). The equipment

and equipment becomes the property of the PO, which manages and maintains it.

²⁰ Single SPAM agreement for one year.

²¹ Each beneficiary will receive 1 male and 3 females, 600 kg of agri-food by-products and health monitoring for the animals.

²² 15 sessions of 30 producers each.

²³ 7 sessions of 30 producers each.

²⁴ 10 sessions of 30 producers each.

²⁵ 100 solar motor pumps and 1,500 PVC pipes

²⁶ 1 ha/garden

²⁷ Organic sweet potato (PDCO)

²⁸ Average area 0.5 hectares

²⁹ 2 sessions for 300 people

³⁰ 2 sessions for 50 women leaders.

26. **Sub-component A2: Agricultural infrastructure.** The AF will support the development/rehabilitation of small rice-growing lowlands and market garden areas in 23 communes, totalling 600 hectares, for the benefit of 3 000 producers, 50% of whom are women and 40% young people. The investments will be small: around 20 ha for the rice-growing lowlands and less than 4 ha for the market-gardening areas, which will be farmed using agro-ecology techniques and ASN practices. A total of 500 hectares of rice-growing lowlands for which studies are available will be developed and 100 hectares of market garden areas.

27. **COMPONENT B: Support for the development and marketing of agro-pastoral products**

Effect 2	The development and marketing of agricultural products in the targeted sectors are improved.
Product 2.1	Improved consultation and collaboration between industry players
Product 2.2	SEBs have access to business development services tailored to their needs

28. The LEF will increase the number of SEAs receiving technical and financial support to market processed products, thereby improving the incomes of producers/processors and indirectly improving the nutritional situation of consumers.

29. **Sub-component B1: Strengthening sector organisations.** Stakeholders benefiting from AF actions will be included in/associated with the initiatives put in place by PAFA-4R in terms of structuring target commodity chains, in particular the organisation of consultation frameworks, the promotion of contractualisation between POBs and market operators, support for structuring investments in commodity chains and support for the involvement of civil society.

30. **Sub-component B2: Professionalization of rural micro-enterprises.**

The FA will strengthen support for collective SEA and will focus in particular on:

- a. Support for the conservation and processing of products with high nutritional value. Technical and financial support for 390 collective SEEs involving around 3,900 people³¹, 50% of whom are women and 40% young people, will involve setting up business plans, financing micro-projects and ongoing coaching³². Demand-side support will focus on micro-enterprises producing food that helps to combat malnutrition (50%). Examples of eligible micro-projects include small storage warehouses, canneries and small units for processing agropastoral products³³ and NTFPs.³⁴
- b. The operational capacities of agri-food micro-businesses will be strengthened through training in processing and packaging techniques for agro-pastoral products and NTFPs, and in business management.³⁵
- c. Promoting market access to boost the visibility and competitiveness of agropastoral products and processed NTFPs by organising promotional days and training sessions on quality standards and product e-commerce.

31. **Component C: Project coordination and management.** The P2RIA will be based on the operational mechanisms of the PAFA-4R detailed in its implementation manual. This

³¹ 390 group MERs, with an average of 10 people per MER.

³² The PAFA 4R targeting strategy provides for two bodies to select and approve microprojects: a provincial body and a regional body.

³³ At least 12% will be for animal products.

³⁴ PAFA-4R already has studies for several of these units and infrastructures.

³⁵ At least 420 people will take part in 14 training sessions.

This component will make it possible to document the results and analyse the performance and impact of the project with regard to the development objective. It concerns coordination and management, which will be strengthened in terms of equipment, monitoring-evaluation, knowledge management and communication.

D. Cost, benefits and financing

32. **Cost of the project.** The total amount allocated by IFAD to PAFA-4R for climate action financing³⁶ is estimated at USD 30.64 million.³⁷

33. The total cost of the project, including FA, is EUR 128.7 million (USD 138.88 million). This is broken down as follows over a 6-year period: (i) IFAD loans and grants: EUR 60.5 million (USD 65.29 million); (ii) AfDB funds in the amount of EUR 31.8 million (USD 34.32 million); (iii) counterpart funds from the government and beneficiaries, including additional contributions amounting to EUR 22.55 million (or EUR 24.33 million); (iv) additional GAFSP funds under P2RIA amounting to EUR 13.9 million (or USD 15 million).

Table 1. Summary of initial and additional funding
(In millions of EUR)

	<i>Initial financing*</i> <i>(in euros)</i>	<i>Additional financing</i>	<i>Total</i>
IFAD loan	51.4		51.4
IFAD grant	0.9		0.9
FIDA PAVAL loan	8.2		8.2
Bank African Development	31.8		31.8
Bank Beneficiaries	7.8	1.05	8.85
Government	12	1.7	13.7
GAFSP		13.9	13.9
Total	112.0	16.7	128.7

* See the tables in the "costs, benefits and financing" section of document EB 2019/127/R.31/Rev.1 for a detailed breakdown.

³⁶ Component 1, "Sustainable improvement of the agro-pastoral production and productivity of small producers" and component 2, "Support for the development and marketing of agro-pastoral products" are partially covered by the climate action.

³⁷ PAFA-4R and Additional Financing.

Table 2. Additional funding: project cost by component (and sub-component) and source of funding
(In thousands of euros)

BurkinaFaso

Additional Funding: Projet d'Appui aux Filières Agricoles dans les régions duSud- Ouest, des Hauts-Bassins, des Cascades et delaBoucléduMouhoun(PAFA-4R) (Support Project for
Agricultural Sectors in the South-West, Hauts-Bassins, Cascades and Mouhoun Loop Regions)

Financial components

	GAFSP		TheGovernment		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%
1. Improving the production and agro-pastoral productivity of small-scale producers	10,092.7	82.3	1,743.0	14.2	429.6	3.5	12,265.3	73.4
2. Support for adding value to and marketing agro-pastoral products	2,709.2	81.3	0.0	-	621.3	18.7	3,330.4	19.9
3. Coordination and management	638.3	98.6	8.8	1.4	-	-	647.1	3.9
4. Monitoring, evaluation and knowledge management	468.1	100.0	0.0	-	-	-	468.1	2.8
Total PROJECT COSTS	13,908.2	83.2	1,751.8	10.5	1,050.9	6.3	16,710.9	100.0

Table 3. Additional funding: Project costs by category of expenditure and source of funding
(in thousands of USD)

Burkina Faso

Additional Financing: Support Project for Agricultural Sectors in
Expenditure Accounts by Financiers

	GAFSP		The Government		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs								
A. Work	5,393.5	82.0	1,183.9	18.0	-	-	6,577.5	39.4
B. Equipment and materials								
1. Vehicles	29.6	77.0	8.8	23.0	-	-	38.5	0.2
2. Equipment and materials	1,467.3	79.8	346.2	18.8	25.9	1.4	1,839.4	11.0
Subtotal	1,496.9	79.7	355.1	18.9	25.9	1.4	1,877.9	11.2
C. Grants and donations	2,566.5	80.9	23.4	0.7	581.4	18.3	3,171.4	19.0
D. Consultancy services	1,274.8	86.1	158.7	10.7	47.7	3.2	1,481.3	8.9
E. Goods, services and inputs								
1. Training courses, workshops and seminars	921.3	96.8	30.6	3.2	-	-	951.9	5.7
2. Goods, inputs and other services	1,585.7	80.0	0.0	-	395.9	20.0	1,981.5	11.9
Subtotal	2,507.0	85.5	30.6	1.0	395.9	13.5	2,933.5	17.6
Total Investment Costs	13,238.7	82.5	1,751.8	10.9	1,050.9	6.6	16,041.4	96.0
II. Recurrent Costs								
A. Salaries and allowances	480.5	100.0	-	-	-	-	480.5	2.9
B. Operating costs	189.0	100.0	0.0	-	-	-	189.0	1.1
Total Recurrent Costs	669.5	100.0	0.0	-	-	-	669.5	4.0
Total PROJECT COSTS	13,908.2	83.2	1,751.8	10.5	1,050.9	6.3	16,710.9	100.0

34. The investment costs amount to EUR 16 million, broken down as follows: (i) works to develop rice-growing land and market garden areas for EUR 6.58 million (i.e. 39.4% of the total cost of the project); (ii) the acquisition of goods and services for the beneficiaries, as well as equipment and materials representing 11.2% and 11.9% of the costs of the AF respectively; (iii) recurrent costs covering salaries, allowances and other operating expenses representing 4% of the total cost of the AF.

Table 4. Project costs by component and project year
(In thousands of USD)

Burkina Faso

Additional Funding: Support Project for Agricultural Sectors in the South-West, Hauts-Bassins, Cascades and Boucle-du Mouhoun Regions (PAFA-4R)

Project Components by Year -- Totals Including Contingencies	Totals Including Contingencies (EURO '000)				Total
	2024	2025	2026	2027	
1. Improving the production and agro-pastoral productivity of small-scale producers	4,224.0	6,753.0	1,180.5	107.8	12,265.3
2. Support for adding value to and marketing agro-pastoral products	46.1	1,874.4	1,393.9	16.1	3,330.4
3. Coordination and management	188.8	150.5	152.8	155.1	647.1
4. Monitoring, evaluation and knowledge management	138.3	117.1	111.1	101.6	468.1
Total PROJECT COSTS	4,597.2	8,895.0	2,838.2	380.5	16,710.9

35. The AF will cover the three components of the PAFA-4R as follows: 12.3 million euros (73.4%) for component A: Sustainable improvement of the agro-pastoral production and productivity of small producers; 3.33 million euros (19.9%) for component B: Support for the development and marketing of agro-pastoral products and 1.1 million euros (6.7%) for component C: Management, monitoring-evaluation, knowledge management.

Financing and co-financing strategy and plan

36. The FA is made up of the following contributions: the GAFSP/P2RIA, a grant of €13.9 million (83.2%), the Government in the form of tax and duty exemptions of €1.7 million (10.5%) and the beneficiaries with a contribution of 6.3%, the equivalent of €1.05 million. The total cost of the project is €16.71 million. The total funding for PAFA-4R is EUR 112.0 million: EUR 51.4 million or approximately USD 55.47 million from IFAD; EUR 13.7 million or approximately USD 14.78 million from the government; and EUR 8.85 million or approximately USD 9.55 million from the beneficiaries.

Disbursement

37. The disbursement mechanisms used for the AF are the same as those used for the initial financing.

- A designated account, denominated in local currency (CFA franc), will be opened at the Banque Centrale des États de l'Afrique de l'Ouest. Funds will be transferred from this account to an operating account opened in Bobo-Dioulasso.
- A sub-account will be opened at the Gaoua branch to facilitate the implementation of activities.

38. The PMU will receive funds in accordance with the disbursement procedures described in the amended Letter to the Borrower. A disbursement plan will be prepared and updated monthly on a rolling quarterly planning basis.

Summary of benefits and economic analysis

39. The economic analysis shows that the project is profitable, although not all the benefits of the Project have been taken into account. Based on the assumptions made, the net present value (NPV) is FCFA 55.7 billion, which corresponds to EUR 84.9 million. The economic rate of return is 23.8%. Approximately 67% of the benefits are derived from the activities of component A, in particular the provision of quality inputs and the increase in

agricultural facilities for lowland rice growing and market gardening, and 33% from the activities of component B, in connection with the financing of new projects.

business plan. This result is satisfactory, especially as some of the Project's benefits could not be taken into account. The benefits not quantified in the financial and economic analysis include, among others, the benefits of tracks, cooperatives for the use of agricultural equipment, rice storage infrastructures and nutritional benefits. The sensitivity analysis shows that the results remain robust under various scenarios, including an increase in costs (by 10% and 25%), a decrease in benefits (by 10% and 25%), a delay in activities by one or two years and a decrease in the adoption rate.

Withdrawal strategy and sustainability

40. Like PAFA-4R, P2RIA's exit strategy will be based on (i) the capacity of farmers' organisations and their umbrella organisations to provide services to their members; (ii) the CREER mechanism to provide sustainable support for the development of MERs; (iii) the promotion of technologies and cultivation practices adapted to the agro-climatic context, the market and the financial capacities of promoters; and (iv) capacity-building for the various beneficiaries with a view to guaranteeing their technical and entrepreneurial autonomy. The programming of activities and implementation arrangements will be based on local ownership, institutional accountability and sustainability. Technical management will involve the active participation of beneficiaries and the effective transfer of skills to village and communal governance and management bodies, while at the same time strengthening the regalian functions of regional technical departments and decision-making bodies.

III. Risk management

A. Risks and mitigation measures

Risks	Level	Mitigation measures
Policy/governance	Moderate	Participation with TFPs in political dialogue.
Macro-economic	Moderate	Participation with TFPs in political dialogue. Helping to achieve inclusive growth that creates jobs, reduces poverty and improves the business climate and governance.
Technical design of project activities	Low	Value chain and SPAM approaches tested by PAFA-4R. Targeted intervention sites. Technical and environmental studies carried out for lowland development.
Institutional capacity for implementation	Low	Management and implementation team already set up by PAFA-4R and ongoing capacity building. Close monitoring of PMU performance by IFAD and the Government.
Fiduciary management	Low	Ongoing dialogue with the Ministry of Finance.
Environmental and social issues	Moderate	Small hydro-agricultural schemes, improved and adapted seeds. Application of mitigation and resilience measures. Promoting innovative and resilient technologies.
Safe	Substantial	Prudential approach to the deployment of activities. Recourse to locally rooted expertise and mobilisation of endogenous mechanisms tested by PAFA-4R to ensure a minimum service on the ground when the threat is proven.

B. Environmental and social category

41. The P2RIA, like the PAFA-4R, is classified in category B. Development of lowlands will not exceed 20 hectares. The environmental risks associated with the improper use of chemical inputs and soil degradation will be mitigated by the

promotion of sustainable and climate-resilient technologies and conservation agriculture practices, including the promotion of biofertilisers and biopesticides. The security threat posed by attacks by armed groups may restrict access to intervention areas, in which case measures will be taken to ensure security.

C. Climate risk classification

42. The climate risk category chosen is "high" because of the high dependence and vulnerability of small-scale producers to climate risks. Environmental, social and climate issues are at the heart of the interventions. The main risks are reduced rainfall, extreme precipitation and an increase in the number of days with temperatures above 35°C³⁸. Excessive heat could affect crops and human productivity. The proposed actions are: (i) the development/rehabilitation of rice-growing lowlands and market-gardening perimeters accompanied by ESMPs and SMPs, (ii) the acquisition of fertilisers and seeds adapted to agro-climatic conditions and to water and temperature stress, (iii) the promotion of climate-smart techniques and technologies and (iv) the dissemination of good agro-pastoral practices and meteorological information. The actions of the AF are consistent with national climate commitments (CDN, PNA, NAMA). Beneficiaries' resilience will be strengthened by adding value to NTFPs while preserving the species that provide these products. The restoration and conservation of forest and agricultural ecosystems will continue to provide adaptation products and services and ensure carbon sequestration functions.

IV. Execution

A. Compliance with IFAD policies

43. The activities of the AF are in line with IFAD's Strategic Framework 2016-2025, which aims to promote inclusive and sustainable rural transformation, and all relevant IFAD policies, including those on gender equality, youth and social inclusion, nutrition, climate change, biodiversity, environmental and natural resource management, as well as social, environmental and climate assessment procedures. The initiative is in line with the priorities established by COSOP 2019-2024.

B. Organisational framework

44. **Management and coordination.** The PAFA-4R Project Management Unit (PMU) will be responsible for coordinating activities and managing financial, material and human resources.

45. **Financial management, procurement and governance.** Administrative and financial management will follow the PAFA-4R procedures manual and the texts in force. A work plan and budget (PTBA) will be prepared annually. An annual financial audit financed by the PAFA-4R will be carried out by an auditing firm to ensure that the accounts are kept in accordance with international standards and IFAD guidelines.

46. Procurement of works and supplies, as well as consultancy and advisory services, will comply with the public procurement code in force in Burkina Faso and IFAD's procurement guidelines.

47. Good governance and transparency will be applied: (i) through the exercise of project management by POs and young rural people; (ii) through the monitoring of POs' compliance with their statutes and internal regulations; (iii) compliance with financial management and procurement procedures.

³⁸ Scientific support project for the National Adaptation Plan, November 2019

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

48. Monitoring-evaluation, knowledge management and communication will be based on the PAFA-4R mechanisms and tools, with manuals that will be updated to ensure capitalisation. Periodic reports (quarterly, half-yearly, annual) will provide information on the physical and financial progress of the project.

D. Proposed amendments to the financing agreement

49. The financing agreement signed with Burkina Faso under the PAFA-4R programme will be amended to reflect the AF.

V. Legal instruments and powers

50. An amendment to the Funding Agreement is the legal instrument under which the proposed funding will be provided. The Funding Agreement will be amended following approval by the FA.

51. Burkina Faso is entitled under its laws to receive funding from IFAD.

52. I certify that the proposed additional financing is in accordance with the provisions of the Agreement Establishing IFAD and the Principles and Criteria for IFAD Financing.

a) Logical framework PAFA-4R (all indicators) -integrating the target for additional GAFSP funding

Results hierarchy	Indicators (*)				Means of verification			Assumptions/notes
	Name	Reference value	Mid-course (**)	Final objective (***)	Source	Frequency	Responsibilities	
Range	1.b Estimating the total number of household members			403 480				Favourable national strategic and institutional framework Availability of efficient partners and service providers
	1.a Corresponding number of households affected			52 400				
	People receiving services promoted or supported by the project (IOV 1 GAFSP)				Project HSE	Quarterly	UCP	
	Men		28 000	45 850				
	Women		28 000	45 850				
	Young people		16 800	36 680				
Total number of people	0	56 000	91 700					
Overall objective - Contribute to poverty reduction and stimulate economic growth in the Boucle du Mouhoun, Cascades, Hauts-Bassins and South-West regions.	People benefiting from economic mobility (number) (*)	0	37 800	71 730	Impact assessment	Full year 1.3 and 6	IFAD and Government	
	Households with a lean period of 2 months or less (%)	30,77		70	Impact assessment	Full year 1.3 and 6	IFAD and Government	
	Number of people whose resilience has increased (*)		37 800	71 730	Impact assessment	Full year 1.3 and 6	IFAD and Government	
Development objective. Achieve sustainable improvements in food security and incomes for farms involved in the production and marketing of rice products, market gardening, sesame and cowpeas	Households declaring an increase in income of at least 30%.	0	65	80	Specific survey	Annual	UCP, Service providers	Favourable national strategic and institutional framework Availability of partners and efficient service providers
Effect1. The productivity of agricultural systems in targeted sectors and the nutritional quality of household diets are improved	Households reporting an increase in production (%) (1.2.4)	0	85	90	Specific survey	Annual	UCP, Service providers	Good capacity to implement market access sub-projects (SPAM) Farmers' interest in agro-ecological practices
	Increase in yield (t/ha)				Specific survey	Annual	UCP, Service providers	
	Lowland rice	1,9	4	4				
	Onion	20	21	25				
	Sesame	0,63	0,8	0,8				
	Cowpeas	0,44	0,81	0,9				
Households reporting better access to land, forests, water or water expanse for production (%) (1.2.1)	35,1	85	90	Specific survey	Annual	UCP, Service providers		
Women declaring minimum dietary diversity (MDDW) (%) (1.2.8 and GAFSP 1 level)	0	20	50	COI, MDDW methodology	baseline, mid-course, final	UCP, Service providers		

Results hierarchy	Indicators (*)				Means of verification			Assumptions/notes
	Name	Reference value	Mid-term (**)	Final objective (***)	Source	Frequency	Responsibilities	
Product 1.1. Techniques and knowledge that sustainably improve agricultural productivity and the nutritional situation are mastered by stakeholders	Rural producers with access to production inputs and/or technological packages (number) (*) (1.1.3 and IOV 3 GAFSP)	0	26 560	41 000	Project HSE	Quarterly	UCP	
	Producer organisations supported (number) (2.1.3 and IOV 9 GAFSP)	0	720	1148	SSE project	Quarterly	UCP, Service providers	

	People trained in practices and/or technologies		26 560	41 000	SSE project	Quarterly	UCP, Service providers	
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	production capacity (number) (*) (1.1.4)							
	Men		13 280	20 500				
	Women		13 280	20 500				
	Households and individuals benefiting from targeted support to improve their nutrition (number) (1.1.8 and IOV 12 GAFSP)				SSE project	Quarterly	UCP	
	Household (number) People (*)		3 300	20 600				
	Number of hectares of land under climate-resilient management (ha) (3.1.4 and IOV 14 GAFSP)		4 080	6 140	SSE project	Quarterly	UCP, Service providers	
Product 1.2. Sustainable infrastructure improves productivity in targeted agricultural sectors	Farmland with infrastructure built/rehabilitated (ha) (1.1.2 and IOV 2 GAFSP)		1 920	3 000	SSE project	Half-yearly	UCP, Service providers	
	Marketing, processing and storage facilities built or refurbished (number) (2.1.6)		250	350	SSE project	Half-yearly	UCP, Service providers	
Effect 2. The development and marketing of agricultural products in the targeted sectors is improved	Jobs created at REM level (number) (*) (2.2.1 and IOV 8 GAFSP)	0	2 700	4 380	SSE, CREER report	Quarterly	UCP, CREATE	Markets for the supported sectors remain buoyant - Young people are interested in working in the supported sectors
	Percentage increase in volumes of processed and marketed agricultural products (%)		60	75	Specific survey	Annual	UCP, Service providers	
	Rural producer organisations with partnerships/formal agreements or contracts with public or private bodies (%) (2.2.3)		40	60	SSE, service providers	Half-yearly	UCP service providers	
Product 2.1. Improved consultation and collaboration between industry players	Sub-projects for the development of value chains financed	0	12	16	SSE, service provider report	Quarterly	UCP, MEBF	Willingness of inter-professions to strengthen their consultation b o d i e s at regional level
	Contracts stipulating quality norms or standards (%)		50	80	SSE, service provider report	Half-yearly	UCP, service providers	
	Number of LBOs with access to a formal financial service (savings, credit, insurance, payment)	0	360	720	Survey	Annual	UCP, service providers	
	Number of DPOs trained in literacy/financial education		360	720	Survey	Annual	UCP, service providers	
Product 2.2. MERs have access to development services adapted to their needs	Business plans for funded REMs	0	1 700	2 490	SSE, CREATE report	Quarterly	UCP, CREATE	Capacity of CREERs to become sustainable
	Number of MERs producing food to help combat malnutrition		160	405	SSE, CREATE	Quarterly	UCP, CREATE	
	Rural businesses with access to business development services (2.1.1)		1 500	2 250	SSE,CREATE	Quarterly	UCP, CREATE	
	Number of SEEs with access to a formal financial service (savings, credit, insurance, payment)	0	840	1 680	Survey	Annual	UCP, service providers	
	Number of MERs who have received literacy training/ financial education	0	840	1 680	Survey	Annual	UCP, service providers	

(*) Numbers disaggregated by gender and age (men, women and young people aged 18-35). (**) The mid-term values are the targets of the initial PAFA-4R.

(***) The final target includes the initial PAFA-4R targets and the FA GAFSP targets.

b) PAFA-4R: indicators for initial project and FA. CALCULATION of target values updated with the GAFSP FA

Results hierarchy	Indicators (*)					
	Name	Reference value	Mid-course	PAFA objective initial	FA	Final objective (PAFA+ FA)
Range	1.b Estimating the total number of household members			308 000	95 480	403 480
	1.a Corresponding number of households affected			40 000	12 400	52 400
	People receiving services promoted or supported by the project (IOV 1 GAFSP)					
	Men		28 000	35 000	10 850	45 850
	Women		28 000	35 000	10 850	45 850
	Young people		16 800	21 000	15 680	36 680
	Total number of people	0	56 000	70 000	21 700	91 700
Global Objective Contribute to poverty reduction and stimulate economic growth in the Boucle du Mouhoun, Cascades, Hauts-Bassins and Sud-regions. West	People benefiting from economic mobility (number) (*)	0	37 800	63 000	8 730	71 730
	Households with a lean period of 2 months or less (%)	30,77		70	-	70
	Number of people whose resilience has increased (*)		37 800	63 000	8730	71 730
Development objective. Achieve sustainable improvements in food security and incomes for farms involved in the production and marketing of agricultural products. adding value to products in the rice, market gardening, sesame and cowpea sectors	Households declaring an increase in income of at least 30%.	0	65	80	-	80
Effect1. The productivity of agricultural systems in targeted sectors and the nutritional quality of household diets are improved	Households reporting an increase in production (%) (1.2.4)	0	85	90	-	90
	Increase in yield (t/ha)					
	Lowland rice	1,9	4	4	-	4
	Onion	20	21	25	-	25
	Cowpeas	0,44	0,81	0,9	-	0,9
	Households reporting better access to land, forests, water or water expanse for production purposes (%) (1.2.1)	35,1	85	90	-	90
Women declaring minimum dietary diversity (MDDW) (%) (1.2.8 and GAFSP 1 level)	0	20	50	-	50	

Results hierarchy	Indicators (*)					
	Name	Reference value	Mid-course	PAFA objective initial	FA	Final objective (PAFA+ FA)
Product 1.1. Techniques and knowledge that sustainably improve agricultural productivity and the nutritional situation are mastered by stakeholders	Rural producers with access to production inputs and/or technological packages (number) (*) (1.1.3 and IOV 3 GAFSP)	0	26 560	33 200	7 800	41 000
	Producer organisations supported (number) (2.1.3 and IOV 9 GAFSP)	0	720	900	248	1148
	People trained in production practices and/or technologies (number) (*) (1.1.4)		26 560	33 200	7 800	41 000
	Men		13 280	16 600	3 900	20 500
	Women		13 280	16 600	3 900	20 500
	Households and individuals benefiting from targeted support to improve their nutrition (number) (1.1.8 and IOV 12 GAFSP)					
	Household (number)					
	People (*)		3 300	6 600	14 000	20 600
Number of hectares of land under climate-resilient management (ha) (3.1.4 and IOV 14 GAFSP)		4 080	5 100	1 040	6 140	
Product 1.2. Sustainable infrastructure improves productivity in agricultural sectors targeted	Agricultural land with water infrastructure built/rehabilitated condition (ha) (1.1.2 and IOV 2 GAFSP)		1 920	2 400	600	3 000
Effect 2. The development and marketing of agricultural products in the targeted sectors is improved	Jobs created at REM level (number) (*) (2.2.1 and IOV 8 GAFSP)	0	2 700	3 600	780	4 380
	Percentage increase in volumes of processed and marketed agricultural products (%)		60	75	-	75
	Rural producer organisations with partnerships/formal agreements or contracts with public or private bodies (%) (2.2.3)		40	60	-	60
Product 2.1. Improved consultation and collaboration between industry players	Sub-projects for the development of value chains financed	0	12	16	-	16
	Contracts stipulating quality norms or standards (%)		50	80	-	80
Product 2.2. SEBs have access to business development services tailored to their needs	Business plans of funded REMs	0	1 700	2 100	390	2 490
	Number of MERs producing food to help combat malnutrition		160	210	195	405
	Rural businesses with access to business development services (2.1.1)		1 500	1 900	108	2 250

(*) Numbers disaggregated by gender and age (men, women and young people aged 18-35).

Updated summary of economic and financial analysis

Table A
Financial models relating to cash flows

	Lowland rice production and market gardening	Production of sesame	Cowpea production	Market garden	Fish ponds	Preservation of onions	Company services	Honey production and processing	Pisciculture at 100m2 enclosure	Collecting and processing shea	Moringa processing
FINANCIAL ANALYSIS											
AN1	(4,476,168)	(138,546)	(93,758)	(5,374,300)	(914,700)	0	(8,208,571)	(115,920)	374,000	(5,165,900)	(1,394,500)
AN2	682,464	24,362	60,565	2,743,596	355,300	(763,667)	(2,397,143)	341,540	499,000	3,410,000	4,585,500
AN3	829,024	91,374	119,880	3,767,467	335,300	506,333	(2,897,143)	399,000	404,000	3,935,000	5,510,500
AN4	860,880	80,374	107,761	3,857,467	55,300	456,333	4,602,857	410,000	469,000	3,935,000	5,510,500
AN5	676,647	91,374	117,111	3,154,967	335,300	506,333	4,602,857	405,000	404,000	3,935,000	5,510,500
AN6	851,044	45,874	71,200	3,857,467	205,300	456,333	4,202,857	352,000	499,000	3,315,000	4,105,500
AN7	815,044	80,374	105,444	3,767,467	35,300	466,333	702,857	388,000	374,000	3,935,000	5,510,500
AN8	847,467	51,374	75,700	3,857,467	355,300	456,333	4,202,857	404,000	499,000	3,935,000	5,510,500
AN9	660,253	91,374	114,930	3,154,967	335,300	506,333	702,857	405,000	404,000	3,935,000	5,510,500
AN10	833,079	80,374	72,827	3,857,467	55,300	(723,667)	7,580,000	410,000	469,000	3,935,000	5,510,500
IRR (financial)	10%	44%	93%	61%	23%	60%	14%	307%	N/A	71%	344%
VAN (@8%, '000 FCFA)	378	273	458	15,428	528	1,152	3,752	2,138	2,936	17,137	28,904
NPV (@8%, EUR)	576	416	698	23,518	805	1,755	5,720	3,259	4,476	26,123	44,061
NPV (@8%, EUR), per household	143.98	208	349	2,352	80	176	1,907	3,259	448	1,045	1,762
B/C	1.05	1.3	1.4	2.1	1.1	1.5	1.1	2.5	1.7	2.0	1.5

Table B
Project costs and logical framework targets

PROJECT COSTS AND LOGICAL FRAMEWORK INDICATORS			
TOTAL COST OF PROJECT, EUR	128,700,000	COST TOTAL OF PROJECT, millions FCFA	84,427
Beneficiaries	91,700	Households	52,400
Cost per beneficiary	1,403	Cost per household	2,456
Components	Costs, millions of EUR	Indicators	
A. <u>Improving agricultural productivity and production</u>	56,2	of households reporting improved access to land or water for production purposes Increased yield	
B. <u>Supporting the development and marketing of agricultural products</u>	64.6	Number of jobs created at REM level of POs supported that have concluded partnerships/formal agreements or contracts with public or private bodies	
C. <u>Coordination, monitoring-evaluation and knowledge management</u>	7.9		

Table C
Main assumptions and shadow prices

Yields (Kg/ha)	No project	With Project		
Lowland rice; kg/ha	1500	4000	167%	
Onion; kg/ha	13000	25000	92%	
Sesame; kg/ha	370	800	116%	
Cowpea; kg/ha	300	900	200%	
Honey; kg/log		20		
Conversion factors		Financial prize	Prices economic	Factor of conversion
Exchange rates		656	685	0.7
Imports: fuel		600	431	0.7
Imports: computers and other IT equipment		100	82	1.0
Imports: agricultural inputs (fertilisers, treatments, equipment, etc.).		300	291	0.8
Imports: other		100	78	1.0
Workforce		1,250	1,033	0.9
Import substitution: paddy rice and others		150	134	1.1
Exports: sesame (and other exportable goods)		500	533	0.8
Non-tradable with VAT		100	85	0.8

Table D
Rate of adoption by beneficiaries and phasing

		2020	2021	2022	2023	2024	2025	Total
AGREGATION CALENDAR								
Production lowland rice and market gardening	Hectare	400	1,400	1,000	1,000	500	500	4,800
Sesame production	Hectare	-	800	800	-	-	-	1,600
Cowpea production	Hectare	-	400	400	-	400	400	1,600
Market garden	Hectare	400	650	250	-	100	100	1,500
Fish ponds	4 basins	50	-	-	-	-	-	50
Onion preservation	Unit	25	125	113	-	-	-	263
Company services	CREATE	12	-	-	-	-	-	12
Production and processing of honey	Business plan	100	100	75	50	100	-	425
Fish farm in 100m2 enclosure	Business plan	92	92	92	67	33	-	375
Collecting and processing shea	Business plan	92	92	92	67	33	-	375
Moringa processing	Business plan	92	92	92	67	33	-	375
AGREGATION CALENDAR		Adoption rate						
Production lowland rice and market gardening	75%	300	1,050	750	750	375	375	3,600
Sesame production	75%	-	600	600	-	-	-	1,200
Cowpea production	75%	-	300	300	-	300	300	1,200
Market garden	65%	260	423	163	-	65	65	976
Fish ponds	65%	33	-	-	-	-	-	33
Onion preservation	70%	18	88	79	-	-	-	185
Company services	65%	8	-	-	-	-	-	8
Production and processing of honey	65%	65	65	49	33	65	-	277
Fish farm in 100m2 enclosure	65%	60	60	60	43	22	-	245
Collecting and processing shea	65%	60	60	60	43	22	-	245
Moringa processing	65%	60	60	60	43	22	-	245

Table E
Economic cash flow

Million FCFA		Production of lowland rice and market gardening	Sesame production	Cowpea production	Market garden	Fish ponds	Onion preservation	Company services	Honey production and processing	Fish farm in 100m2 enclosure	Collecting and processing shea	Moringa processing	Total additional profits	Total profits	Other costs	Additional net profit
	AN1	-1,113,149	-	-	1,086,319	25,115	9,673	53,698	1,480	-	213,944	2,542	(3)	(3)	5	(8)
	AN2	-3,685,004	- 76,045	- 25,717	984,452	9,406	37,395	16,291	27,745	17,471	6,421	332,191	(4)	(4)	5	(9)
	AN3	-1,778,075	- 55,218	- 5,937	1,666,046	8,889	14,954	12,344	57,572	40,816	260,371	733,432	1	1	6	(5)
	AN4	-1,058,352	84,517	57,057	3,328,773	1,652	97,454	38,166	81,564	59,696	574,938	1,135,393	4	4	2	2
	AN5	943,448	120,982	45,640	3,096,389	8,889	97,018	38,166	98,893	76,682	841,332	1,442,682	7	7	2	5
	AN6	1,211,415	120,982	65,420	3,195,329	5,529	96,756	35,583	122,841	82,833	995,511	1,543,109	7	7	1	6
	AN7	2,975,227	100,915	118,381	3,889,631	1,135	93,605	15,531	125,978	86,252	1,007,826	1,567,495	10	10	0	10
	AN8	3,035,437	94,516	129,481	4,063,612	9,406	94,390	35,583	127,197	82,339	1,007,826	1,567,495	10	10	0	10
	AN9	3,036,312	97,715	131,081	3,870,633	8,889	79,018	15,531	127,818	85,735	1,016,081	1,587,584	10	10	0	10
	AN10	2,896,378	104,114	124,246	3,773,846	1,652	8,581	61,790	126,884	83,350	1,026,279	1,612,401	10	10	0	10
	AN11	2,993,889	120,982	120,756	3,985,153	1,652	13,752	61,790	129,758	85,241	1,036,962	1,638,399	10	10	0	10
	AN12	2,983,182	114,584	110,432	4,093,430	1,652	92,752	61,790	130,879	85,888	1,036,962	1,638,399	10	10	0	10
	AN13	3,037,726	114,584	113,631	4,054,834	1,652	92,752	61,790	131,024	87,897	1,036,962	1,638,399	10	10	0	10
	AN14	3,032,965	114,584	113,340	4,054,834	1,652	92,752	61,790	131,349	88,449	1,036,962	1,638,399	10	10	0	10
	AN15	3,093,456	114,584	101,416	4,098,012	1,652	92,752	61,790	131,349	89,569	1,036,962	1,638,399	10	10	0	10
	AN16	3,093,456	114,584	101,416	4,098,012	1,652	92,752	61,790	131,349	89,569	1,036,962	1,638,399	10	10	0	10
	AN17	3,093,456	114,584	101,416	4,098,012	1,652	92,752	61,790	131,349	89,569	1,036,962	1,638,399	10	10	0	10
	AN18	3,093,456	114,584	101,416	4,098,012	1,652	92,752	61,790	131,349	89,569	1,036,962	1,638,399	10	10	0	10
	AN19	3,093,456	114,584	101,416	4,098,012	1,652	92,752	61,790	131,349	89,569	1,036,962	1,638,399	10	10	0	10
	AN20	3,093,456	114,584	101,416	4,098,012	1,652	92,752	61,790	131,349	89,569	1,036,962	1,638,399	10	10	0	10
NPV@ 6% (FCFA)			56,919,286													
NPV@ 6% (EUR)			86,767													
EIRR			24.6%													

Table F
Sensitivity analysis

SENSITIVITY ANALYSIS				
	$\Delta\%$	Link with the risk matrix	NPV (8%) (thousands of FCFA)	TRIE
Basic scenario			57	24.6%
Costs +	10%	Security problems (and increased security spending)	55	23.2%
Costs +	25%		52	21.4%
Revenue -	10%	Drought or other scenarios reducing agricultural yields	49	23.1%
Revenue -	25%		38	20.5%
Benefits delayed by 1 year		Delay in project start-up, safety issues	50	21.6%
Benefits delayed by 2 years			41	18.0%
Adoption rate -	10%	Insufficient support, unsuitable techniques and materials	40	22.1%
Adoption rate -	25%		25	17.5%