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President's memorandum
Proposed second additional financing to
the Union of the Comoros for the
Family Farming Productivity and Resilience
Support Project (PREFER)

Project ID: 2000001157

Note to Executive Board representatives

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For: Approval

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Abbreviations and acronyms

ASAP	Adaptation for Smallholder Agriculture Programme
IITA	International Institute for Tropical Agriculture
PBAS	performance-based allocation system
PMU	project management unit
PREFER	Family Farming Productivity and Resilience Support Project

Financing summary

Initiating institution:	IFAD
Borrower/recipient:	The Union of the Comoros
Executing agency:	Ministry of Agriculture, Fisheries and Environment
Total project cost:	US\$16.1 million
Amount of original IFAD financing:	(1) Special drawing rights (SDR) 2.2 million (equivalent to approximately US\$3.0 million); and (2) EUR 2.5 million (equivalent to approximately US\$3.0 million) for first additional financing
Terms of original IFAD financing:	(1) Blend of Debt Sustainability Framework and highly concessional lending terms (DHC) – 50% grant/50% loan on highly concessional terms; and (2) DHC – 27% grant/73% loan on highly concessional terms
Amount of additional IFAD financing:	EUR 5.5 million (equivalent to approximately US\$6.4 million)
Terms of additional IFAD financing:	Highly concessional: Maturity period of 40 years, including a grace period of 10 years, with a service charge of 0.75% per annum DHC – 27% grant/73% loan on highly concessional terms
Cofinancier(s):	International Institute for Tropical Agriculture (IITA) Adaptation for Smallholder Agriculture Programme (ASAP)
Amount of cofinancing:	IITA: US\$0.5 million ASAP Trust Fund: US\$1.0 million
Terms of cofinancing:	Grant
Contribution of borrower/recipient:	US\$1.3 million
Contribution of beneficiaries:	US\$0.7 million

Recommendation for approval

The Executive Board is invited to approve the recommendation for the proposed additional financing contained in paragraph 39.

I. Background and project description

A. Background

1. The Family Farming Productivity and Resilience Support Project (PREFER) for the Union of Comoros was approved by the Executive Board on 11 May 2017 (EB 2017/LOT/P.4). The financing agreement was signed on 7 July 2017 and entered into force on 29 December 2017, with a completion date of 31 December 2022. The total project cost of PREFER is US\$11.0 million, including a highly concessional IFAD loan of US\$1.5 million and a Debt Sustainability Framework grant US\$1.5 million, an Adaptation for Smallholder Agriculture Programme (ASAP) grant for US\$1.0 million, cofinancing from the International Institute for Tropical Agriculture (IITA) of US\$0.6 million, a government contribution of about US\$0.5 million and a contribution from beneficiaries of US\$2.6 million.
2. The Executive Board approved additional financing on 20 November 2020 (EB 2020/LOT/P.8/Rev.1) to cover the financing gap of EUR 2.5 million (equivalent to US\$3 million) with the country's allocation under the performance-based allocation system (PBAS) for the period 2019-2021. The borrower made a subsequent second request for additional financing on 16 December 2020 to scale up achievements in livestock production, to be financed using the remainder of the PBAS allocation for 2019-2021.

B. Original project description

3. The overall objective of the project remains the same: to improve food and nutritional security and livelihoods for poor rural people. Within this framework, the project is intended to sustainably increase food availability and farming incomes for beneficiary households. The specific project objectives are as follows: (i) improve the productive base, climate change resilience and organization of smallholder farmers; and (ii) raise the agricultural productivity of the targeted farming households.

II. Rationale for additional financing

A. Rationale

4. Owing to a history of political instability and weak institutional capacities, Comoros is classified among countries with fragile situations. Unlike other small island developing states (SIDS), Comoros is heavily dependent on agriculture, which accounts for 30.5 per cent of GDP¹ and around 56.8 per cent of employment.² Food imports account for 70 per cent of total food consumption,³ meaning that the country's food and nutritional security is vulnerable to shocks such as COVID-19. In order to address this situation, the Comorian authorities are committed to promoting the development of local food systems in order to: (i) improve food and nutritional security for farming households; and (ii) produce surpluses to supply the domestic market while generating income for smallholder producers. In this regard, the Rural Poor Stimulus Facility funded the Support to Agricultural Recovery in Comoros project, as an additional financing to PREFER, to help 2,000 family

¹ Institut national de la statistique, des études économiques et démographique, 2019.

² <https://data.worldbank.org/country/comoros>.

³ Food and Agriculture Organization of the United Nations, *Note sectorielle de politique agricole* (May 2013).

farms improve their productivity, diversify their crops and enhance their access to markets.

5. After four years and despite delays in implementation, the prospects for attaining the development objectives of PREFER remain positive. The two key supervision and implementation support indicators, namely “likelihood of achieving the development objectives” and “assessment of overall implementation performance”, are both rated as moderately satisfactory. As of September 2021, PREFER has directly provided services to 4,366 poor rural households, representing 62 per cent of its final outreach target.
6. Tangible progress has been recorded in terms of investments contributing to agricultural productivity and sustainable land management, particularly improved access to enhanced planting materials for cassava and banana, as well as a community-based agroforestry approach known as *embocagement*⁴ and the restoration and protection against erosion of degraded lands on steep slopes. PREFER has also been effective in targeting women and youth, who represent respectively 39 per cent and 26 per cent of its beneficiaries.
7. Currently, the disbursement performance of the initial PREFER is rated satisfactory. The initial IFAD loan and grant financing is more than 92 per cent disbursed. PREFER is currently not a problem project, but it requires continuous backstopping in financial management. To improve the project’s capacity in financial management, technical assistance has been mobilized to strengthen the capacities of the project management unit (PMU). Additional training sessions have also been organized by the Financial Management Services Division of IFAD.
8. As indicated in the country strategic opportunities programme (COSOP) for the period 2020-2025, the community-based approach known as *embocagement* is effective in curbing environmental degradation and loss of soil fertility, while boosting agricultural production and incomes. The *embocagement* technique has strong potential for scaling up in Comoros and in countries with similar characteristics.⁵ However, full implementation of the agronomic technical package requires the introduction of livestock⁶ to maximize its potential as a mixed crop and livestock farming system and to realize the environmental and economic benefits, including through organic manure contributions to soil fertility.
9. One of the major results of PREFER has been promotion of the *embocagement* technique. As of September 2021, 761.8 ha of land has continued to be managed with *embocagement* out of 1,080 ha planned, including 317 ha established by beneficiaries using their own resources (nearly 42 per cent). Given their limited income and assets, however, the targeted beneficiaries are unable to invest in livestock, which is an integral and complementary element of the *embocagement* technique. This situation has been exacerbated by the outbreak of COVID-19, including through restrictions on off-farm employment. Given the limited resources available under the Tenth Replenishment of IFAD’s Resources (IFAD10), the investments and services initially supported by PREFER did not include livestock. This additional financing will also contribute to increase investments in pro-poor livestock production, which lags behind crop production and fisheries in public spending according to the National Agricultural Investment Plan (NAIP) 2020-2024.
10. The strategic option of the Government has always been to promote crop and livestock production in an integrated manner for sustainable results, as indicated in the midterm review report. Scaling up *embocagement* is also identified as a priority investment in the NAIP. Moreover, innovative asset-building approaches

⁴ Planting live fences using multi-purpose trees including cash crops such as ylang ylang, fodders and nitrogen fixing plants around plots containing crops and livestock.

⁵ The *embocagement* technique is an innovation originally piloted and developed in Comoros that is being replicated in other countries such as Rwanda.

⁶ Integration of livestock highlighted in the initial design report of PREFER (pp. 12, 22, 65, 69).

implemented with success in Rwanda will be introduced in Comoros, while mobilizing the technical support of a service provider with proven experience in livestock value chain development in East and Southern Africa. Finally, the innovative beekeeping technologies introduced in Comoros through an IFAD-funded grant implemented by the International Centre of Insect Physiology and Ecology will also be scaled up.

B. Description of geographical area and target groups

11. The project is being implemented primarily in the COSOP areas with a focus on the 48 villages initially targeted by PREFER and 18 new villages (seven in Grande Comore, five in Anjouan and six in Mohéli) with prior experience in livestock production systems (cattle, small ruminants and poultry) and beekeeping (honey).
12. The project beneficiaries are: (i) families with farms of less than 1 ha; (ii) households headed by women; and (iii) rural young people aged 18 to 35. The investments in livestock will reach 5,635 households, for a total outreach of 28,175 beneficiaries, with women and youth representing, respectively, 56 per cent of women and 40 per cent of beneficiaries. Among the beneficiaries, 40 per cent will be new and 60 per cent will be existing beneficiaries of PREFER. As a result, the overall number of PREFER beneficiaries is 9,250 households. Priority will be given to households with no livestock. Traditional poultry farming and beekeeping will target the most vulnerable people with limited access to lands. Veterinary public health investments such as livestock vaccination will have national coverage.

C. Components, outcomes and activities

13. The project is structured around three technical components: (i) improving the productive base and organizing smallholder farmers; (ii) improving productivity and food for rural farm households; and (iii) improving productivity, resilience and integration of livestock in agricultural holdings.
14. Component 1: Improving the productive base and organizing smallholder farmers, aims to: (i) upgrade and secure the natural capital of smallholder farmers to check soil losses from erosion and reinforce the natural fertility of plots; and (ii) organize producers around functions, starting with collective improvements to the natural environment. The activities planned include: (i) sustainable management of productive natural capital; and (ii) strengthening the capacities of farmers' organizations.
15. Component 2: Improving productivity and food for rural farm households, calls for raising agricultural productivity and ensuring nutritional security for the beneficiary households. Project activities will lead to: (i) stronger capacities for farmers in production techniques; (ii) access by beneficiaries to improved plant material; (iii) easier access to markets; and (iv) education around good nutritional practices. The activities planned include: (i) agricultural advisory services to producers; (ii) access to improving planting material, seeds and inputs; (iii) facilitating market access; and (iv) promotion of nutritional best practices.
16. Component 3: Improving productivity, resilience and integration of livestock in agricultural holdings. Project activities will include (i) institutional support and capacity-building of public services, particularly in veterinary public health; (ii) support for scaling up livestock innovations and asset building for poor rural households; and (iii) developing livestock value chains and improving market access for smallholder producers with support to farmer organizations.

D. Costs, benefits and financing

Project costs

17. With this additional financing, the total project cost is US\$16.1 million over an eight-year period, and recurrent costs represent 18.6 per cent of IFAD financing. A

three-year extension of completion and closing dates of PREFER is sought to implement the activities funded through the additional financing.

18. The breakdown of costs in United States dollars by component, outputs and financiers is shown in the table 2 below. Using resources from PBAS 2019-2021, the additional IFAD financing amounts to US\$6.4 million in the form of a loan for US\$4.7 million and a grant for US\$1.7 million. The expenditure categories remain similar to the one presented in the initial design of PREFER financing.

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

	<i>Original financing</i>	<i>Additional financing</i>	<i>Total</i>
IFAD loan	3 690	4 656	8 346
IFAD grant	2 310	1 722	4 032
ASAP	1 000	-	1 000
IITA	551	-	551
NGO technical assistance	-	207	207
Beneficiaries	2 639	470.7	723
Recipient/counterpart	458	671	1 248
Total	10 648	7 726	16 107

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

<i>Component/subcomponent</i>	<i>Additional IFAD loan</i>		<i>Additional IFAD grant</i>		<i>Additional</i>						<i>Total</i>		
					<i>Other cofinanciers</i>		<i>Beneficiaries</i>			<i>Recipient/ counterpart</i>			
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>In kind</i>	<i>%</i>	<i>Cash</i>	<i>In kind</i>	<i>%</i>	<i>Cash</i>		<i>In kind</i>	<i>%</i>
Component 3. Improving productivity, resilience and integration of livestock in agricultural holdings													
3.1. Institutional support and capacity-building of public services	683.5	-	252.8	-	-	-	-	35.2	-	-	113.3	-	1 084.8
3.2. Scaling up of livestock innovations and asset building	2 637.6	-	975.5	-	-	-	-	427.7	-	-	408.8	-	4 449.6
3.3. Livestock value chain and market access	776.6	-	287.2	-	206.8	-	-	7.8	-	-	141.8	-	1 420.2
Subtotal	4 097.7	-	1 515.6	-	206.8	-	-	470.7	-	-	663.8	-	6 954.6
Project coordination and management													
Project management and monitoring	560.8	-	207.4	-	-	-	-	-	-	-	-	-	768.2
Subtotal	560.8	-	207.4	-	-	-	-	-	-	-	-	-	768.2
Total	4 658.5	-	1 723.0	-	206.8	-	-	470.7	-	-	663.8	-	7 722.8

Financing and cofinancing strategy and plan

19. The original PREFER financing plan included: (i) IFAD financing of US\$3.0 million; (ii) an ASAP grant of US\$1.0 million; (iii) cofinancing from IITA of US\$0.6 million; (iv) a contribution by the Government of US\$0.5 million; and (v) a contribution by beneficiaries of US\$2.6 million. The first IFAD additional financing of US\$3.0 million was to cover an identified financing gap using a portion of the country's PBAS allocation for 2019-2021. The second IFAD additional financing of US\$6.4 million under PBAS 2019-2021 will support integration of livestock within the framework of scaling up the *embocagement* technique.

Disbursement

20. To avoid a slowdown in funds flow, the project will continue using the two designated accounts denominated in euros used for the initial and first additional

financing, which are held at the Central Bank of the Comoros. Account movements are processed according to the principle of double signature.

21. Disbursement will depend on timely approval of the annual workplan and budget (AWP/B), for which significant delays have been seen in the past. Delays in replenishment requests could also hinder the flow of funds. The main disbursement categories will be equipment and materials and consultancies. Operational procedures for all categories of expenditure will be detailed in the project implementation manual. Disbursement will be subject to the submission of interim financial reports.

Summary of benefits and economic analysis

22. PREFER provides direct economic benefits to smallholder farmers, through an increase in productivity and production of food crops – banana, cassava, tomato, onion and carrot – by a projected 35,200 tonnes per year, in addition to the benefits deriving from a more diversified diet. The introduction of livestock products will further increase revenue generation opportunities, as well as development outcome related to nutrition and food security with greater access to nutritious products (poultry, milk, honey, etc.). The project will also improve access to staple foods by contributing to lowering food prices, thanks to a diversified and abundant supply of staple foods on each island's markets.
23. Environmental benefits, calculated using the EX-ACT tool, show a potential for attenuation on the order of 70,000 teqCO₂ for PREFER, or an average of 3,500 teqCO₂ per year. This represents 20 per cent of the targets set for the country's agro-forestry sector by 2022. The introduction of livestock further increases the positive externalities of the *embocagement* technique.
24. The gross margin of all the farming enterprises is positive. The project's economic internal rate of return is 21.9 per cent, well above the cost of capital (estimated at 5 per cent). Net present value is estimated at US\$17 million. The analysis shows that rates of return remain high even with an increase in food production costs, decreases in margins or delays of one year in benefits.

Exit strategy and sustainability

25. The PREFER sustainability strategy is based mainly on the empowerment of rural producers, and is built around three complementary pillars: (i) developing and strengthening the capacities of producers' groups to develop internal support and solidarity services; (ii) strengthening the capacity of lead farmers who can have a positive impact on agricultural development in a given area and can provide advice to other producers; and (iii) forging stronger linkages between producer organizations and other value chain actors, to promote growth in production and higher incomes.

III. Risk management

A. Risks and mitigation measures

26. The main project risks relate to the following: climate hazards and more prolonged periods of drought that could discourage farmers from investing in agriculture; and limited markets for food and market garden produce as a result of high costs and inadequate inter-island transport. In addition to these economic risks, there are political and institutional risks such as insufficient public investment in agriculture and rural areas. At the social level, farmers have little incentive or capacity to invest in their production apparatus given remittances from the diaspora that provide a social safety net for those living in the country. There are also fiduciary risks with respect to financial management; and the country and project risks are high. Mitigation measures are in place and risks are gradually falling to moderate. Finally, owing to weak procurement capacities, the mitigation measures planned include training and technical assistance to reduce procurement risk thresholds.

Debt sustainability

27. The Union of Comoros remains at moderate risk of external debt distress but has limited space to absorb shocks. All debt burden indicators exhibit a continual upward trend. Shock scenarios indicate vulnerability to a deterioration of export performance, natural disasters and exchange rate instability. Comoros' overall risk of debt distress remains moderate, given that domestic debt is expected to remain minimal.

B. Environment and social category

28. At design, PREFER was classified in category B (moderate environmental risk) and an environmental and social management plan was prepared. The project invests in sustainable management of lands and tree planting in order to improve the resilience of production systems of target populations. In addition, PREFER will promote small-scale and resilient livestock systems as part of a mixed crop and livestock farming model that will increase soil fertility. The benefits of using acclimatized but non-native cover plants to reclaim *padza* (degraded land on steep slopes) are considered greater than those of leaving the land in its current state. The promotion of high-yielding varieties and the *embocagement* technique will increase the opportunity cost of deforestation and animal management in forest areas. ASAP funding goes to areas that best preserve agricultural land and protect small producers against the effects of erosion and climate change. Capacity-building and use of the Gender Action Learning System (GALS) will not only promote gender equality and women empowerment, but also address issues of gender-based violence and child labour.

C. Climate risk classification

29. The impact of climate on project activities is moderate. The project's watershed and erosion control approach is a structural element that slows erosion. The project is classified as posing a moderate climate risk.

IV. Implementation**A. Compliance with IFAD policies**

30. PREFER is aligned with the strategic approach adopted by IFAD on SIDS, which focuses on providing context-specific solutions to overcome problems faced by smallholder farmers in order to ensure food and nutritional security. PREFER is also in line with IFAD's Rural Youth Action Plan 2019-2021 as it explicitly targets youth with concrete objectives, and with IFAD11 commitments on mainstreaming climate change, nutrition, gender and nutrition including through the introduction of GALS. In addition, PREFER is in line with the COSOP, which underscores the promotion of locally grown food crops.

B. Organizational framework**Management and coordination**

31. PREFER is under the oversight of the Ministry of Agriculture. Strategic guidance will be provided by a national steering committee and regional steering committees in the three islands. Coordination is ensured by a project coordination and management unit with administrative and financial autonomy. Implementation on each island is coordinated by a regional technical support unit. To provide backstopping support, an international NGO with proven expertise in pro-poor livestock system development will be recruited on a competitive basis.⁷

Financial management, procurement and governance

32. The PREFER financial management arrangements are aligned with the relevant national system. The financial management risk is rated high in view of limited

⁷ Two international NGOs (Vétérinaires Sans Frontières Belgium and Heifer International) approached during design have confirmed their interest in taking part in a restricted call for proposals.

national capacities. To improve the capacity of the PMU, training and technical assistance will continue to be mobilized. The project will be managed through a dedicated project coordination unit, located at the Ministry of Agriculture, which will be responsible for all the financial management for the project. Oversight will be provided through the line ministry. The project will retain one designated account at the Central Bank to receive the loan and grant proceeds from IFAD. A project operational account is held at a commercial bank for day-to-day transactions. This account will be replenished through transfers from the designated account.

33. Procurement takes place in accordance with IFAD guidelines and prevailing regulatory provisions in the Comoros. To the extent possible, contracts are grouped so as to appeal to bidders, favour competition and obtain the best offers. Procurement modalities are set forth in the letter to the borrower and in the project's administrative, financial and accounting management procedures. The capacity of the PMU in procurement will be strengthened in order to address prevailing weaknesses. A local consultant will also be recruited on a retainer contract basis to provide backstopping support to the PMU during key procurement activities.

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

34. The national project coordination unit prepares and submits AWP/Bs to the steering committee and IFAD. The monitoring and evaluation (M&E) system is based on ongoing internal monitoring and periodic evaluations. The project will submit annual reports to the oversight administration and IFAD. A midterm review will be performed to determine whether the project strategy and approach remain relevant or need adjustment. During the final year, a final impact assessment and a completion report will be prepared. The project M&E officer is also responsible for communication and knowledge management. Knowledge products based on best practices will be prepared by specialized partners and external experts.

D. Proposed amendments to the financing agreement

35. Upon approval of the Executive Board, the financing agreement of PREFER will be amended to reflect the proposed activities and the additional financing in the project budget. This additional financing will serve the purposes of scaling up the achievements of PREFER, including *embocagement* and livestock production, as well as complementing the financing plan of the project.

V. Legal instruments and authority

36. A financing agreement between the Union of the Comoros and IFAD will constitute the legal instrument for extending the proposed financing to the borrower/recipient. The signed financing agreement will be amended following approval of the additional financing.
37. The Union of the Comoros is empowered under its laws to receive financing from IFAD.
38. 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

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

RESOLVED: that the Fund shall provide a loan on highly concessional terms to the Union of the Comoros in an amount of four million euros (EUR 4,000,000), equivalent to approximately four million six hundred and fifty-six thousand United States dollars (US\$4,656,000) 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 grant under the Debt Sustainability Framework to the Union of the Comoros in an amount of one million five hundred thousand euros (EUR 1,500,000), equivalent to approximately one million seven hundred and twenty-two thousand United States dollars (US\$1,722,000) and upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

Gilbert F. Hougbo
President

Updated logical framework incorporating the additional financing

Chaîne logique	Indicateurs				Moyens de vérification			Hypothèses
	Nom	Situation de référence	Mi-parcours	Cible Finale	Source	Fréquence	Responsabilité	
Portée Individus recevant les services du projet	1.b Estimation correspondante du nombre total des membres des ménages				Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP	Stabilité politique
	Membres des ménages - Nombre de personnes	0		46270				
	1.a Nombre correspondant de ménages touchés				Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP	
	Ménages - Ménages	0	3500	9250				
	1 Nombre de personnes bénéficiant de services promus ou appuyés par le projet				Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP	
	Hommes	0		5190				
	Femmes	0		4060				
	Jeunes	0		1950				
Nombre total de personnes bénéficiant de services - Nombre de personnes	0		9250					
Objectif du projet Sécurité alimentaire, nutritionnelle et moyens d'existence des populations rurales pauvres améliorés	Membres des ménages de petits exploitants pauvres ayant reçu un appui pour faire face aux effets du changement climatique							Stabilité politique
	Femmes			21000				
	Hommes			14000				
	Membres des ménages - Nombre de personnes			35000				
	Prevalence de la malnutrition chronique chez les enfants de moins de 5 ans				Etudes SYGRI de base, enquête de référence et d'impact	années 1 et 5	UCGP	
	Enfants de moins de 5 ans malnourris - Ratio (%) - Pourcentage (%)	32	26	20				
	Augmentation de 10% dans l'accumulation des biens				Etudes SYGRI de base, enquête de référence et d'impact	années 1 et 5	UCGP	
Pourcentage de ménages ayant augmenté leurs biens accumulés d'au moins 10% - Ratio (%) - Pourcentage (%)	5.6		50					

Objectif de développement Disponibilité alimentaire et revenus agricoles durablement accrus au niveau des ménages appuyés	Augmentation moyenne de 20% des revenus agricoles dans les ménages ciblés				Rapports de missions et d'activités	Annuelle	UCGP; Ministère en charge de la production
	Revenue - Pourcentage (%)			20			
	Augmentation de la production annuelle dans les filières ciblées				enquête annuelle	annuelle	UCGP; Ministère en charge de la production
	tons de banane produits annuellement - Poids (t)	3700		9500			
	tons de manioc produits annuellement - Poids (t)	4000		10000			
	tons de tomate produits annuellement - Poids (t)	0.7		28.4			
	tons de oignons produits annuellement - Poids (t)	7		20.2			
	tons de carotte produits annuellement - Poids (t)	6.4		15			
	Tonnes de lait produites annuellement - Poids (t)	25000		30000			
	Tonnes de miel produites annuellement - Poids (t)			3			
	Tonnes de viande de PR produites annuellement - Poids (t)	1050		1300			
	Tonnes de viande de volaille produites annuellement - Poids (t)	76		111			
Œufs produits annuellement (milliers d'unités) - Nombre	20000		29000				
Effet direct 1. La base productive et la structuration des petites exploitations agricoles sont améliorées	Land under climate-resilient practices				Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP
	Land area - Area (ha) - Superficie (ha)		460	1380			
	Community groups engaged in NRM and climate risk management activities				Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP
	Groups - Number - Nombre		60	135			

Produit 1.1 Les superficies agricoles sont protégées de l'érosion	Superficies embocagées			Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP	Producteurs intéressés aux techniques GDT; matériel végétal disponible à temps; contrats de solidarité respectés	
	Hectares of land - Superficie (ha)	467	817					1080
	Superficies de forte pente /padza protégées dont services écosystémiques restaurés			Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP		
	Hectares of land - Area (ha) - Superficie (ha)		110					170
	1.1.2 Terres agricoles dotées d'infrastructures hydrauliques construites/remises en état			Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP		
	Superficie en hectares - Superficie (ha)		6					12
	Superficies cultivées par des méthodes résilientes au climat			Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP		
	Superficie de terre - Superficie (ha)		460					1080
	Groupes locaux participant à des activités de gestion des ressources naturelles et du risque climatique			Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP		
	Groupes - Groupes		60					135
Membres de groupes-femmes - Femmes								
Membres de groupes-hommes - Hommes								
Membres du groupe - total - Nombre de personnes								
Produit 1.2 Capacités organisationnelles des producteurs renforcés	Personnes formées en capacités organisationnelles			Enquête annuelle, Rapports des missions et d'activités	annuelle	UCGP	Les producteurs s'impliquent dans tous les segments de la production	
	Males - Nombre	0	447					768
	Females - Superficie (ha)	0	298					1232
	Young - Superficie (ha)	0						554
	Not Young - Nombre							1446

Effet direct 2 La productivité agricole et l'alimentation des ménages ruraux sont améliorées	Augmentation des rendements / ha par spéculation					Annuelle	UCGP	Pas de catastrophes naturelles
	Banane (t/ha) - Poids (t)	5.95	10.2	12.75				
	Manioc:t /ha - Poids (t)	6.8	11.9	14.45				
	Tomate t/ha - Poids (t)	6	11.25	13.5				
	Oignon t/ha - Poids (t)	4	6.4	9.6				
	Carotte t/ha - Poids (t)	3.6	5.9	7.2				
	Lait/vache/an - Nombre	2600		3000				
	1.2.8 Femmes déclarant une diversité alimentaire minimale (MDDW)				Enquête SDAM	Année 1 et 5	UCGP	
	Femmes (%) - Pourcentage (%)			84				
	Femmes (nombre) - Femmes			3400				
Ménages (%) - Pourcentage (%)			37					
Ménages (nombre) - Ménages			3400					
Membres des ménages - Nombre de personnes			17000					
Produit 2.1. Les producteurs ont accès à du matériel végétal amélioré	Ménages qui parviennent à satisfaire leurs besoins en matériel végétal amélioré				rapports d'activités, rapports de supervision	annuelle	UCGP	Les producteurs s'impliquent dans tous les segments de la production
	Households - Percentage (%) - Pourcentage (%)		0	70				
Produit 2.2 les producteurs maîtrisent les techniques de production durables	Nombre de personnes ayant reçu une formation : de base ; spécialisée				Rapport d'activités du projet	Annuelle	UCGP	Matériel végétal amélioré disponible à temps et contrats de solidarité respectés
	Number of people trained base - Number of people - Nombre de personnes		1440	4560				
	Number of people trained spécialisée - Number of people - Nombre de personnes		225	450				
	Number of people trained [élevage] - Number of people - Nombre de personnes			2000				

	Nombre de personnes ayant participé à une visite-échange				Rapport d'activités du projet	Annuelle	UCGP	
	Number of people - Number of people - Nombre		90	270				
Produit 2.3 Les producteurs ont un accès facilité au marché	Produits commercialisés au niveau des exploitations				rapports d'activités, rapports de supervision	annuelle	UCGP	opérateurs de marché intéressés à faire des contrats d'approvisionnement avec les producteurs
	pourcentage de la production commercialisée - (%) - Pourcentage (%)		20	50				
	Quantité de cossettes de manioc produites par an				rapports d'activités, rapports de supervision	annuelle	UCGP	
	tons - Weight (t) - Poids (t)		0	10	60			
Produit 2.4 Les ménages sont formés à la dimension nutritionnelle de l'alimentation	1.1.8 Ménages recevant un soutien ciblé pour améliorer leur nutrition				Rapports d'activités, rapports de supervision	Annuelle	UCGP	
	Nombre de personnes qui participent - Nombre de personnes			4000				
	Hommes - Hommes			600				
	Femmes - Femmes			3400				
	Ménages - Ménages			4000				
	Membres des ménages bénéficiaires - Nombre de personnes			20000				
Jeunes - Jeunes								
Effet direct 3 L'approvisionnement du marché domestique et des ménages en produits animaux locaux est amélioré	Coût des importations de produits animaux (M USD/ an)							Le régime de taxation des produits animaux importés est revu de manière à ne pas pénaliser la production locale
	Coût - Monnaie (USD' 000)		15000	11250				
Produit 3.1 Les cadres stratégiques et réglementaires du secteur élevage sont mis à jour	Nombre de stratégies et législations mises à jour et adoptées							Volonté politique à haut niveau (Cabinet Du Ministre, Parlement, Secrétariat Général du Gouvernement)
	Nombre - Nombre			5				

Produit 3.2 Les capacités des services publics en charge de l'élevage sont améliorées	Nombre de campagnes de vaccination nationales							
	Nombre - Nombre			5				
Produit 3.3 La productivité et la résilience des systèmes d'élevage est améliorée	Nombre de nouvelles unités d'élevage intégrées et résilientes au changement climatiques établies avec l'appui du projet ; dont				Rapports d'activités, rapports de supervision	Annuelle	UCGP	L'UCGP parvient à surmonter les difficultés logistiques liées à l'acquisition
	Lait - Nombre			200				
	Aviculture traditionnelle - Nombre			250				
	Aviculture intensive - Nombre			200				
	Petits ruminants (unités collectives) - Nombre			20				
	Apiculture - Nombre			150				

Updated summary of the economic and financial analysis

Table A

Financial cash flow models

Tableau A: Modèles financiers d'exploitation production vivrière

Modèle de culture (en ha)					
Modèle	Unités	Rendement moyen sans Projet	Rendement moyen avec Projet (Intermédiaire)	Rendement moyen avec Projet (année de croisière)	Ref année de croisière
Banane	kg	5.600	9.600	12.000	4
Banane Rejets	nombre	-	1.200	3.000	4
Manioc Racines	kg	6.400	11.200	13.600	4
Manioc Tige pour bouture	tige	-	9.600	14.400	4
Tomate en frais	kg	5.600	10.500	12.600	4
Oignon bulbe	kg	3.750	6.000	9.000	4
	kg	3.600	5.900	7.200	4
Prix unitaire (en KMF)					
Modèle	Unités	Prix unitaire : min	Prix unitaire : moy	Prix unitaire max	Price variation
Banane	KMF/kg	255	300	345	15%
Banane Rejets	KMF/nombre	425	500	575	15%
Manioc Racines	KMF/kg	153	180	207	15%
Manioc Tige pour bouture	KMF/tige	-		-	15%
Tomate en frais	KMF/kg	170	200	230	15%
Oignon bulbe	KMF/kg	255	300	345	15%
Carotte en frais	KMF/kg	340	400	460	15%
SAU (ha/ménage)					
SAU	Anjouan	Grandes Comores	Mohéli		
Superficie agricole utilisée (SAU) totale par ménage (ha)	0,800	1,200	1,400		
SAU banane	0,240	0,360	0,560		
SAU manioc	0,280	0,420	0,630		
SAU maraîchage	0,040	0,060	0,035		
SAU autres (légumineuses, autres racines et tubercules)	0,240	0,240	0,175		
SAU ciblée par le projet	0,560	0,840	1,225		
% de chaque île dans la SAU totale	21,33%	32,00%	46,67%		

Hypothèse de base					
Modèle de culture (en ha)					
Modèle	Unités	Rendement moyen sans Projet	Rendement moyen avec Projet (Intermédiaire)	Rendement moyen avec Projet (année de croisière)	Ref année de croisière
Intens : œufs	U	-	53.600,00	53.600,00	1,00
Intens : réformes	U	-	180,00	180,00	1,00
Intens : fientes	U	-	30,00	30,00	1,00
Trad : œufs	U	-	1.700,00	2.100,00	1,00
Trad : poulets	U	-	30,00	50,00	4,00
Petits ruminants : young males	tête	-	10,00	18,00	4,00
Petits ruminants : cull goat	Tête	-	-	3,00	4,00
Petits ruminants : manure	U	-	15,00	15,00	4,00
Elevage bovin : lait	kg	-	3.000,00	3.400,00	4,00
Elevage bovin : Vaux	tête	-	0,75	1,00	4,00
Elevage bovin : fumier	T	-	15,00	15,00	4,00
Apiculture : Miel	kg	-	130,00	150,00	3,00
Centre : Lait	kg	-	173.375,00	208.050,00	4,00
Prix unitaire (en KMF)					
Modèle	Unités	Prix unitaire : min	Prix unitaire : moy	Prix unitaire max	Price variation
Intens : œufs	U	59,50	70,00	80,50	15%
Intens : réformes	U	850,00	1.000,00	1.150,00	15%
Intens : fientes	U	1.275,00	1.500,00	1.725,00	15%
Trad : œufs	U	59,50	70,00	80,50	15%
Trad : poulets	U	1.275,00	1.500,00	1.725,00	15%
Petits ruminants : young males	tête	53.125,00	62.500,00	71.875,00	15%
Petits ruminants : cull goat	Tête	25.500,00	30.000,00	34.500,00	15%
Petits ruminants : manure	U	1,28	1,50	1,73	15%
Elevage bovin : lait	kg	680,00	800,00	920,00	15%
Elevage bovin : Vaux	tête	85.000,00	100.000,00	115.000,00	15%
Elevage bovin : fumier	T	1,28	1,50	1,73	15%
Apiculture : Miel	kg	4.250,00	5.000,00	5.750,00	15%
Centre : Lait	kg	765,00	900,00	1.035,00	15%

Table B
Project costs and logframe targets

UNION DES COMORES

PROJET DE PRODUCTIVITE DES EXPLOITATIONS FAMILIALES AGRICOLES ET RESILIENC

Project Components by Year -- Totals Including Contingencies
(US\$ '000)

	Totals Including Contingencies								Total
	2010	2011	2012	2013	2014	2015	2016	2017	
A. AMELIORATION DE LA BASE PRODUCTIVE ET STRUCTURATION DE PETITES EXPLOITATIONS AGRICOLES									
Gestion durable du capital productif naturel	123,1	217,8	476,6	640,3	303,2	60,7	5,6	-	1.827,3
Renforcement des capacités des organisations des producteurs	28,5	97,4	63,4	141,5	88,1	35,3	1,7	-	455,9
Subtotal	151,6	315,2	540,0	781,8	391,3	96,0	7,3	-	2.283,2
B. AMELIORATION DE LA PRODUCTIVITE AGRICOLE ET DE L'ALIMENTATION DES MENAGES RURAUX									
Appui conseil aux producteurs	8,5	50,2	104,4	37,3	38,0	-	-	-	238,3
Accès au matériel végétal, autres intrants et équipements de production	-	140,8	77,1	737,2	565,5	193,6	0,2	-	1.714,4
Facilitation de l'accès au marché	14,1	70,7	64,1	233,3	213,9	-	-	-	596,1
Education et promotion de bonnes pratiques nutritionnelles	-	-	1,6	78,1	42,9	-	-	-	122,6
Subtotal	22,6	261,7	247,2	1.085,9	860,3	193,6	0,2	-	2.671,5
C. INTÉGRATION DE L'ÉLEVAGE DANS LES SYSTÈMES DE PRODUCTION									
Élevage-Appui institutionnel, infrastructures et services publics	-	-	-	348,0	389,9	420,1	200,8	11,5	1.370,3
Appui à l'intensification à la résilience des systèmes d'élevage	-	-	-	663,8	1.317,2	1.225,9	923,5	32,4	4.162,7
structuration des filières d'élevage et mise en marché	-	-	-	201,9	474,3	314,2	285,5	144,4	1.420,2
Subtotal	-	-	-	1.213,6	2.181,4	1.960,1	1.409,7	188,3	6.953,2
D. COORDINATION ET GESTION DU PROGRAMME									
Gestion et suivi au niveau national	426,2	497,6	498,0	636,2	454,7	379,8	327,9	172,4	3.393,0
Gestion et suivi au niveau îles	57,6	117,8	119,9	127,7	98,5	100,3	102,2	50,4	774,4
Subtotal	483,8	615,4	617,9	763,9	553,2	480,2	430,2	222,9	4.167,4
Total PROJECT COSTS	658,0	1.192,3	1.405,1	3.845,3	3.986,2	2.729,9	1.847,4	411,1	16.075,2

Table C

Main assumptions and shadow prices

Tableau C1: Production et rendement productions vivrières de base ciblées

Spéculations agricoles	Production (kg)				SAU (ha)	Rendement (kg/ha)			
	Sans projet	Avec projet	Accroissement	%		Sans projet	Avec Projet	Accroissement	%
Anjouan	3308,7	7072,0	3763,3	113,7%	0,56	16317	35200	18883	116,4%
Banane	1344,0	2880,0	1536,0	114,3%	0,24	5600	12000	6400	114,3%
Manioc	1792,0	3808,0	2016,0	112,5%	0,28	6400	13600	7200	112,5%
Maraîchage	172,7	384,0	211,3	122,4%	0,04	4317	9600	5283	122,4%
Grande Comore	4963,0	10608,0	5645,0	113,7%	0,84	16317	35200	18883	116,4%
Banane	2016,0	4320,0	2304,0	114,3%	0,36	5600	12000	6400	114,3%
Manioc	2688,0	5712,0	3024,0	112,5%	0,42	6400	13600	7200	112,5%
Maraîchage	259,0	576,0	317,0	122,4%	0,06	4317	9600	5283	122,4%
Mohéli	27331,5	58344,4	31012,9	113,5%	1,23	60931	131447	70516	116,4%
Banane	11710,7	25094,4	13383,7	114,3%	0,56	20912	44811	23899	114,3%
Manioc	15056,6	31995,3	16938,7	112,5%	0,63	23899	50786	26887	112,5%
Maraîchage	564,2	1254,7	690,5	122,4%	0,035	16120	35849	19729	122,4%
Unité de transformation (kg/cycle)	210	1750,0	1540,0	733,3%					

Tableau C2: Principales hypothèses de prix d'intrants et de produits

Intrants / Produits	Unité	Coût /prix (KMF)	
		Avant-projet	Avec projet
Main-d'œuvre saisonnière	Personne jour	2000	2000
Main-d'œuvre permanente	Personne mois	60000	60000
NPK	Kg	700	700
Urée	Kg	700	700
Fumure organique	Tonne	10000	10000
Produits de traitement	Litre	15000	15000
Bouture et rejet améliorés			
Banane	Rejet	5000	500
Manioc	Bouture	100	40
Semences importées			
Tomate	Kg	400000	400000
Carotte	Kg	160000	160000
Oignon	Kg	80000	80000
Productions			
Banane	Kg	400	300
Manioc frais	Kg	300	180
Manioc cossette	Kg	1000	700
Tomate	Kg	700	300
Oignon	Kg	750	300
Carotte	Kg	1000	300

Hypothèse de base					
Modèle de culture (en ha)					
Modèle	Unités	Rendement moyen sans Projet	Rendement moyen avec Projet (Intermédiaire)	Rendement moyen avec Projet (année de croisière)	Ref année de croisière
Intens : œufs	U	-	53.600,00	53.600,00	1,00
Intens : réformes	U	-	180,00	180,00	1,00
Intens : fientes	U	-	30,00	30,00	1,00
Trad : œufs	U	-	1.700,00	2.100,00	1,00
Trad : poulets	U	-	30,00	50,00	4,00
Petits ruminants : young males	tête	-	10,00	18,00	4,00
Petits ruminants : cull goat	Tête	-	-	3,00	4,00
Petits ruminants : manure	U	-	15,00	15,00	4,00
Elevage bovin : lait	kg	-	3.000,00	3.400,00	4,00
Elevage bovin : Vaux	tête	-	0,75	1,00	4,00
Elevage bovin : fumier	T	-	15,00	15,00	4,00
Apiculture : Miel	kg	-	130,00	150,00	3,00
Centre : Lait	kg	-	173.375,00	208.050,00	4,00
Prix unitaire (en KMF)					
Modèle	Unités	Prix unitaire : min	Prix unitaire : moy	Prix unitaire max	Price variation
Intens : œufs	U	59,50	70,00	80,50	15%
Intens : réformes	U	850,00	1.000,00	1.150,00	15%
Intens : fientes	U	1.275,00	1.500,00	1.725,00	15%
Trad : œufs	U	59,50	70,00	80,50	15%
Trad : poulets	U	1.275,00	1.500,00	1.725,00	15%
Petits ruminants : young males	tête	53.125,00	62.500,00	71.875,00	15%
Petits ruminants : cull goat	Tête	25.500,00	30.000,00	34.500,00	15%
Petits ruminants : manure	U	1,28	1,50	1,73	15%
Elevage bovin : lait	kg	680,00	800,00	920,00	15%
Elevage bovin : Vaux	tête	85.000,00	100.000,00	115.000,00	15%
Elevage bovin : fumier	T	1,28	1,50	1,73	15%
Apiculture : Miel	kg	4.250,00	5.000,00	5.750,00	15%
Centre : Lait	kg	765,00	900,00	1.035,00	15%

Tableau D: Répartition des Bénéficiaires du PREFER -Elevage

	An 1	An 2	An 3
Avi. Intensive	150	150	200
Avi. Traditionnelle	500	1,000	1,050
Petits ruminants	300	600	600
Elevage Bovin	70	140	200
Miel	200	200	250
Centre de collecte	5	5	5
	1,225	2,095	2,305

Tableau D: Répartition des Bénéficiaires du PREFER –Production Végétale

	An 1	An 2	An 3	An 4	An 5	An 6
Anjouan	89	402	631	631	631	631
Grande comores	133	602	946	946	946	946
Mohéli	194	879	1380	1380	1380	1380
Total bénéficiaires	416	1883	2956	2217	2217	2217

Table E: **Economic cash flow**

	An 1	An 2	An 3	An 4	An 5	An 6	An 7	An 8	An 9	An 10	An 11	An 12	An 13	An 14	An 15
Coûts Economiques	281.4	502.8	574.2	1,503.1	1,534.9	1,038.8	694.9	154.0	15.4	15.4	15.4	15.4	15.4	15.4	15.4
Benefices économiques	-73.3	-231.7	-232.5	55.2	755.6	986.3	1,506.4	2,258.9	2,953.1	2,456.9	2,089.4	2,435.8	2,836.4	2,497.1	467.5
subvention	0.0	0.0	54.9	6.2	193.9	21.7	54.3	6.1							
Cash flow	-354.7	-734.5	-861.6	-1,454.1	-973.2	-74.3	757.1	2,098.9	2,937.7	2,441.5	2,074.0	2,420.4	2,821.0	2,481.7	452.1

La valeur nette annuelle at 5% est de 7.116 milliards de KMF
TRIE = 21.6

Tableau F
Sensitivity analysis

Hypothèse	TRIE	VAN KMF
TRIE DE BASE	21.9%	7,116
Augmentation des coûts du projet de 10%	19.9%	6,580
Augmentation des coûts du projet de 20%	18.0%	6,045
Baisse du revenu additionnel des bénéficiaires de 10%	19.7%	5,869
Baisse du revenu additionnel des bénéficiaires de 20%	17.2%	4,622
revenus retardés d'un an	18.3%	6,522
revenus retardés de 2 ans	15.8%	5,956
revenus retardés de 3 ans	13.8%	5,418
revenus retardés de 4 ans	12.3%	4,905
taux d'adoption de 50%	7.8%	880
taux d'adoption de 40%	3.7%	-367