

REPUBLIC OF ANGOLA

Agricultural Recovery Project

Project Design Report and appendices

Contents

Currency equivalents	iii
Weights and measures	iii
Abbreviations and Acronyms	iv
Map of the ARP Area	v
Executive Summary	vi
Agricultural Recovery Project: Logical Framework	xi
I. Situation Background and Rationale	1
A. Situation Background	1
B. Rationale	3
II. Agricultural Recovery Project Description	6
A. Project Area and Target Group	6
B. Development Objective and Impact Indicators	8
C. Outcomes/Components	8
D. Lessons Learned and Adherence to IFAD Policies	14
III. ARP Implementation	15
A. Approach	15
B. Organizational Framework	17
C. Planning, M&E, Learning and Knowledge Management	18
D. Financial Management, Procurement and Governance	19
E. Supervision	21
F. Risk Identification and Mitigation	21
IV. ARP Costs, Financing, Benefits and Sustainability	23
A. ARP Costs	23
B. ARP Financing	25
C. Summary Benefits and Economic Analysis	25
D. Sustainability	27

List of Tables

Table 1: Farmer Field Schools by Municipality and Province
Table 2: Risk Identification and Mitigation
Table 3: Summary of Project Costs by Component (including contingencies)
Table 4: Inflation Rates
Table 5: Project Costs by Expenditure Categories
Table 6: Project Financing Plan
Table 7: Results of Sensitivity Analysis
Table 8: Risk Analysis

Appendices

Appendix 1:	Country and Rural Context Background	28
Appendix 2:	Poverty, Targeting and Gender	32
Appendix 3:	Country Performance and Lessons Learned	40
Appendix 4:	Detailed Project Description	42
Appendix 5:	Institutional Aspects and Implementation Arrangements	53
Appendix 6:	Planning, M&E and Learning and Knowledge Management	56
Appendix 7:	Financial Management and Disbursement Arrangements	58
Appendix 8:	Procurement	79
Appendix 9:	ARP Costs and Financing	86
Appendix 10:	Economic and Financial Analysis	104
Appendix 11:	Draft Project Implementation Manual	118
Appendix 12:	Social, Environmental and Climate Assessment Procedures Review Note	120
Appendix 13:	Farming Systems in the Project Area	126
Appendix 14:	Drought Vulnerability Analysis	133
Appendix 15:	Contents of the Project Life File	140

Currency equivalents

Currency Unit	=	Angolan Kwanza (AOA)
US\$1.0	=	172

Weights and measures

1 kilogram	=	1000 g
1 kg	=	2.204 lb.
1 kilometre (km)	=	0.62 mile
1 metre	=	1.09 yards
1 square metre	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

Abbreviations and Acronyms

AFAP	Angola Fisheries and Aquaculture Project
AfDB	African Development Bank
AOA	Angolan Kwanza
ARP	Agricultural Recovery Project
AWPB	Annual Work Plan and Budget
EDA	<i>Estações de Desenvolvimento Agrário</i> (IDA office at municipal level)
EIRR	Economic Internal Rate of Return
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer Field School
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
GNI	Gross National Income
GoA	Government of Angola
HDI	Human Development Index
HDR	Human Development Report
IDA	<i>Instituto de Desenvolvimento Agrário</i> (Agricultural Development Institute)
IFAD	International Fund for Agricultural Development
MINAGRI	Ministry of Agriculture
MINFAMU	Ministry of Family Affairs and for the Promotion of Women
MOSAP	Market Oriented Smallholder Agriculture Project
NPV	Net Present Value
PDO	Project Development Objective
PGC	Provincial Governance Committee
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPCC	Provincial Project Coordination Committee
PCC	Project Coordination Committee
SADCP	Smallholder Agriculture Development and Commercialization Project
SECAP	Social Environmental and Climate Assessment Procedures

Map of the ARP Area

Angola

Agricultural Recovery Project (ARP)



Executive Summary¹

Background – Since the 2011-12 agricultural season, the southern part of Angola has been experiencing recurring droughts, affecting mostly the three southern provinces of Cunene, Huila and Namibe, and others, such as Beguela. Although some sporadic rains during this timeframe brought some relief, it was insufficient for full recovery. The 2015-16 agricultural season brought dryness once again, and some areas in the south experienced the driest season in 35 years, alongside other parts of southern Africa. This region of the country is, traditionally, agro-pastoral and livestock is an important livelihood asset, primarily cattle but also goats, sheep, pigs and poultry. The prolonged droughts resulted in lack of adequate pasture and reduced availability of water that increased vulnerability to disease.

The effect of the prolonged droughts on food security was catastrophic for millions of the region's population, in addition to wider humanitarian needs due to water scarcity, including impacts on access to water resources, sanitation, education, health services and status of livelihoods. The recurrent droughts reduced agricultural production, thus increasing poverty levels, particularly in areas where populations are dependent on rain-fed agriculture. Though the full impact is yet to be assessed, the Regional Inter-Agency Standing Committee (RIASCO) that developed the response plan for the El Niño-induced drought in Southern Africa (May 2016 - April 2017) concluded that some farmers were likely to abandon their land, leading to increased migration to urban areas and cross-border movement of people in search of food and livelihood opportunities.

Rationale – Most agriculture in Angola is rain-fed and therefore highly vulnerable to climatic events. The dry conditions were more pronounced in the southern provinces and reduced production of cereals, including millet and sorghum, which are the predominant crops in the region. In the three provinces (Cunene, Huila and Namibe) assessed during the undertaking of the Post Disaster Needs Assessment (PDNA), precipitation was significantly below average between 2012 and 2015, though Cunene reported normal rains in 2012. The consecutive years of dryness lasted until 2016 in most areas with some measure of relief provided by occasional short rains. Therefore, a cumulative negative impact occurred over time with a progressive erosion of livelihoods and food security, as well as of the environmental conditions.

The impact of the drought has been made worse by the drastic fall in oil prices and the associated implications, such as reduced government revenues leading to drastically reduced public expenditures. Access to food, basic goods and public services was constrained by high inflation and reduced government spending, which worsened the impact of the drought. High inflation, driven by the cuts in fuel subsidies, reduced food supply in local markets, and devaluation of the currency (Kwanza).

Local authorities lack the resources to fully implement the drought response. Water projects (repairs and construction of boreholes) initiated by local governments have come to a standstill due to the lack of resources to pay contractors and purchase equipment. In addition, disruptions in the supply of nutritional supplements led to the closure of some inpatient and outpatient treatment centres in affected areas.

The Agricultural Recovery Project (ARP) will contribute to the agriculture sector recovery programme and GoA priorities included in the PDNA. The priorities in each of the sub-sectors (crops and livestock) have been integrated into the activities that will be implemented through the Project. The GoA recovery planning also emphasises the need to focus on promoting sustainable farming practices and agricultural technologies adapted to local conditions; improving information systems for food security and animal health surveillance; introducing proper rangeland management systems; and

¹Mission Composition: The Mission was composed of Mr Richard Abila, IFAD Technical Specialist Fisheries and Aquaculture - Lead Adviser for ARP; Ms Paxina Chileshe, IFAD Adaptation Specialist; Mr Shakib Mbabaali, IFAD Consultant and Team Leader; Giacomo Branca, IFAD Consultant – Economics and Financial Analysis; Mr. Alaudio Chingotuane – Financial Management Consultant; Mr David Kahan, IFAD Consultant – Farming Systems; Ms Mariana Garcia Bolanos, Water Consultant; and Ms Isabel Barreiros, Gender and Targeting Consultant. Ms Abila Benhammouche, Country Director, occupied in HQ with SADCP-C&H negotiations and its Executive Board Presentation, worked closely with the team.

promoting income diversification activities. ARP interventions will contribute to most of these thematic areas.

Project Area – ARP focus area will comprise eight municipalities from three provinces – Benguela, Cunene and Huila. The three provinces are situated in the southwestern Angola and have suffered repeated *El Niño* droughts during the period 2011-16. More recently, Cunene province has in particular experienced the opposite extreme condition, *La Nina*, characterised by localised flooding. This situation has accentuated the fragility of the area's population that lives, primarily, on agricultural and livestock production. It has aggravated the social, economic and environmental conditions of the region and its population. It contributed to increased malnutrition, family abandonment, domestic violence, loss of income, increased deforestation and reduction of the already scarce water resources.

Target Group – The core ARP target group will comprise 8,000 households (representing 48,000 people); they will primarily be low-income households that work in farming or pastoralism and/or are members of Farmer Field Schools (FFSs) established during the emergency programmes². Many of the target households have benefited/are benefiting from the emergency interventions by GoA and some of its development partners. ARP interventions will build on the work done by the emergency programmes and either fill in some of the identified gaps or reach some of the areas not reached by the emergency programmes. Support will be provided to strengthen already established FFSs so that the beneficiary households can complete their transition from emergency to recovery. A few new FFSs will be established in the vicinity of existing ones where the potential exists to form clusters that would provide benefits in management and supervision.

Project Goal and Development Objective – The Project goal is to “contribute to improved food and nutrition security of targeted communities”. This underlines the central importance of ensuring food and nutrition security as a prerequisite to enable them to participate in development activities. The Project's Development Objective is the “restoration of productive assets and capacity of households affected by recurrent droughts”. This is to be achieved through the provision of agricultural and livestock support packages that include both inputs and technical capacity building and construction of basic supporting infrastructure.

Project Components – ARP's development objective will be achieved through the effective implementation of one technical component (Sustainable Livelihoods Recovery) with three complementary and mutually reinforcing subcomponents: 1.1) Recovery of Household Productive Assets; 1.2) Recovery of Community Productive Assets; and 1.3) Capacity Building. It should be noted that, by virtue of the target area's climatic conditions, droughts and floods will reoccur. Therefore, while Subcomponent 1.1 will facilitate production restoration, Subcomponents 1.2 and 1.3 will enable the target households and communities to achieve full recovery and also enhance their risk management capacity to make them less dependent on emergency interventions. The second component is Project Coordination and Management, a cross-cutting component that will service all three technical subcomponents through effective overall coordination and management.

Component 1: Sustainable Livelihoods Recovery –The objective of this component is to restore the productive assets of the targeted communities and households in selected municipalities of the target Provinces.

Subcomponent 1.1: Recovery of Household Productive Assets – This subcomponent aims at addressing the needs of farm household members. Consistent with the preceding emergency interventions, e-FFSs (existing and new) will be used as the main instruments for reaching the target households although other vulnerable households that are not FFS members will also be reached. Agricultural productivity will be enhanced under rain-fed crop and livestock systems (integrated systems) and livelihoods developed and diversified accompanied by capacity building of beneficiaries and institutional stakeholders to ensure sustainability of activities (Subcomponent 1.3). Two generalised household packages are proposed: a) a crop based, food security package for farm households; and b) livestock based packages consisting of poultry, goats, sheep and pigs, depending

² The Farmer Field Schools established under emergency programmes differ from the conventional Farmer Field School model in terms of course duration and content. ARP refers to these schools by the acronym e-FFS.

on the beneficiaries' asset base. The expected outcome is increased on-farm productivity and improved food security through livelihoods diversification.

Subcomponent 1.2: Recovery of Community Productive Assets – When households are recovering from a shock, they rely on their community networks and as such, community assets are a means of managing the risks. Land management practices and the rehabilitation/ development of water sources is a key factor for livelihoods recovery in the Project areas. Potential beneficiaries consider the lack of water and pasture as the main issues affecting their lives. The Project aims at developing the water infrastructure by rehabilitating and constructing multi-purpose water sources. The subcomponent will be implemented through the Farmer and Agro-Pastoral Field School extension modality adapted to the varied agro-ecologies of the Project area. The expected outcome is “stabilised/improved livelihoods through use of community productive infrastructure”. This subcomponent focuses on two areas of interventions: a) water resources development; and b) natural resources management.

Subcomponent 1.3: Capacity Building for Recovery – This subcomponent will provide the essential capacity building to ensure effective implementation of subcomponents 1.1 and 1.2. Capacity building will be undertaken at the institutional, community and household levels. The beneficiaries and their communities need to be helped to reduce their vulnerability to climate-related shocks. This can be done in different ways, including through increased provision of knowledge and skills. The skills and capacities required at the different levels will be strengthened to ensure that communities are able to recover from climate-related shocks, and the relevant institutions are able to provide the necessary support and services to the communities and households.

Component 2: Project Coordination and Management – The objective of this component is to strengthen ARP's overall coordination, monitoring and evaluation through the Project Implementation Unit (PIU) at the central level. ARP will finance the PIU operational costs, procurement of office equipment, office consumables, vehicles and the associated equipment maintenance costs. It will provide Project staff salaries and Technical Assistance (TA) to address specific needs. In turn, the PIU will be charged with the responsibility of coordinating and monitoring implementation of Project activities, including: a) financial management and reporting; b) coordination of procurement for goods and services; c) preparation and coordination of ARP's Annual Work Plans and Budgets (AWPBs); and d) monitoring and evaluation and knowledge management. This Component will ensure that the Project is implemented correctly, on time, and in accordance with the Project Implementation Manual (PIM) and the Financing Agreement.

Social, Environmental and Climate Assessment Procedures (SECAP) –The environmental and social categorisation of the ARP is B. Potential adverse environmental impacts are expected to be site specific, reversible and with the possibility of being minimised using appropriate measures that can be included in Environmental and Social Management plans for the water infrastructure development. The infrastructure development will be micro and small-scale in non-sensitive locations. Measures, such as improved water management, safe handling of agrochemicals and waste management, will be promoted particularly through the FFSs. Efforts have been made to minimise the social risks through community participation including a grievance mechanism and the development of community based NRM plans. The climate risk classification of the ARP is high given the adverse impacts on the agricultural sector due to prolonged and recurrent droughts during the El-Nino events and the floods experienced in some areas due to the subsequent La-Nina events. A drought vulnerability analysis has already been undertaken as part of the response strategy led by the GoA (see Appendix 14), while an assessment of the impacts of the floods is also in progress. The beneficiaries will benefit from climate change adaptation capacity building through the FFSs. The curriculum will include techniques and appropriate technologies for the smallholders to adopt. Some of the adaptation measures were also recommended as part of the climate vulnerability analysis during the design of the SAMAP.

Approach – The ARP will build on the work done by the different emergency programmes funded by GoA and other development partners in the Project areas. Many of the emergency programmes are being implemented by FAO using the e-FFS approach. FFSs have been proved to be an effective means to develop the requisite skills for farmers to make the best use of inputs in the emergency context of the country. In addition, the FFS has been adopted by IDA as the preferred extension

approach bearing in mind the special conditions of the drought affected areas. There are also discussions at federal and provincial levels for the FFS to be institutionalised as the extension approach to be followed nationally. The FFS methodology is well known in the ARP target area and provincial technical officers and community members are familiar with the approach which is also inclusive of vulnerable groups and women. Support will, consequently, be provided to strengthen the FFSs that have been set up by the emergency programmes to complete their learning and adoption cycles as well as establish new schools where the potential exists. The FFS locations identified under the emergency programme prioritised municipalities and communities located in the most severely affected areas. ARP will strengthen the e-FFS investments made at community level while targeting individual households, members of the FFSs and others in the vicinity. Consideration will be given to set up a limited number of new schools in areas not previously covered by the emergency programmes so as to engage more target households. Consideration will also be given to qualifying target areas that are in the vicinity of those previously established so as to form clusters that would provide benefits in management and supervision.

Organisational Framework –The Ministry of Agriculture (MINAGRI) will be the lead executing agency and will work closely with the other line ministries and partners whose mandates have a direct bearing on the achievement of the Project objectives. The Project delivery systems will be integrated into the decentralised government organisational and operational structures that cascade from the national level to communal level. IDA (*Instituto de Desenvolvimento Agrário* (Agricultural Development Institute)) will be charged with the responsibility of administration and coordination of the Project. MINAGRI will be supported by the Project Coordination Committee (PCC) as an oversight body, chaired by the Minister of Agriculture or his nominee, and composed of membership from institutions with direct relevance to the achievement of ARP's objectives.

Programme Costs and Financing – Total ARP costs, including price contingencies, duties and taxes, are estimated at about USD 7.6 million over the four-year Project implementation period. IFAD will fund the Project through a grant of about USD 1.0 million and a loan of about 5.0 USD million. The loan will be on ordinary terms. GoA will finance the taxes and duties as well as general office expenses for the Project coordination and management unit for a total of USD 0.7 million, representing about 10% of total costs. The estimate of taxes and duties is based on the rates in effect at the time of the design. In conformity with the principle that no taxes or duties will be financed out of the proceeds of the IFAD Loan/Grant, any changes in the rates of taxes and duties would have to be met by GoA. Beneficiaries will contribute USD 0.4 million representing about 5% of Project costs, and will consist mainly of in kind contribution (labour). FAO will contribute with about 0.5 USD million through Technical Assistance (provided through its Technical Cooperation Programmes), cars and related Operations & Maintenance, salary of one driver and office equipment for the PIU.

Project Benefits and Beneficiaries – Financial benefits will be in the form of increased cash incomes of beneficiary households. Social benefits will include a reduction in poverty rates, with special measures taken to ensure inclusion of disadvantaged groups. Environmental benefits will consist of reduced land degradation and increased carbon sequestration of rangelands. Due to limited data availability, only the increased returns to households are taken into account. Primary Project beneficiaries will be approximately 7,000 households increasing crop and livestock production, and adopting climate-resilient practices. Total beneficiaries will be about 42,000 people.

Economic Internal Rate of Return and Net Present Value – The Economic Internal Rate of Return (EIRR) of the Project is estimated at 18,3% (base case) which is above the opportunity cost of capital in Angola estimated at 12%.It is emphasised that this EIRR is a minimum because it has been estimated in a very conservative way. Also, this is a reasonable result given the recovery aspect of the Project, logistic and climatic difficulties in rural areas, and overall country macroeconomic situation. It is based on the assumption that adoption is limited to 66% of target farmers. In case of higher adoption rates, the EIRR will increase. The Net Present Value (NPV) is USD 4.16 million over a 20-year period.

Sensitivity Analysis –The EIRR and NPV were subjected to sensitivity analysis in order to measure variations due to unforeseen factors. Variations include: 10, 20 and 50% cost over-run; 10 and 20% increase in benefits; 10 to 50% benefit decrease; and 1 to 2 years of delay in the implementation. The

analysis indicates a relatively strong resilience to limited increases of costs and reductions of benefits as well as benefit delays.

Agricultural Recovery Project: Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ³	Mid-Term	End Target	Source	Frequency	Responsibility	
Goal: Contribute to improved food and nutrition security of targeted communities	<ul style="list-style-type: none"> Number of beneficiaries reached* Number of households reporting improved dietary diversity* 	0 250	6,000 5,000	8,000 7,000	Baseline study and Completion surveys	Baseline and completion	PIU, IDA	
Development Objective: Restoration of productive assets and capacity of households affected by recurrent droughts	Number of households with increased agricultural and livestock production*	500	3,000	7,000	ARRP M&E System, Service Provider Reports, and FFSs records	Annual	PIU, IDA, Service Providers	
	Number of households reporting adoption of environmentally sustainable and climate resilient technologies and practices*	0	1,400	2,800		Annual		
						Annual		
Outcome 1: Enhanced recovery of the target households	Number of households producing a surplus for the market*	100	2,000	5,000	ARRP M&E System, Service Provider Reports, and FFSs records	Annual	PIU, IDA, Service Providers	
Outputs: 1.1. Livestock health and production improved	Number of households accessing livestock services*	250	1,000	1,500		Annual		
1.2. Agricultural inputs distributed to the target group	Number of households accessing production inputs/packages*	500	3,000	7,000		Annual		
1.3. Nutrition sensitive actions integrated	Number of households reached with nutrition enhancing interventions*	250	5,000	7,000				
Outcome 2: Improved livelihoods through use of community productive infrastructure	Number of households practicing sustainable management of natural resources and climate-related risks*	100	1,000	3,000		Annual	PIU,	
Outputs: 2.1. Water infrastructure developed	Number of water-related infrastructure constructed or rehabilitated	300	1,500	4,000	ARRP M&E System, Service	Annual		

³To be provided after baseline survey

* These indicators will be disaggregated by gender and age

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Results Hierarchy	Indicators				Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline ³	Mid-Term	End Target	Source	Frequency	Responsibility	
2.3. Community-based natural resource management plans prepared	▪ Number of community-based natural resources management plans prepared and being implemented	3	10	20	Provider Reports, and FFSS records	Annual	IDA, Service Providers	
2.4. Provincial and Municipality officers trained in Disaster Risk Management (DRM)	▪ Number of Provincial and Municipality officers trained in DRM	0	200	600		Annual		
2.5. Farmer Field Schools (including those on agro-pastoralism) established and/or strengthened	▪ Number of Farmer Field Schools (including those on agro-pastoralism) established and/or strengthened	80	120	150		Annual		
2.6. Community members trained in DRM	▪ Number of community members trained in DRM*	0	1,500	4,000		Annual		
2.7. Improved agricultural practices promoted	▪ Number of households trained in improved agricultural practices*	400	2,000	5,000		Annual		
2.8. Project is well coordinated and managed	▪ Number of AWPBs produced by PIU and timely submitted for approval	1	2	4		Annual		
	▪ Number of statutory audits with 'unqualified' audit opinions.	0	2	4				

I. Situation Background and Rationale

A. Situation Background

1. The Republic of Angola, with a size of 1.25 million km, is located in SW Africa and extremely vulnerable to climate change impacts, such as drought and floods particularly in the southern regions. Long-term rainfall projections from different models indicate a wide range of changes in precipitation. Furthermore, IPCC scenarios project an increase of temperature in the region by 1.2 to 3.2°C by the 2060s. Climate models predict that Angola will experience increased temperatures, more extreme weather events, an expansion of arid and semi-arid regions, seasonal shifts in rainfall, localised floods, increased wildfires, sea level rise, increased rainfall in the northern parts of the country, changes in river flows and changes in sea and lake temperatures. According to the Angolan National Adaptation Programme of Action (2011), the major expected climate change threats and impacts are: floods, soil erosion, drought episodes, rise in sea-level. The main sectors identified as affected by climate change are: a) agriculture and food security; b) forest and biodiversity; c) fisheries; d) water resources; e) human health; f) infrastructure; g) coastal zones; and h) energy. These threats and impacts were reiterated in the Intended Nationally Determined Contributions (2015).

2. Angola's population is 24.3 million people of whom some 38% are living in rural areas⁴. Angola has a very young population, with circa 54% of the total population below the age of 18.⁵ After four decades of civil war, much of the country's economy collapsed, infrastructure was destroyed and institutions weakened. Since the return of peace, about 14 years ago, the Government, together with its national and international partners, have made substantial progress in re-establishing the foundation needed to address these problems. This has resulted in the development and implementation of programmes aimed at restoring order and security, revitalising the economy, restoration of basic social services and the rehabilitation of infrastructure.

3. The project area is characterized by savannah grass and woodlands with deserts in the adjoining province of Namiba. The production system is largely agro-pastoral with livestock a major source of livelihood. The zone is characterised by a unimodal rainfall pattern with an average precipitation of around 200-400 mm per annum. There are two seasons, a rainy season which lasts from mid-October to March and a dry season from April to early October. Average annual temperatures are variable but increasing from north to south. The topography of the area is generally flat and undulating. The area is sparsely populated with a population density at around five persons per square kilometre (National Population Census-2000). The farming population are marginal and vulnerable to the vagaries of the rainfall patterns. These conditions result in highly variable grain production. Droughts lead to a lack of pasture and surface water, which occasionally results in significant loss of livestock.

4. Over 85% of the rural population are smallholders, planting an average of 1.5 ha per family. The farm household systems are non-mechanized, with low levels of animal traction use. Use of improved inputs is low, resulting in low soil fertility. As a result of risks of drought and floods, smallholders are risk averse and, without intensifying their production systems are not likely to increase production. Even amongst those farm households that are food-secure a broad range of issues constrain productivity and their livelihoods - limited production and marketing experience, lack of household resources to buy seeds and inputs, and limited skills to engage in alternative off-farm occupations. In the absence of viable credit programmes and very few smallholders has the cash needed to purchase even small amounts of the required inputs.

5. Maize, millet and vegetables are produced for household consumption with vegetables cultivated along the main rivers and valleys. Normally local production of maize and millet provides staple food for up to half of the year, while in the second half of the year consumption needs are met through food purchases. Seasonal river fishing is also carried out by the local population to

⁴Government of Angola (2016), "Censo 2014. Resultados definitivos do recenseamento geral da população e de habitação de Angola 2014", Instituto Nacional de Estatística.

⁵ Source: https://www.unicef.org/infobycountry/angola_statistics.html#118, UNICEF

supplement their diet. Livestock rearing is one of the main activities and sources of income with cattle and small ruminants (goats and sheep) accounting for more than half of the total production. Pigs and poultry production are significant especially at a household level, and are mainly owned by women. Given the high rainfall variability, transhumance pastoralism and the seasonal migration of livestock is commonly found with herds of livestock moving between the lowlands and adjacent mountain areas. A succession of shallow lakes and ponds provides pasture for cattle in the dry season. The permanent Tchimporo ponds in Kuvelai also play an important role in the household economy by providing fishing opportunities and reserve pasture during critical periods. Two farm systems models can be found in the project area. In Cunene a typical holding is around 1.5 hectare and comprises maize, millet and beans. In Huila and Benguela, the area under maize is higher given the better resource endowment.

6. Since the 2011-12 agricultural season, the southern part of the country has been experiencing recurring droughts, affecting mostly the three southern provinces of Cunene, Huila and Namibe, and others, such as Benguela. Although there were some sporadic rains during this timeframe that has brought some relief, it was insufficient for recovery. The 2015-16 agricultural season brought dryness once again, and some areas in the south experienced the driest season in 35 years, alongside other parts of southern Africa. This region is, traditionally, agro-pastoral and livestock are an important livelihood asset, primarily cattle but also goats, sheep, pigs and poultry. Livelihoods depend on a combination of livestock raising, milk production, cereal production, market food purchases, seasonal fishing (coastal and riverine areas), horticulture and gardening, as well as labour markets fuelled by trade and industry. The main food crops grown are millet and sorghum, also maize and beans, especially in Huila where the northern region is one of the key areas supplying cereals.

7. The livestock subsector, which is an important source of livelihood for the southern provinces, was worst affected by the droughts. The prolonged droughts resulted in lack of adequate pasture and reduced availability of water thus animal health conditions were adversely affected through increased vulnerability to disease. Transhumant livestock migrations started earlier and lasted for longer periods to provide adequate feed and water for livestock. These migration patterns impeded the participation of herders in the national vaccination campaigns in 2012 and 2013, which increased the risk of exposure to disease. An outbreak of Foot and Mouth disease worsened the livestock health conditions in 2015. The agricultural background conditions are elaborated on in detail in Appendix 13.

8. Following the 2015-16 drought associated with El Niño, which followed four consecutive years of drought in southern Angola, GoA requested the technical assistance of the United Nations in May 2016 to undertake a Post-Disaster Needs Assessment (PDNA) in the most affected provinces of Cunene, Huila and Namibe.

9. **Relevant Policy and Institutional Issues** – The 2015-16 El Niño event resulted in the worst drought for most of the southern African countries in over three decades. The effect on food security was catastrophic, in addition to wider humanitarian needs due to water scarcity, including impacts on access to water resources, sanitation, education, health services and status of livelihoods. The droughts resulted in the decline in agricultural production, thus increasing poverty levels, particularly in the rural areas where populations are dependent on rain-fed agriculture. Though the full impact is yet to be assessed, the Regional Inter-Agency Standing Committee (RIASCO) that developed the response plan for the El Niño-induced drought in Southern Africa (May 2016 - April 2017) concluded that some farmers are likely to abandon their land, leading to increased migration to urban areas and cross-border movement for people in search of food and livelihood opportunities.

10. According to the PDNA, whose undertaking was coordinated by the National Civil Protection National Committee (CNPC) the drought affected 1.5 million people in 2015 and 1.2 million in 2016. This is in line with the existing institutional framework through which the GoA recently approved the Plan of Readiness, Contingency, Response and Recovery from Calamities and Disasters, as well as the Strategic Plan for Prevention and Disaster Risk Reduction. However, recognising the impact on rural livelihoods of recurring droughts and intermittent floods as a result of the El Niño and La-Niña events, the PDNA will be followed by a Disaster Recovery Framework to be developed in 2017. The Framework will build on existing legislation processes for land use zoning to incorporate disaster risk.

11. The PDNA was developed by an inter-ministerial task force responsible for national preparedness and response to new disasters. The task force includes the Ministry of Social Affairs and Reintegration, which is responsible for responding to the most vulnerable population falling within the high levels of poverty bracket. Given the impact on food security, the Office of Food Security

(Gabinete de Segurança Alimentar (GSA)) within the Ministry of Agriculture (MINAGRI) plays a key role in the task force, in cognisance of its mandate for monitoring levels of food security. There may be a need to further consolidate the regulatory framework through the development of a national drought policy. The United Nations Convention to Combat Desertification (UNCCD) is providing support to several countries in formulating national drought policies.

12. **Climate Change** –The agriculture sector is particularly vulnerable to hazards such as droughts and floods, as well as changes in the onset and duration of the growing season, which are anticipated to become more frequent, intense and variable with climate change. Potential adverse impacts on the predominantly rain-fed agriculture include: crop failures due to heat and drought stress, production losses due to unpredictable onset of rains, reduced planting area due to consumption of seed stores, and increased susceptibility to pests and disease.

B. Rationale

13. Most agriculture in Angola is rain-fed and therefore highly vulnerable to climatic variation and climate change. Dry conditions have been more pronounced in the southern provinces and reduced production of cereals, including millet and sorghum, which are the predominant crops. In the three provinces (Cunene, Huila and Namibe) assessed during the undertaking of the PDNA, precipitation was significantly below average between 2012 and 2015, though Cunene reported normal rains in 2012. The consecutive years of dryness lasted until 2016 in most areas with some measure of relief provided by occasional short rains, but not enough for recovery of agricultural productivity. Therefore, a cumulative negative impact occurred over time with a progressive erosion of livelihoods and food security, as well as of the environmental conditions in the region.

14. The Agricultural Recovery Project (ARP) will contribute to the agriculture sector recovery programme and GoA priorities included in the PDNA. The priorities in each of the sub-sectors (crops and livestock) have been integrated into the Project activities. The GoA recovery planning also emphasises the need to focus on promoting sustainable farming practices and agricultural technologies adapted to local conditions; improving information systems for food security and animal health surveillance; introducing proper rangeland management systems; and promoting livestock based livelihood diversification activities as part of a 'building back better' strategy.. ARP interventions will contribute to most of these thematic areas.

15. There is one ongoing IFAD-supported Project in Angola – the Artisanal Fisheries and Aquaculture Project (AFAP) effective from August 2015 till September 2020. AFAP is implemented in Bengo, Cuanza Norte, Luanda and Malange provinces in the central-northern region. These areas have not been severely affected by the droughts. The second IFAD-supported Project has only been recently approved in April 2017 – the Smallholder Agriculture Development and Commercialisation Project (SADCP-C&H also known as Smallholder Agriculture and Market Access Project (SAMAP)). It will be implemented in Cuanza Sul and Huila provinces, which have communities affected by droughts. The ARP will intervene in the southern part of Huila while the SAMAP will focus on the more productive areas, situated in the central highlands. As requested by GoA, SAMAP will be encouraged to create synergies with ARP in terms of support to climate resilience activities and others. The surplus produce from the central highlands is accessible for the southern population to purchase. In addition, the SAMAP management, which has a larger Project Implementation Unit (PIU), could render support to ARP in some of the critical fiduciary areas (financial and administrative, management and procurement), as needs arise. The design of ARP also benefited from the climate risk vulnerability analysis undertaken during the design of SAMAP.

16. ARP will contribute to the goal of the Angola Country Strategy Note (2017-2018), which is "to ensure food security and increase incomes, particularly among the most vulnerable groups in food and nutrition-insecure areas of the central highlands and littoral zones". The main contribution will be to the targeted vulnerable populations in the littoral zones that have been impacted by the droughts. The ARP will also contribute to the third objective of the Country Strategic Note (CSN), "Enhancing the resilience to climate shocks of rural communities in the central highlands and littoral zones". The main climate shock being addressed is the recent droughts as a result of the El Niño event. However, during the design of the ARP, localised flooding was reported in Cunene, making some of the potential target areas unreachable. GoA had initiated an assessment of the impact of floods with the support of various Development Partners that are active in the area. The flooding events bring a different dimension to building resilience of affected communities.

17. As part of the response to the devastating droughts, GoA and some of its development partners have supported the implementation of different emergency programmes, within the framework established by the National Plan for Preparation, Contingency Response and Recovery 2015-2017. GoA planned response was estimated at over USD 260 million, of which USD 56 million was for agricultural inputs. Some of the other planned investments relate to infrastructure, mainly for irrigation. However, the Government has not been able to raise all the funds needed, estimated at USD189 million for the agriculture and water sectors (PDNA). This is mostly due to a shortfall in government revenues related to the fall in oil prices. The funding shortfall makes IFAD a relevant partner given the current engagement and commitment to supporting GoA in ensuring food and nutrition security for rural populations.

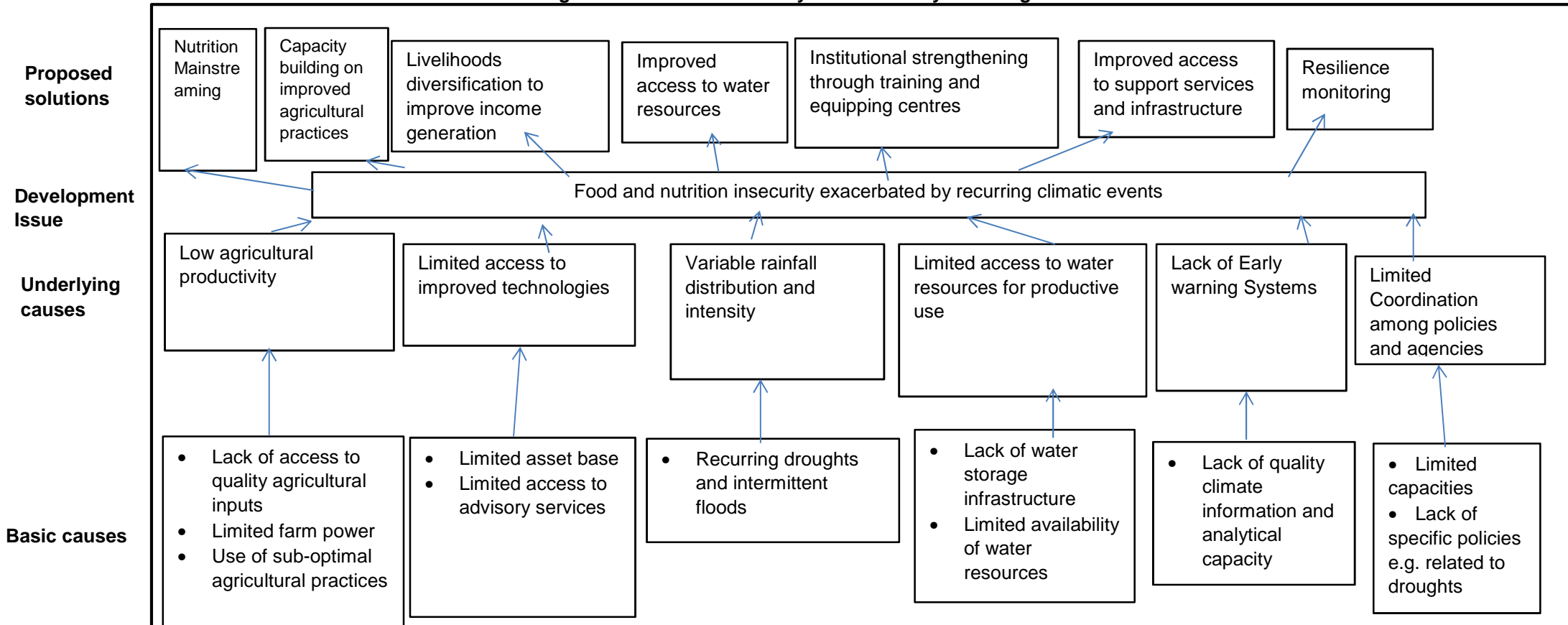
18. Some of the emergency programmes funded by GoA's development partners include: a) the Land Rehabilitation and Pasture Management in Agro-Pastoral Production Systems of Small-Scale Producers of Southwest Angola (RETESA), supported by the Global Environment Facility (GEF) and implemented by FAO; b) Disaster Risk Reduction/Management to Support Agro-Pastoral Communities affected by Recurrent Droughts and other Natural Disasters in Southern Angola and Northern Namibia (PIRAN), supported by the US Agency for International Development (USAID) and also implemented by FAO; and c) the Central Emergency Response Fund (CERF) (supported by several UN agencies – UNICEF, WHO and FAO), mostly implemented by FAO using the FFS approach. The response and recovery projects integrate humanitarian response with livelihood support and income generation, partly in anticipation of the effects of La Niña and the floods experienced in Cunene. The livelihood and income generation support will be continued through the ARP, reaching more households and also consolidation of the efforts made through the emergency programmes. In line with the principles, which guide IFAD's approach in post-crisis situations⁶, IFAD will promote synergies between APR and the emergency programmes, funded by the other development partners. FAO, as implementing agency of most of the above-listed programmes will facilitate the creation of these synergies and avoid duplications, whilst also playing an instrumental role in the implementation of e-FFSs in APR.

19. The impact of the drought has been exacerbated by the fall in oil prices its effect on public expenditure. Access to food, basic goods and public services has also been affected by high inflation. High inflation, driven by the cuts in fuel subsidies, reduced food supply in local markets, and caused devaluation of the currency (Kwanza). As a result, local authorities lack the necessary resources to fully implement the drought response. Local water projects (repairs and construction of boreholes) initiated by local governments have come to a standstill due to the lack of resources. In addition, disruptions in the supply of nutritional supplements led to the closure of some medical centres in affected areas.

20. **Theory of Change** – The problem that ARP seeks to address is "food and nutrition insecurity exacerbated by recurring climatic events" in the target areas. The problem tree and theory of change shown in Figure 1 identifies six major causal factors that include: a) low agricultural productivity; b) limited access to improved technologies; c) variable rainfall distribution and intensity; d) limited access to water resources for productive use; e) lack of early warning systems; and f) limited coordination among different policies and agencies related to disaster response and development planning. In turn, each of these causal factors has a number of contributory elements some of which will be tackled by the Project in order to address the core problem of food and nutrition insecurity exacerbated by the recurring unfavourable weather conditions. The theory of change indicates how the Project will pursue its objective of restoring productive assets and capacity of households affected by recurrent droughts.

⁶ [IFAD Guidelines for Disaster Early Recovery](#) page 13

Figure 1: Problem Tree Analysis and Theory of Change



II. Agricultural Recovery Project Description

A. Project Area and Target Group

21. **Project Area** – The ARP focus area will comprise eight municipalities⁷ in three provinces – Benguela, Cunene and Huila. The three provinces are situated in the southwestern Angola and have suffered repeated *El Niño* droughts during the period 2011-16. More recently, some provinces have experienced the opposite extreme condition, *La Nina*, characterised by localised flooding. This situation has accentuated the fragility of the population that lives, primarily, on agricultural and livestock production. It has aggravated the social, economic and environmental conditions of the region and its population. It contributed to increased malnutrition, family abandonment, domestic violence, loss of income, increased deforestation and reduction of the already scarce water resources.

22. **Target Group** – The core ARP target group will comprise 8,000 households (representing 48,000 people). They will primarily be low-income households, which work in farming or pastoralism and/or are members of e-FFSs established as part of the emergency programmes by GoA and some of its development partners. Interventions will build on the work done by the emergency programmes. In some cases, ARP will fill in some of the gaps while, in other cases, it will try to reach some of the areas not reached by the emergency programmes. The FFSs will be strengthened so that the beneficiary households can complete the transition from emergency to recovery. The establishment and support provided to FFSs, in fact, is part of a holistic approach followed by both IFAD and FAO in disaster risk reduction/management (DRR/M), which views FFSs as a key element in the recovery and resilience of smallholder farmers. Moreover, this approach builds on the experiences gained during 12 years of implementation of the FFS approach, which was first brought to Angola in 2005 by the Danish Refugee Council, and has been characterized by a strong involvement of FAO, as further outlined in Section III-A.⁸ As part of this effort to ensure this relief-recovery transition, ARP will also set up some new FFSs under the emergency FFS model, to reach additional households that are not members of the existing FFS network.

23. Of the primary target group, women, in particular heads of households, will account for at least 30% and youth (between 18 years and 35 years old) for 30%. Youth are also an important segment of the population and will require special attention. Lack of opportunities in rural areas leads to the migration of many young people to urban centres. To offer real opportunities to young people the Project will provide specialised technical training for livestock based activities such as apiculture and aquaculture.

24. There is a secondary target group that includes the public sector (IDA technical staff), Community-Based Organisations (CBOs), and some community members/farmers that will be key for the successful implementation of the Project. This secondary target group will be provided with, *inter alia*, capacity building including in gender action learning (training, improved mobility, etc.) which will, in turn, enable them to be of effective service to the Project.

25. **Targeting Strategy** – The Project will use three targeting mechanisms to ensure that the desiring communes and households are duly reached. These will include: a) geographical targeting; b) self-targeting; and c) empowering measures. Geographical targeting will involve selection of communes that are: a) most affected by drought; b) participating in the emergency programmes whereby ARP interventions will facilitate transition to the recovery phase; and c) have a high population density; and d) with geographical contiguity to maximise efficiency of Project operations. Where emergency programmes have not been working, this would involve selecting municipalities and communes that are the most vulnerable to drought and floods. The second level involves within-community targeting through the application of beneficiary selection criteria.

⁷ A tentative selection of municipalities include: **Huela**: Humpata, Gambos; **Cunene** Cahama, Curoca Cuvelai, Ombanja and **Benguela**: Chongorai and Baia Fartal.

⁸ In Angola, the FFS approach was introduced by the Danish Refugee Council in 2005 in the Uige and Malanje provinces, northern Angola to support sustainable development among the resettled farmers. After that, FAO integrated FFS in the SPFS in Bie and Huambo, between 2006 and 2012. Now FAO is implementing the FFS component of a World Bank funded project (MOSAP) that works in Bie, Huambo and Malanje. Currently some Global Environment Facility projects, which will also have FFS components, are in the process of being developed. [Farmer Field Schools FAO 2014](#)

26. Self-Targeting will be used mostly with regard to FFS and non FFS members within the selected communes for the crop and livestock-based packages. Awareness creation will inform households about the available crop and livestock packages. After receiving information on the options qualifying households will be able to choose the preferred alternatives. Each household will be provided with only one package of their informed choice. The awareness raising will be complemented with a needs assessment of the asset bases of the target households prior to the droughts where this has not already been done. Capacity building will be provided to equip the households with the required skills to effectively make use of the packages particularly for the non FFS members. Empowering measures will promote the participation of women, youth and poor smallholder farmers to encourage their participation. This will include: a) information and mobilisation campaigns using local meetings; b) ensuring that the e-FFSs are inclusive; c) offering a broad range of skills training activities; and d) monitoring for the inclusiveness of the youth and women. These empowering and capacity building activities will provide women, youth and poor smallholder farmer households with the necessary knowledge, skills and assets necessary to recover from years of recurring drought and improve their livelihoods.

27. **The Gender Approach** – Women are socially, culturally and economically disadvantaged and yet they are responsible for ensuring the well-being of their families by securing the greater part of the family income, mostly from agricultural activities. Therefore, they are disproportionately affected by climate-related shocks. The Project will focus on supporting women to access assets, training and input packages. This will be done through encouraging women to: a) become members of e-FFSs; b) enhance their skills in agricultural practices, with particular reference to poultry rearing, apiculture and crop production; c) enhancing women's representation of at least 30% in decision-making structures of e-FFSs; and d) improving their knowledge on nutrition-sensitive agriculture. The Project will promote approaches deepening impact by strengthening communication and win-win collaboration between vulnerable and more powerful actors, including action-learning exercises with different stakeholder groups (e.g. male and female farmers) at both the individual and collective levels. The participation of women in ARP activities will be monitored and gender training for Project implementers provided to ensure effectiveness of implementation. In addition, the natural resources management activities and community-based planning will support the use of labour-saving technologies that bring resources closer to the communities. The curriculum of the FFS will also include gender discussions to stimulate debates at the household level regarding workloads which are expected to result in a more equitable allocation of tasks between household members.

28. **The Youth Approach** – Youth are an important segment of the Angolan population and will require special attention from the project. Lack of opportunities in rural areas leads to the migration of many young people to urban centres. To offer real opportunities to young people, the Project will provide specialised technical training for livestock-based activities as well as apiculture and aquaculture. Opportunities for off-farm activities will also be offered to youth, including petty trading, provision of commercial services and post-harvest managing.

29. **Beneficiary Selection Criteria** – ARP beneficiaries will be selected mainly from participants in the different emergency/humanitarian programmes in the Project area, with the intention of transitioning them to the recovery phase. The project will target about 8,000 smallholder farmers directly. The beneficiaries will include both existing members of FFS and non-members that have not been reached by the emergency/humanitarian programmes. Provincial Governance Committees (PGCs) will play a critical role in selecting of beneficiary households and communes. Provincial Governorates are already involved in the identification of vulnerable households including establishing databases with this information, which will facilitate the implementation of APR both in terms of targeting and poverty focus. The Governorates also play a key role in ensuring complementarity among different initiatives and projects in their areas and thus non duplication of efforts. PGCs will be established in the three provinces and will be composed of traditional leadership and local authorities. More information about PGCs is presented under Section III.B. Organisational Framework. PGCs together with the concerned communities will be involved in selecting beneficiary households and communes through a process that will be participatory and transparent to the whole communities involved⁹. Criteria to be used in the selection of beneficiary households and communes include: a) communes most affected by the drought; b) most vulnerable (economically and socially) households,

⁹IFAD has successfully tested the above approach in a post-genocide returnees recovery programme in Rwanda and in then-conflict-affected Burundi during the 1990s.

giving particular attention to women-headed households; c) households with signs of mal-nutrition; d) size of the households; e) youth that are not integrated in the schooling system; and f) youth that are unemployed.

B. Development Objective and Impact Indicators

30. The Project goal is to “*contribute to improved food and nutrition security of targeted communities*”. This underlines the central importance of ensuring food and nutrition security of the beneficiaries as a prerequisite to participate in development activities. The Project’s Development Objective is the “*restoration of productive assets and capacity of households affected by recurrent droughts*”. This is to be achieved through the provision of agricultural and livestock support packages, which include both inputs and technical capacity building, and construction of basic supporting infrastructure. Two indicators will be used to assess the Project’s effectiveness at this level of the results framework: a) Number of households with increased agricultural and livestock production (approximately 7,000 households, to be disaggregated by gender and age); and b) Number of hectares of land under climate-resilient practices (target 4,000 hectares).

C. Outcomes/Components

31. **Outcomes** – ARP intends to contribute towards the restoration of the productive assets of households affected by recurrent and/or prolonged droughts and provide means for enhancing their production and building better livelihoods. The Project is expected to have a positive impact on the social and economic conditions through infrastructure rehabilitation and construction, increased access to quality and sustainable livestock health and veterinary services, improved food and nutrition security and livelihoods and skills development. The Project will also strengthen the capacity of provincial and municipal institutions through the provision of training, as well as strengthening of coordination mechanisms for improved disaster risk management.

32. **Components** – ARP’s development objective will be achieved through the effective implementation of one technical component (Sustainable Livelihoods Recovery) with three complementary and mutually reinforcing subcomponents: a) Recovery of Household Productive Assets; b) Recovery of Community Productive Assets; and c) Capacity Building. It should be noted that, by virtue of the target area’s climatic conditions, droughts and floods will reoccur. Therefore, whilst subcomponent 1.1 will facilitate production restoration, focusing on the recovery of the targeted beneficiaries, subcomponents 1.2 and 1.3 will enable the target households and communities to achieve full recovery, enhance their risk management capacity and ensure the sustainability of the project’s interventions, making the beneficiaries less dependent from emergency interventions. The second component is Project Coordination and Management, that will service all three technical subcomponents through effective coordination and management.

33. **Component 1: Sustainable Livelihoods Recovery** –The objective of this component is to restore the productive assets of the targeted communities and households. This will build on the emergency operations undertaken by GoA and its Development Partners. The expected outcome is “enhanced recovery of the target households’ crop and livestock production capacity in the target provinces”. The component includes three subcomponents: a) Recovery of Household Productive Assets; b) Recovery of Community Productive Assets; and c) Capacity Building for recovery.

34. **Subcomponent 1.1: Recovery of Household Productive Assets** – This subcomponent aims at addressing the needs of farm household members. Agricultural productivity will be improved under rain-fed crop and livestock systems and household livelihoods diversified. This will be accompanied by capacity building of beneficiaries and institutional stakeholders to ensure sustainability of activities (Subcomponent 1.3). Two generalised household packages are proposed to address food security and diversify household livelihoods: a) a crop based package for farm households¹⁰; and b) livestock based packages for improved food security and livelihoods diversification¹¹; The expected outcome is restoration of their assets base, improved food security through increased on-farm productivity. Some

¹⁰ The e-FFS curriculum will include application of fertiliser to early-planted and well-weeded crops, waste management, use of organic waste for manure, promote conservation agriculture and suitable water harvesting and management techniques as well as climate change adaptation measures.

¹¹The livestock based package will include a choice from poultry, goats, sheep and pigs.

of the recommended packages are elaborated below. Consistent with the preceding emergency interventions, e-FFS (existing and new) will be used as the main instruments for reaching the target households although other vulnerable households that are not FFS members will also be reached.

35. *Crop-Based Packages* – Smallholders in the Project area use local crop varieties, produce no cash crops, do not use purchased inputs and produce only 35 - 40% of their food requirements. The recurring droughts further reduce food production and food/nutrition security. Food consumption has decreased in terms of quality and quantity of meals (1 or 2 meals a day, mostly millet porridge). As a result, cases of malnutrition have been rising since 2012. The Project will promote production of 'food security' crops, including maize, sorghum and millet, whilst diversifying the rain-fed farming system and household diets by including cassava¹², sweet potato and beans in order to reduce the risk of crop failure. Implementation of this activity will involve offering a starter-pack for food security to vulnerable households. The package of inputs will consist of short season varieties of cereals (maize and millet), beans, cassava¹³ and sweet potato cuttings, 25 kg of fertiliser (NPK) and hand tools. A target of 5,000 households has been set to receive the crop based package. The package will be accompanied with extension advice through the FFS on minimum tillage and intercropping with legumes. Attention will be given to integrate and expand cassava into the cropping system and for smallholders to view the crop as a nutrition source and potential value addition¹⁴. The improved crop production package will be complemented with the sustainable land management practices described under Subcomponent 1.2.

36. *Livestock-Based Packages* – Individual farm households will also be eligible for assistance to develop and diversify their livelihoods through livestock based packages. Small stock (local chickens, pigs, goats and sheep) are found around the farm homesteads for a dual purpose of providing animal protein and easy liquidation to access cash for household needs. Interventions, such as poultry (free-range local chicken), and goat, sheep and pig rearing and fattening will be undertaken as livelihood diversifying and risk reducing strategies. Consideration will be given to appropriate livestock breeds that are tolerant to heat and water stress conditions. Efforts to promote improved husbandry will include reliable water and feed resources and limit reliance on exotic breeds. The livestock package will target 2,000 households¹⁵. The design of ARP's livestock-related interventions has been (and implementation of the same will be) consistent with the IFAD prescribed 'Emergency Livestock Interventions in Crisis and Post-Crisis Situations'. That is, the design responded to the three key questions: a) what types of livestock systems have been affected by the disaster and how? b) which groups are most affected or vulnerable, and what are their priority needs?; and c) which livestock intervention is the most appropriate (considering the types of problems and target group)?

37. The poultry package will target women, benefiting around 1,500 households. The package will consist of, at most, 15 hens or pullets (coming into lay) with one cockerel. The beneficiary households will be required to provide management inputs – feeding, watering and shelter for the poultry as part of their counterpart contribution. Interventions on goats and sheep and pig will be offered to all households but with a particular focus on women, women headed households and the most vulnerable. The goats and sheep will be targeted to families that have some labour and access to grazing land.

38. Off farm activities will also be offered to able bodied households and youth for petty trading, provision of commercial services (mechanization and spraying) as well as food preservation and drying. The more complete menu of activities are given in Appendix 4.

¹²Cassava is being promoted in most drought prone areas given that it is more tolerant to water stress compared to other crops. Recognising that it is not suitable for all locations the promotion through ARP will be based on suitability mapping and dissemination of more drought tolerant varieties.

¹³Cassava is being promoted in most drought prone areas given that it is more tolerant to water stress compared to other crops. Recognising that it is not suitable for all locations the promotion through ARP will be based on suitability mapping and dissemination of more drought tolerant varieties.

¹⁴The use of appropriate crop varieties and more resilient production systems (e.g. through better soil, water and nutrient management) can significantly reduce production risks and household vulnerability in drought years. Opportunities to improve its use in food security exist by promoting 'sweet' varieties offering edible tops (protein) and good tuber yields (energy, b-carotene) of manageable size.

¹⁵The scavenging poultry and goat/ sheep packages consist of an 80% grant with a household contribution of cash, feed, water and fencing/ housing

39. In all cases the livestock and crop based packages and support for off-farm activities will be limited to a financial ceiling of US\$180 per household. Recipient households may decide to come together as a group for ease of implementation. For goat and pig rearing and fattening schemes the livestock recipients may be organised into small groups of 5-15 households in order to participate in a pass-on scheme which will strengthen social bonds between member households with peer pressures used to ensure that Project rules are followed.¹⁶

40. *Apiculture* – Honey is in high demand and a valuable nutrient. The Department of Forestry has prioritised apiculture and initiated a development programme targeting the southern provinces focusing on Lubango in Huila provinces, Namibe (along the Belo river) and Cunene where there are plans to set up an apiculture school. This programme, supported by FAO, aims at organising groups of 100 households and providing each with 10-30 hives. The ARP intervention will include the provision of a protection kit, smoker and barrel filter and bottle, estimated at around \$250 per household. A processing unit will be installed for each 100 households and includes a honey manual radial extractor, a press, a filter and metallic tins with covers¹⁷. Cuvelai Municipality, in Cunene Province in particular, has been identified as having great potential. A total of 550 households will be targeted to benefit from this intervention in those areas of Cunene and Huila where the potential for apiculture exists.

41. *Aquaculture*: Aquaculture (where perennial water sources are available, including Spirulina algae production) tree nursery establishment, seed multiplication, agro-processing and off-farm enterprises. Examples include compost making, sales of fodder, and the multiplication and sale of seedlings. Selection of activities will be made according to beneficiary interest.

42. Selection of activities will be demand driven and drawn from a menu of options (livestock and crop based packages, aquaculture and off-farm activities). Communities will be informed, through awareness creation campaigns, about the menu and the associated terms of partnership for each activity. By offering households the choice of technical packages, they will be able to select an activity that matches their skills, resources and market demands. Local leadership and community members will be instrumental in selecting the beneficiary households, ensuring effective participation and transparency.

43. *Nutrition Mainstreaming* – Recurrent droughts have contributed to increased malnutrition in the target areas. ARP will therefore intensify nutrition mainstreaming in Project interventions. The proposed crop and livestock packages are potential entry points to reach vulnerable households on nutrition activities. These activities will focus on the promotion of improved varieties of food crops that are nutrient-rich and also drought-tolerant, such as iron rich beans. Promotion of diversified nutrient-dense foods, including orange-fleshed sweet potato, animal proteins (eggs, chicken and red meats from the livestock interventions), and Spirulina (blue-green algae) will contribute to food security as well as good nutrition. The e-FFS is an effective approach for integration of nutrition education to ensure diversified dietary intake.

44. *Subcomponent 1.2: Recovery of Community Productive Assets* – When households are recovering from a shock, they rely on their community networks and, as such, community assets are a means of managing the risks. Land management practices and the rehabilitation/development of water sources are key elements of livelihoods recovery in the Project areas. Potential beneficiaries consider the lack of water and pasture as the main issues affecting their lives. The Project will therefore rehabilitate and construct water sources that cover all uses. The subcomponent will be implemented through the Farmer and Agro-Pastoral Field School extension modality modified in terms of duration and content to the recovery conditions of the project area. This is described more fully under subcomponent 1.3. The expected outcome is “stabilised/improved livelihoods through use of community productive infrastructure”. This subcomponent includes two areas of interventions: a) water resource development; and b) natural resources management.

¹⁶Criteria for selection of households for the pass-on scheme are: a) willingness and interest to participate in the activity; b) experience and skills in keeping livestock; c) size and make-up of the household; d) access to adequate feed and water for the animals; e) agreement to keep the livestock until full repayment is made; f) agreement to report any sickness or death to the Community Animal Health Workers (CAHWs); and g) agreement to keep records for health control.

¹⁷The major costs in beekeeping are: hives, processing equipment (honey extractor/separator) and tables. Minor cost items include protective clothing, smoker, trays, and some tools. The package will be provided as micro-project IGA grant.

45. **Water Resource Development** – Water resource development¹⁸ covers two main areas of intervention: a) rehabilitation, construction and maintenance of water infrastructure; and b) rainwater harvesting.

46. *Water Resource Infrastructure* – The progressive decline of available water is a major problem in the Project area as a result of the recurring droughts. Rivers are drying up and aquifer recharge is declining. Since 2013, there has been a progressive drying of two fertile oases which are rich in biological resources and ecosystems. The water table is declining and about 80 percent of boreholes are non-functional, due to water scarcity and disrepair (approximately 2,400 boreholes damaged). It is estimated that less than 20 percent of communities have access to safe water. The entry point for recovery will be through rehabilitation, construction and maintenance of water infrastructure. The selection of low- maintenance water sources is a key factor to assure long-term impact and sustainability. Activities will include the rehabilitation or the establishment of multi-purpose wells and related infrastructure necessary for animal health (such as watering points, dip tanks, etc.) and human consumption (tap stands) as well as improving water demand management. At the community level, the Project will support the construction or rehabilitation of agricultural weirs for domestic and livestock use while ensuring that water is efficiently and effectively utilised. Water User Groups will be created and their capacity developed prior to the rehabilitation and construction of water infrastructure for effective management and maintenance.

47. *Rainwater Harvesting* – Rehabilitation of ponds and construction of subsurface dams will be the main activities under the water harvesting intervention. Ponds, which are naturally recharged, are an important water source for cattle and frequently provide domestic water during the dry season, although the water quality is questionable and therefore some form of zoning will be required and community commitment obtained for the management in line with the investments being made. The storage capacity decreases over time due to siltation. Subsurface dams have proven to be an excellent solution with the advantages of increasing water quality and drastically reducing evaporation. New structures will be constructed instead of rehabilitation of existing dams¹⁹. Considering the relatively high investment costs of the proposed structures (ranging from \$15,000 to \$50,000 per unit), strict selection criteria will be applied including: a) organisation level of users and willingness to contribute to the maintenance costs of the structures; b) technical feasibility; c) access to the water source; d) closeness to local materials, such as gravel and stones; e) number of potential users; and f) cost/ benefit ratio of the investment.

48. **Natural Resources Management** – The fragile biophysical environment, shallow soils, poor vegetative cover and the irregular and often high intensity of rainfall, has resulted in severe soil erosion and reduced soil fertility. Deforestation and charcoal burning have also contributed to land degradation and soil erosion on communal (forest and rangelands) and private cultivated land. Land degradation is exacerbated by overgrazing, depletion of rangelands and a spiral of unsustainable land management. Interventions are proposed to redress this vicious cycle by rehabilitating rangelands and pastures and undertaking soil and water conservation measures.

49. *Rangeland and Pastures* – Rangeland development will focus on ecosystem-based rehabilitation around the water points. Activities will include community led improvement of fodder and natural grasses and shrubs and the establishment of livestock exclusion areas. This intervention will be supported by range and herd management practices, improvements in livestock health to reduce livestock pressure on already degraded areas. The intervention will also require technical support from a cadre of CAHWs at municipality and community level who will be provided with veterinary kits and technical training. Attention will also be given to scaling-up the provision of mineral block production (initiated under one of the emergency programmes), certifying CAHWs to improve access to veterinary services and creating awareness within communities of the need for improved animal

¹⁸Water user groups (WUGs) or associations will be established, in some instances independently from the e-FFSs, especially in newly constructed or rehabilitated water points in order to ensure direct management control of their operations and maintenance and ultimate sustainability of the structures. Members of the water user associations will have rights (the use of water for multiple purposes) and obligations (to contribute maintenance fees, etc.). Each group will be expected to draw up a constitution with rules and regulations that clarify the roles and responsibilities of the group organization and their members. The WUGs will be provided with training in water demand management, which will also be delivered through e-FFS.

¹⁹Subsurface dams are an ancient technique fairly widespread worldwide but the existence of this type of dams made during colonial times is unknown and in case they exist, the documents and maps with the exact location may have been destroyed during the Angolan civil war.

health care and inoculation. Consideration will be given to improve the effectiveness of the animal vaccination programme by broadening the range of vaccines offered to include small scale livestock and developing the vaccination cold chain at local level.

50. *Soil and Water Conservation* – Soil conservation and runoff control measures are lacking in many parts of the Project area. Soil and water conservation measures will be identified through the preparation of community level natural resources management plans that will be incorporated within the FFS methodology (see Subcomponent 1.3)²⁰. Some of the good practices of community-based natural resources management and climate change adaptation will be introduced at both micro-catchment and household level. This will include low-cost physical and biological conservation measures on communal and cultivated land. Measures could include contour stone bunds, multi-purpose vegetative bunds, micro basins and trenches, natural regeneration of trees in farmed and communal areas and nursery establishment. These activities will be supported through FFS or farmer based organisations (interest groups) to help implement these initiatives. Special attention will be given to vegetative stabilisation of the soil and water conservation measures with dual purpose fodder species.

51. *Subcomponent 1.3: Capacity Building for Recovery* – This subcomponent will provide the capacity building to ensure effective implementation of subcomponents 1.1 and 1.2. Capacity building will be undertaken at the institutional, community and household levels. The beneficiaries and their communities need to be helped to reduce their vulnerability to shocks through provision of knowledge and skills. The skills and capacities required at the different levels will be strengthened to ensure communities are able to recover from shocks and the relevant institutions are able to provide the necessary services to communities and households.

52. *Disaster and Climate Risk Preparedness* – This activity will build on existing initiatives at the Provincial level, such as the preparedness, contingency, response and recovery plans and the municipal strategies. ARP will assist these plans and strategies to be operationalised at the community level. Concurrently, efforts are already being made in training technicians and communities in disaster risk management. ARP will support training activities and ensure that sufficient capacity is available at the Provincial coordination level. The Project will also support the roll-out of a disaster recovery framework in collaboration with other partners. These activities will also contribute to the strengthening of early warning systems. Specific activities are elaborated below.

53. **Institutional (Provincial and Municipal) Level Interventions** – The target provinces have developed action plans for enhanced coordination and information management as well as pilot-strategies to ensure effective disaster response capacities. The Project will support further capacity building efforts through seminars and workshops for Provincial level officials to review key concepts of Disaster Risk Management (DRM) in the process of recovery from the protracted drought. The seminars will also facilitate mapping of vulnerable groups and action planning through inter-sectorial interactions. Standard operating procedures for emergency response and action plans to improve the Provincial Contingency Plan will be reviewed where necessary. Simulation exercises will be organised for the participating officers with support from specialised agencies, such as the Office for the Coordination of Humanitarian Affairs (OCHA). The expected output is 20 disaster risk management trainers at provincial levels trained in rolling out the national training programme for mainstreaming disaster risk management into local development planning. In addition, 10 response simulation exercises will be conducted, including improvement of response and provision of basic communication equipment.

54. *Support the Rollout of a Disaster Recovery Framework* – Based on the drought PDNA conducted with the support of the UN, the EU and the World Bank, the Civil Protection Commission (CNPC) is developing a Disaster Recovery Framework for the drought-affected Southern provinces. The ARP will support the roll out of the Framework to the municipalities in the target provinces. The roll-out will mainly involve convening of meetings, workshops and training sessions for selected

²⁰The community level natural resources management plans will need to be adapted to the needs of specific communities. A starting point is the Agro-pastoral Farmer Field School methodology that has been used by the FAO implemented RETESA and PIRAN projects where agro-silvipasture predominates. There are sites in Cunene and Huila where more conventional crop/livestock production is relevant. The community led natural resource management methodology should include the following steps: a) meeting the community and organising a planning team; b) identifying micro-watersheds; c) conducting biophysical and socio-economic surveys; d) identifying and prioritizing interventions; e) approval of interventions by the community; and f) preparation of a plan for implementation (mapping, input requirements, action plan).

officials. The expected outputs would be 600 officials of the inter-sectorial CNPC at municipal and provincial levels trained in planning, implementing and monitoring disaster recovery interventions.

55. **Community Level Interventions** – Climate risk management training will be undertaken through the e-FFSs. Target communities will be provided with training in the management of droughts and floods as part of the e-FFS curriculum. The training will be delivered by the FFS facilitators and trainers that benefited from capacity building activities in the emergency operations and also earlier GoA/FAO interventions. The DRM training will build on on-going sessions that are being provided by the United Nations Development Programme (UNDP) and OCHA. The Project will support the training sessions in the target communities, including simulation exercises. The expected outputs are at least 6,300 smallholders trained in climate risk management and 4,000 community members trained in DRM²¹.

56. **Technical Training** – Specific technical training will be required to support households and groups involved in the livestock diversification activities. These activities are most likely to be conducted outside the FFS curriculum – as households selected may not be FFS members and/or the training may be specialised and may not interest all FFS members. It is expected that the training support will be largely informal through service provider contracts. Details of the content of the training is provided in Appendix 4.

57. Technical training at local level will also be required by developing and upgrading the existing cadre of CAHWs at municipality and community level, developing the cadre of Community Development Facilitators at local level and strengthening the capacity of the FFS facilitators. The CAHWs will be trained in animal health for cattle and small livestock (including poultry). One of the main constraints to household poultry production is the high mortality among chicks due to diseases, predation and exposure as a result of poor housing. The Project will provide focused training in poultry health, supplementary feeding, housing and general management. The livestock department does not have adequate frontline livestock extension staff in most districts of the country, therefore the Project will train CAHWs to complement efforts of the department.

58. **Provision of Logistical Support** – At the Municipal level, motor cycles will be provided to facilitate the process of technical backstopping and strengthen extension services for effective implementation of the different ARP activities.

59. **Component 2: Project Coordination and Management** – The objective of this component is to strengthen ARP's coordination, monitoring and evaluation through the Project Implementation Unit (PIU). ARP will finance the PIU operational costs, procurement of office equipment, office consumables, vehicles and the associated equipment maintenance costs. It will provide Project staff salaries and Technical Assistance (TA) to address specific needs. In turn, the PIU will be charged with the responsibility of coordinating and monitoring implementation of Project activities, including: a) financial management and reporting; b) procurement of goods and services; c) preparation and coordination of Annual Work Plans and Budgets (AWPBs); and d) M&E and knowledge management. This will ensure that the Project is implemented correctly, on time, and in accordance with the Project Implementation Manual (PIM) and the Financing Agreement. Given the lean nature of the ARP PIU, the PIU of the IFAD-supported SAMAP will play a critical role in overseeing some of the functions, particularly the financial management, procurement and M&E functions. In order to ensure effectiveness under such an arrangement, both Projects will have to use the same fiduciary systems and procedures; this is further elaborated under Section III. D. Financial Management, Procurement and Governance. At the provincial and municipality levels, the Project will work through and in close collaboration with the Provincial Directorates of IDA, Provincial Directorates of Agriculture and the *Estações de Desenvolvimento Agrário* ((EDA)/IDA office at municipal level). Detailed ARP management procedures will be contained in the PIM.

60. The ARP PIU will include the following positions: a) Project Coordinator; b) Accountant; c) Procurement Assistant; d) Monitoring and Evaluation Assistant; e) Project Assistant; and f) Driver.

²¹ The Municipal Strategies will be adjusted in line with the community level plans. In some cases the municipal strategies will be shared with the community as part of a validation process and the feed-back from the community will enable the municipal technical staff to refine and improve their plans.

D. Lessons Learned and Adherence to IFAD Policies and SECAP

61. Some lessons learnt from previous drought recovery interventions have been used to inform the design of the ARP. These lessons include: a) ensuring effectiveness through improved information flow to avoid duplication or overlap of coverage areas; b) the need to establish linkages with public agencies and private sector organisations; c) the needs assessment should be done in stages to identify which parts of the country are more affected, specific needs within target communities, and selection of beneficiaries in these communities; d) the critical steps to establish a procedure to identify beneficiary households and involving the local community in the selection process; e) developing input packages and ensuring timely distribution; f) use of market oriented strategies for input distribution; g) to support the rapid and efficient implementation of early recovery activities, field supervision/monitoring needs to be strengthened, particularly during the initial period; and h) ensure that capacity is built at the local level for reporting on progress related to early recovery activities.

62. Also, there are some practical experiences from Project implementation in Angola that are implicitly embedded in ARP design. Such experiences/lessons include: a) the FFS approach builds on positive lessons learned in addressing capacity weaknesses of the extension service at field level. The project builds on the positive experience but also takes into account the weaknesses of the emergency programme in not being able to target the most vulnerable households; b) a lesson learned from MOSAP is that more needs to be done to ensure that women play an equal role in the FFSs and are active in the decision making processes; c) much of the field implementation will be conducted by FAO as service provider. MOSAP and other projects recognise the need for an experienced service provider in order to develop community and farm level organizational capacity for implementation; and d) another lesson learnt is the need to build government capacity to ensure good governance, accelerate project implementation and ensure country ownership of results. Government capacity building has proved to be essential, especially to improve the competence and motivation of government staff involved in the supervision of municipality level extension agents and FFS facilitators.

63. Although ARP is not an emergency Project, there are some lessons from the "Livestock Emergency Guidelines and Standards" that will help guide the Project's effective implementation. A couple of such lessons include: a) there is a need to ensure that the proponents of a given intervention understand and take into account local development activities, particularly those aiming at strengthening local livelihoods; and b) there is the need to support existing local service providers, suppliers, and markets, wherever feasible and relevant. This is known to enable recovery and long-term development.

64. ARP will be implemented in compliance with a number of IFAD's policies, including IFAD's Strategic Framework 2016-25. The goal of the IFAD Strategic Framework is to *"enable rural households and communities to gain increasingly remunerative, sustainable and resilient livelihoods that help them permanently move out of poverty and food insecurity"*. ARP design has been guided by the IFAD Guidelines for Disaster Early Recovery (2011) in many aspects including vulnerability and risk assessment (already undertaken as part of the PDNA). Some of the findings have been used to guide design while others will be used to inform implementation, collaboration with GoA and its other development partners to ensure coordination of responses, capacity identification, etc. The Project will also be implemented in compliance with IFAD Policies on Natural Resources Management (NRM) and Climate Change as the disaster was a result of climatic events. The design recognises smallholder land holdings being part of the productive landscape as well as a natural asset. The Project adheres to the principle of promoting the recognition and greater awareness of the economic and social value of natural assets through the capacity building for farmers in environmental management practices.

65. The Project is also aligned with IFAD's Targeting Policy – Reaching the Poor (2010). Target groups have been defined, a targeting strategy developed and means of operationalising that strategy integrated into Project design and implementation modalities. ARP is also fully in line with IFAD's policies on Gender Equality and Women's Empowerment. Measures are included to ensure that women and youth benefit from Project interventions.

66. **Social, Environmental and Climate Assessment Procedures (SECAP)** –The environmental and social categorisation of the ARP is B. Potential adverse environmental impacts are expected to be site specific, reversible and with the possibility of being minimised using appropriate measures that can be included in Environmental and Social Management plans for the water infrastructure

development. The infrastructure development will be micro and small-scale in non-sensitive locations. Measures, such as improved water management, safe handling of agrochemicals and waste management, will be promoted through the FFSs. Efforts have been made to minimise the social risks through encouraging community participation including a grievance mechanism and the development of community based NRM plans. The climate risk classification of the ARP is high given the adverse impacts of prolonged droughts during the El Niño events and the floods experienced in some areas due to the subsequent La-Nina events. A drought vulnerability analysis has already been undertaken as part of the response strategy led by the GoA (see Appendix 14), while an assessment of the impacts of the floods is also in progress. The target beneficiaries of the ARP will benefit from climate change adaptation capacity building through the FFSs. The curriculum will include techniques and technologies for the smallholders to adopt. Some of the adaptation measures were also recommended as part of the climate vulnerability analysis during the design of the SAMAP.

III. ARP Implementation

A. Approach

67. The ARP will build on the work done under various emergency programmes in the Project areas. Many of the emergency programmes are being implemented by FAO using the FFS approach, FFSs have proved to be an effective means under emergency conditions mobilise the community, undertake communal public works and provide training and extension support. Notwithstanding these benefits there are noticeable weaknesses in household adoption of improved practices and reaching the most vulnerable households²². Some 100 have been established FFSs under the emergency programme in the ARP target area with 4,200 household members. Farm households are familiar with the approach which is widely accepted. The schools are located in FFS locations prioritised to include municipalities and communities that were most severely affected by drought and flooding. Support will be provided to strengthen these e-FFSs, set up by the emergency programmes, to impact at household level through the prescribed targeting strategies. New e-FFSs will also be established where the potential exists. The 30 month length of the training cycle, that typifies the conventional approach, will be adapted to match the recovery nature of ARP. A list of possible topics to be covered are given in Appendix 4. In all of the e-FFS situations, lead farmers will be identified as extension facilitators at community level and will be trained in both technical and social areas of development. In this way ARP will strengthen the FFS investments at community level while targeting individual households; members of the FFSs and others in the vicinity.

68. For the new e-FFSs, consideration will be given to set up a limited number of new schools in areas not previously covered by the emergency programmes so as to cover additional households. Consideration will be given to selecting areas that are near those previously established so as to form clusters that would provide benefits in management and supervision. For new e-FFSs, the process will follow four steps: a) agro-ecosystem analysis/preparation of natural resource management plans; b) construction and establishment of community infrastructure; c) FFS awareness raising/sensitisation, organisation of farmers, curricula development; and c) distribution of household level food security, livestock and off-farm packages.

69. The FFS approach is regarded as the principal extension approach in Angola and will be the main instrument to promote recovery and resilience. In most situations, the FFS is used to create social and financial capital whilst acting as a new technology delivery mechanism. The Project will work with the existing e-FFSs to fill in the identified gaps and enable the beneficiaries to fully recover from the disasters. A limited number of additional e-FFSs will be established to reach some of the beneficiaries that had not been served by the emergency programmes. Through the emergency programmes, focus of attention was given to development of the communal plot which provides opportunities for crop and nutrition diversification for FFS members, whilst creating a capital fund to sustain the school in the future. The activities implemented under the emergency programmes are at a fledgling level of

²² In many of the cases the FFS under the emergency programme has experienced weaknesses of low adoption at household level because of the short time frame of the programme and the primary focus on activities implemented through the common plot. The programme also experienced challenges of lack of mentoring support of the Master Trainers that did not have adequate operational funds to support the FFS at community level

development and considerably more work is needed for farm households to adopt the agricultural practices on their own plots. The approach of ARP will be to: a) strengthen the capacity of the e-FFS organisation; b) support construction/ maintenance of communal infrastructure; c) support production from the community plot; and d) impact FFS members at household level by fostering the replication and adoption of the new technologies (short duration, drought resistant varieties of cereals and cassava cuttings) and the introduction of livestock based packages and off farm livelihood opportunities.

70. Implementation and phasing of the ARP field activities will depend on the status of the FFS that have been established or planned.

- For those FFSs, set up under the emergency programme, where public goods investment have already been made, households will be eligible from the beginning of project implementation to receive a choice of livelihood packages.
- For communities where new e-FFSs will be established, the process will follow these steps: a) agro-ecosystem analysis/preparation of natural resource management plans; b) FFS awareness raising/sensitisation, organisation of farmers, curricula development; c) establishment and implementation of communal productive infrastructure activities together with FFS training support;(year 1); d) household level livelihoods assessment and targeting; and e) the provision of the crop, livestock and off-farm recovery packages to targeted households (women, youth and the most vulnerable) (from years 2 and 3).
- For communities where no FFSs are envisaged, development will commence by a) conducting an agro-ecosystem analysis, followed by preparation of natural resource management plans; b) establishing communal productive infrastructure through community mobilization – years 1-2 c) provision of crop, livestock and off-farm household recovery packages – years 2-4.

71. In all cases each household will be eligible to receive the technical package as a one-time support, conditional on the community contribution in the form of labour to the community productive assets. Support for the household crop and livestock packages will take place only after the community level productive assets have been established. During implementation the targeting process will be refined and the approach below followed: (1) assessment of crop and livestock system: (2) community sensitization; (3) household profiling; (4) selection of households: (5). preparation of Terms of Partnership: and (6) package delivery: Support will be made available through the project to strengthen the technical capacity of the beneficiary households in crop and livestock production and provide the skills required to more effectively cope with droughts and floods and facilitate the target beneficiaries to transition to the recovery phase.

72. Attention will be placed on developing self-reliance amongst the e-FFSs, farmer organisations and interest groups formed around the livelihoods diversification activities through a well-tested social mobilisation/community development process. The Project, will introduce procedures aimed at strengthening the capacity of school and group members to resolve their own problems, clarifying from the outset, the roles and responsibilities of the Project and those of the community. The community development plans and the livelihood packages for individual households will identify training needs, extension worker inputs, and internal and external resource requirements. Community led M&E will also play an important part in this process.

73. Individual household mentoring will be conducted through the cadre of community development facilitators identified from within the Project areas and recruited by the Project to lead the social mobilisation and group formation/strengthening processes. Support for social mobilisation will come from local NGOs contracted for this purpose. NGOs will work with the community development facilitators once they have been identified, selected and trained.

74. The implementation strategy will involve an immediate recovery period where efforts will focus on the rehabilitation and construction of productive infrastructure and restocking of livestock (small stock). It will include establishing animal watering points, regeneration of pastures and vaccination and veterinary care. In the crop sub-sector, efforts will focus on the rehabilitation of crop production by providing the necessary seeds and other agricultural inputs, especially for key staples and horticultural crops.

75. Efforts will be made to: a) promote crop diversification through the selection of drought-tolerant varieties and the promotion of other crops that can be cultivated in a sustainable manner under local conditions; and b) promote livestock diversification.

76. In line with the principles embodied in IFAD's Guidelines for Disaster Early Recovery, the Project will seek to achieve: a) rapid implementation within to support the recovery of livelihoods; b) collaboration with government and other agencies in the target areas to make full use of the structures that are in place; and c) building up national capacity as part of the recovery efforts.

77. **Collaboration with other Development Partners' Programmes/Projects** – ARP will coordinate and harmonise with Programmes/Projects financed by government and various development partners that support ARP-related thematic areas. This is aimed at taking advantage of synergies and avoiding duplications. Some of such Programmes/Projects include:

- *Strengthening Resilience and Food and Nutrition Security in Angola* – The objective of this project is to contribute to the reduction of hunger, poverty and vulnerability to food and nutrition insecurity, in the provinces most affected by climate change – Cunene, Huila and Namibe. This is an EU funded project costing EUR 70 million. It will focus on: a) basic nutrition; b) water and sanitation; c) agriculture (land, water, inputs, extension, services, cooperatives); d) environmental protection; e) disaster prevention and preparedness; and f) developmental food security assistance. Given that this project will be in the same Provinces as ARP, coordination will be critically important to ensure that different municipalities and/or communes are targeted and complementarity of different activities. The resilience focus of this project will complement the activities of the ARP. Climate vulnerability mapping will be done as part of the project to further inform the resilience building activities. The investments in land and water resources management are crucial for the resilience enhancement.
- Some UN agencies and NGOs are working closely with the GoA within the framework established by the National Plan for Preparation, Contingency Response and Recovery 2015-2017. ARP will build on some of the projects in its areas of focus, such as those financed through the Central Emergency Response Fund.
- UN Agencies are also providing support to the Government in strengthening capacities for Disaster Risk Reduction and Resilience Building. UNDP is one of the lead agencies in providing the DRM support and the ARP will contribute to filling some of the funding gaps in ensuring sufficient national, provincial and municipal level capacity.
- The African Development Bank (AfDB) will be supporting the operationalisation of the four agro-ecological centres established by the Ministry of Environment (MINAMB) in Namibe, Cuando Cubango, Huambo and Cabinda. The centre in Namibe (Bibala) could be used for training of smallholders on climate resilient agricultural practices and livelihood diversification options once operational. This will enhance the collaboration between MINAMB and MINAGRI as extension officers could also benefit from the training. The project will benefit from Global Environment Facility financing and the smallholders targeted under the ARP could benefit from the capacity building that will be provided through the centre.
- Agence Française De Développement (AFD) is in the process of reengaging with GoA and has not yet finalised the nature of the interventions. However, discussions with the AFD representative suggest the likelihood of engaging in ARP-type activities in some of the drought-affected Provinces, particularly Benguela and Namibe. Liaison with AFD will be ongoing to ensure effective collaboration between ARP and the eventual intervention that AFD will support. AFD support is likely to have some focus on developing water resources and investing in related infrastructure. These investments will contribute to the resilience building of the communities in southern Angola.

B. Organisational Framework

78. MINAGRI will be the lead executing agency and will work closely with the other line ministries and partners whose mandates have a bearing on the Project objectives. The Project delivery systems will be integrated into the decentralised organisational structures that cascade from the national to communal levels. IDA (*Instituto de Desenvolvimento Agrário* (Agricultural Development Institute)) will be responsible for administration and coordination of the Project. MINAGRI, the lead executing

agency, will be supported by the Project Coordination Committee (PCC) as an oversight body, chaired by the Minister of Agriculture or his nominee, and composed of membership from institutions with direct relevance to of ARP's objectives. The PCC will be responsible for: a) providing strategic guidance for project implementation; b) promoting inter-ministerial coordination; c) review and approval of the Annual Work Plan and Budget (AWPB); d) review and approval of the annual progress reports and providing guidance on measures to solve implementation issues; and e) ensure that interventions are coordinated with other relevant Programmes and Projects. The Director General of IDA will be the Secretary of the PCC.

79. There will be a Provincial Project Coordination Committee (PPCC) in each participating province with composition and tasks reflecting those of the PCC. The PPCCs will include the Provincial Director of Agriculture, the Provincial Director of IDA and the Area Project Coordinator, a representative of civil society or NGO, a representative of the private sector and at least two representatives of beneficiaries/producers' organisations. The PPCCs will also meet twice a year, or more frequently, if required. The responsibilities of the PPCCs will include: a) speeding up decisions and procedures; b) review and approval of the beneficiary and IGA selection processes; c) review the provincial level AWPB prepared by the Provincial Directorates of Agriculture and the main area service providers; and d) review the provincial level annual progress reports.

80. **Provincial Governance Committee (PGC)** – PGCs will be established in each participating province to ensure good governance and accountability. They will be composed of local authorities and traditional leaders who will be supported when the need arises by a representative/agent of the oversight committee. The functions of the PGCs will be to oversee good governance and accountability. This being a recovery Project with a very limited budget, the process of selecting beneficiaries and the targeting of the crop and livestock packages could generate some grievances. The PGCs will establish a grievance mechanism to address any grievances that could arise during implementation. The PGCs will keep records of evidences and complaints with minutes of the discussions, recommendations and decisions. The PGCs will establish detailed mechanisms for the grievance and complaint process, describing format, language, time for reply and alternative resources, including access to Courts of Law as a last resort. Open dialogue will also be promoted as this is the most suitable way of addressing any grievances expressed. The oversight agent will be entitled to spot-check the beneficiary selection and IGA sub-project approval process at the PGC level to ensure fairness and transparency, and will report to the PCC.

C. Planning, M&E, Learning and Knowledge Management

81. **Planning** – Annual planning will be a decentralised process, starting at the municipality levels where the EDAs will prepare municipality-specific plans. The contents will depend on the type of recovery activities to be implemented in each municipality. Municipality plans will be consolidated at the provincial level by the office of the Provincial Director of Agriculture and forwarded to the PIU for consolidation into a Project-wide draft AWPB. The consolidated AWPB will be sent to the PCC for review and endorsement and subsequently to IFAD for review and expression of "No Objection". The draft should be sent to IFAD latest by 31st October of every year or 60 days before the start of the next Project Year. IFAD will have 30 days for reviewing and provision of "No Objection" and the PIU will have a full month to revise and finalise the AWPB. This process is critical to ensure the timely submission of the draft to each level of approval. The finalised AWPB will be distributed to all ARP implementing agencies by 31st December of every year to ensure a smooth transition from year to year. The AWPBs will be the basis for implementation and will be results-oriented with a clear link between planned activities and outputs.

82. **Monitoring and Evaluation** – A M&E system will be established to provide information on progress and performance that monitors the recovery process and contributes to effective Project management, decision making and reporting, including to government and IFAD. Reporting to IFAD will be consistent with the stipulations of the Guidelines for Disaster Early Recovery. Monitoring will focus on collecting data on the status of planned activities in the AWPB, and on creating a cumulative overview of the direct results (deliverables/outputs) from Project start-up until completion.

83. In line with the implementation approach, the M&E system will be decentralised. The M&E Assistant will provide the necessary guidance, develop tools and follow-up. Considering that ARP will be building on emergency programmes, it will consider strengthening any existent and relevant tools, as opposed to starting afresh. Training and backstopping will be provided to those involved in data

collection and collation at the different levels. Since many of the activities will be subcontracted to service providers, the different service provider agreements would specify responsibilities for monitoring and include templates for consistent reporting.

84. The M&E system will assess progress and achievements of the interventions. Provision will be made for close monitoring and supervision of ARP activities; especially during the first two years to ensure that implementation of early recovery activities proceeds smoothly, and that any problems are dealt with in a timely manner. The M&E system will also monitor and assess early recovery objectives and priorities regularly. This will support prompt identification of problems (such as objectives that are not being met or are off-track) so that remedial actions can be taken. This will also help to ensure that recovery activities are underpinned by the principles of “do no harm” and “build back better”, as required by the IFAD Guidelines for Disaster Early Recovery.

85. An M&E Assistant, under the supervision of the Project Coordinator, will be responsible for M&E. The M&E & Knowledge Sharing Specialist of SAMAP will oversee the M&E function. The relevant units at the different government levels, the main service providers, the implementation partners and the beneficiaries will play an important role in M&E functions.

86. A baseline survey will be undertaken during the first year to benchmark the existing situation in the Project area. To the extent possible, the information contained in the PDNA and other reports, especially those on emergency interventions, should be used to inform the baseline. An effort will be made to identify gender issues and gaps so that these can be addressed. A Mid-Term Review (MTR) will evaluate whether the Project is on course to achieve the objectives. It will identify any constraints and recommend remedial measures to achieve the objectives. The recommendations will consider the likelihood of achieving the Project's targets during the remaining time and may modify those targets. Before completion, an impact assessment will be undertaken to inform the Project Completion Report (PCR) which will provide an assessment of the accomplishments of ARP and analysis of its performance.

87. **Learning and Knowledge Management** – Knowledge Management (KM) will ensure that Project implementation is a continuous learning process in which quantitative and qualitative data will be compiled, analysed and disseminated as lessons learned, together with thematic studies and stories from the field that explain challenges encountered and results achieved. The information to be generated by the M&E system will enable IDA/MINAGRI, other related ministries, the Provincial Directorates and other relevant stakeholders to carefully monitor the Project and provide reliable information on the different recovery interventions and the resultant impacts (or lack thereof). Information sharing with other recovery projects in Angola and the region will receive particular attention. Knowledge gained in other countries of the region will be made available to ARP. In turn, the ARP experience will inform regional learning on post-disaster recovery interventions.

D. Financial Management, Procurement and Governance

88. **Financial Management** arrangements including, staffing, budgeting, accounting, funds flow, disbursements, financial reporting, internal controls and auditing are detailed in Appendix 7.

89. Based on IFAD's single currency lending framework, the loan will be denominated in US dollars on ordinary lending terms, subject to the availability of US dollars at IFAD; this is to be confirmed during loan negotiations. In case of unavailability of sufficient USD resources, the loan will be denominated in Special Drawing Rights (SDR). The Public Expenditure and Financial Accountability (PEFA) assessment for Angola was carried out in 2016 and, as of April 2017, is still due for publication. Angola ranks 164/177 in the 2016 Transparency International Corruptions Perception risk²³. The World Bank carried out an assessment of the financial management and procurement systems during design of the Smallholder Agriculture Development and Commercialisation Project (SADCP-WB) and concluded that inherent fiduciary risk of the project is classified as “substantial”.

90. IDA shall open a Designated Account denominated in USD in a Commercial Bank in Luanda in order to receive the financing proceeds. IDA shall also open an Operational Account in Angolan Kwanza (AOA) in the same bank where the Designated Account will be opened. As GoA institutional accounts require at least two signatories, the Project Coordinator will be one of the mandatory signatories of the Designated Account and Luanda Operational Account. Additional signatories will be

²³https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table

senior staff of IDA. An additional Project Account denominated in Angolan AOA will be opened in a Commercial Bank in Lubango. This account will have as mandatory signatories the Project Coordinator and staff from the Provincial Directorate of IDA and/or the Provincial Directorate of Agriculture.

91. ARP will use the PRIMAVERA accounting software (also used by the IFAD-supported Projects MOSAP and AFAP, and will be procured for the newly approved Project, SAMAP). The software will be procured and installed prior to first disbursement. ARP will also employ electronic archiving of financial and procurement documentation from its inception. This will be accomplished from available software enterprise solutions in Luanda, subject to a reasonable cost-benefit ratio due to the limited amount of project resources. As the Mozambique portfolio is employing an electronic archiving system developed in-house, ARP will explore the possibility of acquiring the same software based on comparison of costs relative to the commercially available software packages in Luanda.

92. *Staffing and Financial Management Arrangements* – The financial management of IDA is highly centralised such that the provincial administration of the Institute in Lubango operates a very limited budget for operational expenses (petty-cash) and is staffed by an Administrative and Finance Officer. The same Officer is also responsible for Procurement. For this reason, ARP will hire a dedicated Accountant who will be supported by the IDA Finance Officer in his/her day-to-day activities. The accountant of ARP will report to the Project Coordinator and will be under the direct guidance of the Financial Management Specialist of SADCP-C&H-SAMAP (henceforth Financial Management Specialist) in Luanda, who will double as Financial Management Specialist for ARP. In agreement with IDA, the FM Specialist's TORs will be broadened to include these additional responsibilities.

93. The very small financial management structure of ARP in Lubango poses substantial difficulties for internal control and adequate segregation of duties. To increase quality of internal control, the following arrangements will be elaborated in the Financial Management Procedures Manual, which will be part of the PIM: a) the Project Account in Lubango will be used solely for the management of recurrent costs (operations and maintenance, fuel, travel expenditures, small purchases) and will be replenished on a revolving fund basis; b) for large purchases of goods and services (to be determined during implementation, but ideally expenses above the SOE threshold), payments will be processed by the ARP Accountant, approved by the Financial Management Specialist and authorised by the Project Coordinator. These expenditures will be paid from the Project's Operational Account in AOA opened in Luanda; c) for purchases below the SOE threshold, payments will be processed by the ARP Accountant and authorised by the Project Coordinator and paid from the Project Account in Lubango. As this account will be managed on a revolving fund basis, replenishments will depend on the regular financial reports prepared by the ARP Accountant and submitted to the Financial Management Specialist for approval by the Project Coordinator. The Project accountant will, nonetheless, be responsible for posting all expenditures in the accounting system. The IDA Finance and Administrative Officer in Lubango will support the Accountant in the day-to-day activities including record-keeping, archiving of supporting documentation, reconciliation of the Project accounts, and preparation of financial reports. Both the Project Accountant and the IDA Finance and Administrative Officer will be trained in the use of the accounting software. The Interim Financial Reports to be submitted to IFAD as well as the consolidated Financial Statements for the yearly audit exercise will be prepared by the Financial Management Specialist, with assistance from the Project Accountant, under the overall responsibility of the Project Coordinator.

94. IDA, through its Directorate for Administration and Finance (DAF/IDA) will maintain oversight of financial operations of the Project, especially in the process of AWPB approval and flow of funds.

95. **Retroactive Financing** – As requested by GoA, the financing agreement will allow for retroactive financing. The amount to be retroactively financed will not exceed 10% of the total Project cost. Expenditures to be retroactively financed will not be incurred before the Project's approval at IFAD's Quality Assurance stage. Over the last few years, FAO has implemented emergency programmes in Angola's southern provinces funded by USAID, OCHA and FAO. MINAGRI and FAO have agreed that FAO will pre-finance some of the Project's activities prior to signing of the Financing Agreement. This retroactive financing is meant to ensure a timely start of the agricultural campaigns in ARP's target areas. All expenditures to be retroactively financed must meet IFAD's eligibility criteria as set forth in the IFAD General Conditions for Agricultural Financing as amended on April 2014, with particular emphasis on IFAD's Procurement Guidelines. The activities to be retroactively financed will be included in the first AWPB, and any purchases of goods and services disclosed in the Procurement

Plan. The total amount of retroactive financing will also be disclosed in the first audited Financial Statements. Based on disbursement instructions from GoA, IFAD will reimburse FAO upon confirmation that all conditions for first disbursement have been met. However, as detailed in the IFAD guidelines for retroactive financing, IFAD will take no liability for any pre-financed amounts in case the Project is not approved by its Executive Board.

96. An advance of USD 300,000 will be made available upon entry into force of the Financing Agreement for start-up activities. Withdrawal Applications will be under the Statement of Expenditure (SoE) procedure, with SoE threshold that will be detailed in the Letter to the Borrower. The Designated Account will be managed following imprest account procedures, with an initial deposit of USD 500,000.

97. **Audit** – Internal control systems at the PIU level will be established and detailed in the Financial Management Procedures Manual. IDA will ensure regular internal audit activity provided either by the internal audit unit of MINAGRI or by an independent service provider. As the ARP Accountant will be under the oversight of the SADCP-C&H-SAMAP Financial Management Specialist, the Project may sub-contract the internal auditor competitively selected by SADCP-C&H-SAMAP. Supervision Missions will also report on the activity of the internal audit by reviewing the audit reports and assessing management's responsiveness to the auditor's recommendations. Internal controls will also be verified during the annual external audit exercise and reported to IFAD in management letters, in line with IFAD's audit guidelines.

98. In compliance with IFAD's General Conditions, ARP financial statements will be audited on an annual basis in accordance to IFAD's Guidelines on Project Audits. The audit reports together with the related management letters must be submitted to IFAD no later than six months after the end of each fiscal year. The annual audit will also be in line with the IFAD Guidelines for Disaster Early Recovery which call for a fully-fledged audit to be undertaken once a year to confirm the eligibility of expenditures and compliance with procedures.

99. **Procurement** – All procurement will be carried out in accordance with IFAD Procurement Guidelines and IFAD "Policy on preventing fraud and corruption in activities and operations". Procurement responsibility will rest with the MINAGRI/IDA. All procurement will be executed against approved AWPBs which align with the Procurement Plans, specifying items to be procured, responsibility for the procurement and the appropriate procurement methods. All procurement financed by IFAD will be exempt from duties and taxes. Details on the procurement arrangements are presented in Appendix 8.

E. Supervision

100. Supervision and implementation support will be jointly undertaken by IFAD and GoA. During Year 1 supervision will be undertaken every three months. Depending on progress and the level of risk assessed, subsequent supervision missions will be fielded at least twice, but preferably three times a year. Considering the perceived Financial Management risk, IFAD will undertake an additional financial management Implementation Support Mission in conjunction with the other IFAD-supported Projects (AFAP and SAMAP) in the first two years of implementation. This will support capacity building of financial management staff, as well as on-site review of SOEs, supporting documentation and procurement arrangements. Supervision and implementation support will be based on IFAD's operational modalities and practices. Supervision will not be conducted as a general inspection or evaluation but, rather, as an opportunity to assess achievements and lessons learned and to jointly reflect on ways to improve implementation and increase the likelihood of achieving the Project's objectives. IFAD will also provide implementation support either during the Supervision Missions or as and when needed. Key features likely to require attention by the Missions will include: a) setting up of a functional M&E system; b) procedures and systems causing implementation and reporting delays; c) the procurement function; d) process of selecting the qualifying beneficiaries; and e) effective delivery of capacity building interventions. During the first year, attention will be given to ensuring that capacity is built at the local level for reporting early recovery activities.

F. Risk Identification and Mitigation

101. The main issues and risks are weak institutional capacity for implementation, especially in the areas of procurement, financial management, agricultural extension services, veterinary services and

social mobilisation and community development and climate variability. The Project will strengthen institutional capacity and skills through training as well as support from NGOs and consultants (national and international) who will work closely with the beneficiaries and government institutions. The critical operational risks, their impact and probability and the proposed mitigation measures are presented in the table below.

Table 2: Risk Identification and Mitigation

Risk	Impact and Probability	Mitigation Measures
Limited Public Sector Capacity at Local Levels – The provincial and municipal levels will have important roles in planning, coordination and supervising Project implementation. The municipalities, and communes in particular, have limited capacity in terms of staff numbers, skills, experience and facilities.	Less than effective Project implementation, coordination and supervision. High probability of occurring.	The Project will provide capacity building for selected provincial and municipality staff who will remain in place after the Project is completed to continue to deliver services.
Limited Capacity at Community Level – Few service providers with required knowledge and skills for social mobilisation, community development and income generation.	Less than effective Project implementation. Social mobilisation and community development are vital to ensure smooth implementation and lay the foundation for sustainability. High probability of occurring.	Provision of technical assistance and local level community support. The Project will be responsible for identifying, selecting and training community level staff.
Limited Availability of Qualified Financial Management Staff – The extremely competitive market for the few qualified FM staff in the country might render difficult for the hiring of experienced FM unit, unless unsustainable salaries are proposed.	Financial management arrangements would likely suffer, with lower quality of internal control, resulting in ineligible expenditures. Medium probability of occurring.	ARP will receive FM support from the SADCP-C&H-SAMAP, which is also to be implemented by IDA. In addition, IFAD will provide detailed FM training and frequent FM support during the first 12 months.
Protracted Procurement Process – The procurement process takes more time than expected.	Late delivery of good quality agro-inputs leads to missing of the agricultural season. Medium probability of occurring.	Procurement planning, including strict adherence to the timing of the processes as per the Procurement Plan.
Scarcity of Foreign Currency and Emergence of a Parallel Exchange Market – as at May 2017, the parallel exchange market rate was double the official exchange rate.	The purchasing power of the Project is reduced taking into account that cost tables reflect the official exchange rate. High probability.	Careful planning of funds flow from Designated Account in USD to Operational Account in AOA to mitigate the risk of eroding purchasing power.
Poor Coordination with Other Projects – Failure to establish appropriate liaison with other post-emergency projects in the ARP areas of focus.	Inadequate coordination may lead to duplication of efforts and inefficient use of scarce resources. Low probability of occurring.	All interventions (emergency/post-emergency) will be through Provincial and Municipal governments. Project management will work very closely with local governments to ensure effective targeting (with regard to areas of focus and beneficiaries).
Negative Impact on the Environment – Implementation of some activities may lead to undesirable consequences on the environment.	Some Project activities alter the physicochemical structure of the area; this could destabilise the ecological balance. Low probability of occurring.	The Project will analyse and minimise negative impacts through an environmental management plan. Training will be provided and site management plans for infrastructure.
Failure to Respect Social Framework – Selection of participating villages and beneficiaries fails to take into account the social and cultural aspects of the area.	Lack of acceptance of Project interventions, Project abandonment and/or boycott from different actors. Low probability of occurring.	The Project will take into consideration the ethnic and economic aspects of the population, especially during targeting of beneficiaries by setting very clear selection criteria, widely agreed upon. Provincial Governance Committees will guide these processes.

Risk	Impact and Probability	Mitigation Measures
Creation of Dependency Syndrome – The transition between emergency, recovery and longer-term development interventions needs to be managed with care; badly managed, this could create a dependency syndrome.	The dependency syndrome could make the target group less willing to participate in recovery activities, especially considering that emergency humanitarian assistance has been going on for some years. Low probability of occurring on any significant scale.	A good M&E system will identify households struggling with the transition; these will be supported by the proven individual household mentoring approach to assist them in overcoming the dependency syndrome.
Climate related shocks – The climate variability continues to be pronounced	Agricultural productivity is adversely affected and efforts in livelihoods recovery continue to be undermined. Medium probability of occurring.	The concept on building back better including diversification of livelihoods will stabilise or enhance productivity. Capacity building of the smallholders in climate change adaptation through the FFSs will also reduce vulnerability to climate shocks.

IV. ARP Costs, Financing, Benefits and Sustainability

A. ARP Costs

102. Total ARP costs, including price contingencies, duties and taxes are estimated at about USD 7.6 million over the four-year Project implementation period. Of this amount, about 26% represents the foreign exchange content, and about 8.6% are duties and taxes. Total base costs amount to USD 7.3 million, while contingencies are estimated to add to this amount another USD 0.3 million (of which USD 0.1 million are physical contingencies and USD 0.2 million are price contingencies), corresponding to 3.8% of the base costs. Investment costs account for 69% of the base costs (and recurrent costs for the remaining 31%). Funds allocated to Project management and coordination amount to about USD 1.3 million or 17% of total Project costs. A summary breakdown of the Programme costs by component is shown in the table below:

Table 3: Summary of Project Costs by Component (including contingencies)

	(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total		
A. Sustainable Livelihood Recovery					
1. Recovery of Household Productive Assets	1,121	771	1,892	41	26
2. Recovery of Community Productive Assets	1,363	574	1,936	30	26
3. Capacity Building for Recovery	1,963	228	2,191	10	30
Subtotal Sustainable Livelihood Recovery	4,446	1,573	6,019	26	82
B. Project Coordination and Management					
1. Project Coordination and Management	1,025	279	1,304	21	18
Subtotal Project Coordination and Management	1,025	279	1,304	21	18
Total BASELINE COSTS	5,471	1,852	7,323	25	100
Physical Contingencies	45	67	112	60	2
Price Contingencies	117	54	171	31	2
Total PROJECT COSTS	5,633	1,973	7,606	26	104

103. *Inflation Rate* – National inflation rate used in the COSTAB is based on forecasts provided by the Economist Intelligence Unit (EIU). Inflation in Angola has peaked since 2015 following the successive reductions in fuel subsidies and the Kwanza's continued weakness against the US Dollar, which continues to push up the cost of imported goods. During the project implementation period an average international inflation rate of 1.6% has been used, based on the Unit Value Index (in US dollars) of manufactures (MUV). Both local and foreign inflation rates are compounded at mid-year. Inflation figures used in the calculation of the Project costs are shown in the table below. Price

contingencies have been applied on all costs, with the exception of grants and subsidies. Physical contingencies (5%) have been applied to equipment and materials, works, goods, services and inputs.

Table 4: Inflation Rates

Inflation Rates (%)	2017	2018	2019	2020
Annual				
Local	24.0	15.0	10.0	7.0
Foreign	1.6	1.6	1.6	1.6
Compound				
Local	27.7	52.0	70.7	85.1
Foreign	1.7	3.3	5.0	6.7

104. *Exchange Rate* – The initial exchange rate for the analysis has been set at Kwanza (AOA) 165 to US\$ 1, the official rate prevailing in April 2017. In the absence of AOA/US\$ exchange rate forecasts provided by the Central Bank, a constant purchasing power exchange rate, as calculated by COSTAB, has been used. Considering the high local inflation rate, the difficulties in forecasting the AOA/US\$ exchange rates and the desire to mitigate cost overruns, costs in the COSTAB have been set in US\$.

105. *Taxes and Duties* – Import duties (on vehicles, office furniture and equipment) and taxes are applied to costs of all transactions where appropriate. Both consumption and production taxes are applied on all imported and locally procured goods and services, except for training, workshops and international technical assistance which are tax exempted. For directly recruited local staff, the Project will cover the social insurance charges of 8%. The Government will waive duties and taxes or will finance the cost of all taxes on goods procured under the Project.

106. *Expenditure Categories* – The expenditure categories are based on the standardisation that IFAD is adopting after phasing its Loan and Grants System. Project costs by expenditure category are shown in the table below:

Table 5: Project Costs by Expenditure Categories

	(US\$ '000)				
				%	% Total
	Local	Foreign	Total	Foreign Exchange	Base Costs
I. Investment Costs					
1. Consultancies and TA	220	292	512	43	7
2. Equipment & materials	42	88	130	32	2
3. Works	518	259	778	67	11
4. Vehicles	144	55	199	72	3
5. Workshops	3	48	50	5	1
6. Training	-	1,109	1,109	-	15
7. Goods, services & inputs	784	301	1,085	72	15
8. Grants & subsidies	-	750	750	-	10
9. Unallocated	-	-	-	-	-
10. Duties & Taxes	-	394	394	-	5
Total Investment Costs	1,711	3,295	5,006	34	68
II. Recurrent Costs					
1. Operating costs	141	84	225	63	3
2. Salaries & allowances	-	1,873	1,873	-	26
3. Duties & Taxes	-	219	219	-	3
Total Recurrent Costs	141	2,176	2,317	6	32
Total BASELINE COSTS	1,852	5,471	7,323	25	100
Physical Contingencies	67	45	112	60	2
Price Contingencies	54	117	171	31	2
Total PROJECT COSTS	1,973	5,633	7,606	26	104

B. ARP Financing

107. The following financiers will be contributing to the Project: a) IFAD (through a loan and a grant); b) the Government of Angola; c) FAO; and d) the Project beneficiaries. IFAD will fund the Project through a grant of about USD 1.0 million and a loan of about USD 5 million. The loan will be on ordinary terms. GOA will finance the taxes and duties as well as general office expenses for the Project coordination and management unit for a total of USD 0.7 million, representing 9.5% of total costs. The estimate of taxes and duties is based on the rates in effect prevailing at the time of the design. In conformity with the principle that no taxes or duties would be financed out of the proceeds of the IFAD Loan/Grant, any future changes in the rates and/or structures of taxes and duties would have to be met by GOA. Beneficiaries will contribute about USD 0.4 million, representing 5% of Project costs; it will consist mainly of in-kind contributions (unskilled labour). FAO will contribute with 0.5 USD million through Technical Assistance (provided through its Technical Cooperation Programmes), cars and related Operations & Maintenance, salary of one driver and office equipment for the PIU. The proposed financing plan for ARP is summarised in the table below.

Table 6: Project Financing Plan

	The Government		FAO		IFAD loan		IFAD grant		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Sustainable Livelihood Recovery												
1. Recovery of Household Productive Assets	312	15.5	294	14.6	1,286	64.0	-	-	117	5.8	2,008	26.4
2. Recovery of Community Productive Assets	146	7.2	-	-	1,606	79.3	-	-	273	13.5	2,024	26.6
3. Capacity Building for Recovery	113	5.1	161	7.2	954	42.8	1,000	44.9	-	-	2,227	29.3
Subtotal Sustainable Livelihood Recovery	571	9.1	454	7.3	3,845	61.4	1,000	16.0	390	6.2	6,260	82.3
B. Project Coordination and Management												
1. Project Coordination and Management	155	11.5	36	2.7	1,154	85.8	-	-	-	-	1,346	17.7
Total PROJECT COSTS	726	9.5	491	6.5	5,000	65.7	1,000	13.1	390	5.1	7,606	100.0

108. Details about Project costs and financing are presented in Appendix 9 and the associated annexes.

C. Summary Benefits and Economic Analysis

109. The Project will contribute to improved food and nutrition security through the restoration of productive assets and capacity of households affected by recurrent droughts. ARP will provide agricultural and livestock support packages that include inputs, services and technical capacity building, and will build basic supporting infrastructure.

110. ARP will promote the production of staple food surpluses, whilst diversifying the rain-fed system and household diets by including other crops (e.g. cassava and beans). It will therefore support the diversification of the cropping system in order to mitigate the risk of crop failure. Implementation of this activity will involve offering a starter-pack for food security to vulnerable households, together with extension advice (through FFS) on minimum tillage, intercropping with legumes and other climate-tolerant practices. In addition, beneficiaries will be helped to diversify their livelihoods through a range of income generating activities, such as small livestock keeping. ARP will also promote water resource development and natural resource management (through rehabilitation of pastures and soil and water conservation). The end result will be: a) increased crop and livestock production; and b) expanded land under climate-resilient practices.

111. **Project Benefits** – Financial benefits will be in the form of increased financial returns of the beneficiary households. Social benefits will include a reduction in poverty rates with special measures taken to ensure inclusion of disadvantaged groups. Environmental benefits will consist of reduced

land degradation and increased carbon sequestration of rangelands. Due to limited data availability, only the direct household-level returns are taken into account.

112. Direct Project Beneficiaries – Primary Project beneficiaries will be approximately 8,000 households increasing crop and livestock production, and adopting climate-resilient practices. Assuming an average household size of six people, total beneficiaries would be about 48,000 people.

113. Indirect Project Beneficiaries – There will also be large numbers of people who will benefit indirectly from the Project through: diffusion of knowledge about improved crop and livestock production; improved access to water; better quality agriculture products and more diversified food, with positive effects in terms of nutrition and food security. In addition, all those living in the Project areas will benefit from strengthened local economies resulting from inflows of income and strengthened local demand. Thus, Project activities will indirectly stimulate the whole rural economy benefiting rural population (including the rural poor) and possibly reducing rural-urban migration.

114. Economic Internal Rate of Return and Net Present Value – The Economic Internal Rate of Return (EIRR) of the Project is estimated at 18.3% (base case) which is above the opportunity cost of capital in Angola estimated at 12% (see Table 2 above). It is emphasised that the computed EIRR is a minimum because it has been estimated in a very conservative way. Also, this is a reasonable result given the recovery aspect of the Project, logistic and climatic difficulties in rural areas, and overall country macroeconomic situation. It is based on the assumption that adoption is limited to less than 66% of target farmers. In case of a higher adoption rate, the EIRR will increase. The Net Present Value (NPV) is USD 4.16 million over the 20-year period.

115. Sensitivity Analysis – In order to test the robustness of the above results, a sensitivity analysis has been carried out. The EIRR and NPV were subjected to sensitivity analysis in order to measure variations due to unforeseen factors and account for risk. Criteria adopted in the sensitivity analysis are: 10, 20 and 50% cost over-run; 10 and 20% increase in benefits; 10 to 50% benefit decrease; and 1 to 2 years of delay in the implementation. Results are presented in the table below. They indicate a relatively strong resilience to limited increases of costs and reductions of benefits as well as benefit delays.

Table 7: Results of Sensitivity Analysis

	Base case scenario	Cost increments			Benefits increments		Benefits decrease			Benefits delay		Minimum number of beneficiaries to have a positive NPV	Minimum adoption rate % to have a positive NPV
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	-50%	1 year	2 year		
EIRR	18.3%	14.8%	11.9%	5.1%	14.4%	26.1%	14.4%	10.6%	-3.2%	13.3%	10.2%	3,000	44%
NPV (\$)	4,159,180	3,337,880	2,516,580	52,680	5,396,398	6,633,616	2,921,962	1,684,744	- 2,026,910	3,187,967	2,263,003		

116. Risk analysis – The bulk of risk considered in the sensitivity analysis relates to: a) limited public sector capacity at local levels; b) limited capacity at community level; c) the procurement process takes more time than expected; d) the Project fails to establish appropriate liaison with other post-emergency projects in the ARP areas of focus; e) undesirable consequences on the environment; f) selection of participating villages and beneficiaries fails to take into account the social and cultural aspects of the area; g) the transition between emergency, recovery and longer-term development interventions could create a dependency syndrome. The table below presents the impact of each of these key risk components on Project economic performance indicators. The probability of occurrence is supposed to affect the entity of cost/benefit increases/decreases reported above, i.e. a low probability translates into a 10% decrease in benefits (or a 1-year delay in benefits), while a medium probability is supposed to determine a 20% benefits decrease (or a 2-year delay in benefits). It is important to notice that these impacts should be considered purely as indicative and do not rely on any proven evidence.

Table 8: Risk Analysis

Risk description (link with the risk matrix)	Prob. of occurrence	Proxy to compare with SA results	EIRR (%)	NPV (\$)
INSTITUTIONAL: Limited Public Sector Capacity at Local Levels	Medium	Benefits delay 2 years	6.9%	962,983
SOCIAL: Limited Capacity at Community Level	Low	Decrease in benefits (10%)	10.0%	1,759,262
INSTITUTIONAL: Protracted Procurement Process	Medium	Benefits delay 2 years	6.9%	962,983
INSTITUTIONAL: Poor Coordination with Other Projects	Low	Decrease in benefits (10%)	10.0%	1,759,262
SOCIAL: Negative Impact on the Environment	Low	Increment in costs (10%)	10.4%	2,083,347
SOCIAL: Failure to Respect Social Framework	Low	Benefits delay 1 year	9.7%	2,074,138
SOCIAL: Creation of Dependency Syndrome	Medium	Increment in costs (20%)	7.3%	925,844

117. Details about the Economic and Financial Analysis of the Project are presented in Appendix 10 and the associated annexes.

D. Sustainability

118. Being a recovery Project, the emphasis will be on enabling the beneficiaries and their communities to transition from the emergency to recovery phases and subsequently into the development phase. Consequently, efforts will be made to ensure that, by the end of the Project, beneficiaries and their communities have been facilitated to return to a situation, at least as good as before the disaster but preferably an improved situation; based on the principles of “do no harm” and “build back better”.

119. In addition to “building back better” stakeholders will be provided with the ability to continue with the ARP-initiated interventions when the Project ends. Capacity building will be undertaken at the institutional, community and household levels. The skills and capacities required at the different levels will be strengthened to ensure communities are able to recover from climate-related shocks and the relevant institutions are able to provide the necessary support and services. Also, the Project will lead to improved pasture availability and management as well as increased and improved water sources; this would contribute to enhance the sustainability of the beneficiaries’ livelihoods. From the environmental point of view, ARP’s interventions will contribute to environmental sustainability through the enhanced disaster risk management capacity and improved community-based natural resources management; this would contribute to the strengthening of the social networks. The sustainability of the community level natural resources management institutions will be ensured through the capacity building and benefits to be realised in strengthening the local level networks that communities usually depend on in recovery from various shocks. In addition the proposed linkages with Municipality level strategies, which are more established institutions that are provided with resources from the budgeting processes will also ensure sustainability of the community level structures.

Appendix 1: Country and Rural Context Background

A. Country Context

1. Angola is located in South-western Africa and bordered by the Atlantic Ocean to the west, Namibia to the south and the Democratic Republic of the Congo and Zambia to the north and east, respectively. The country is Africa's second largest oil producer and, as such, oil production is the main sector of the economy; it accounts for about 47% of total Gross Domestic Product (GDP), 98% of export earnings and 75% of government revenues. Angola also possesses a wealth of other natural resources, including minerals (it is the world's fourth largest producer of diamonds), water, arable land, forests and fisheries. It covers an area of 1,247,000 km² and is the third largest country in sub-Saharan Africa. The 2014 census estimated its population at 24.3 million people of whom some 38% are living in rural areas²⁴. After four decades of civil war, much of the country's economy collapsed, infrastructure destroyed and institutions weakened. Since the return of peace, about 14 years ago, the Government, together with its national and international partners have made substantial progress in re-establishing the foundation needed to address these problems. This has resulted in the development and implementation of programmes aimed at restoring order and security, revitalising the economy, restoration of basic social services and the rehabilitation of infrastructure.

2. Although the agriculture sector contributes on average only 5.5% to GDP, 44% of the employed population work in the sector, according to the recent census. Moreover, 46% of households were engaged in some agricultural activity and 6% were engaged in fishing. The Food and Agriculture Organisation (FAO) estimates that almost 68% of economically active adults worked in the agriculture sector in 2014. More than half of Angola's poor are located in rural areas and depend almost exclusively on agriculture for their livelihood. Almost a third of agricultural households are headed by women. Women are responsible for 70% of traditional subsistence agriculture and 24% of commercial agriculture.

3. **Poverty and Inequality** – Angola partially met its Millennium Development Goals targets in 2015. Angola ranks low on both human development and business environment indicators. Its overall institutional capacity has not been rehabilitated since the return of peace and bureaucratic hurdles inhibit private sector growth. Performance related to social indicators is mixed: good progress has been made in poverty reduction, primary education, and gender equality since 2002, but other social indicators remain very poor. For example, maternal mortality is 450 per 100,000 births, and malnutrition is acute with 30% of children less than five years of age suffering from stunting and 16% underweight.

4. The overall poverty rate declined from 62% in 2001 to about 37% in 2009²⁵. This was a major achievement, but much more needs to be done to reduce poverty as part of the shared prosperity agenda. Major disparities in the poverty rate exist across different provinces as well as between rural and urban areas. The rural poverty rate is almost 58%, in contrast with an urban poverty rate of less than 30 percent. In the capital city (with a population of about five million), the poverty rate is only about 9%. Smallholder agricultural production and productivity development and commercialisation are hence critical to reduce rural poverty.

5. **Critical Issues Emerging from Rural Poverty Analysis** – The arid and semi-arid agro-ecological zone in Southern Angola is characterized by desert, savannah grass and woodlands. The region is sparsely populated and often impacted by recurrent drought and intermittent flooding. Most of the rural communities in the region are marginal and have low levels of socio-economic development. Agriculture is the main economic activity of the majority of the population. Precipitation averages about 200-400 mm per annum based on a unimodal rainfall pattern. The rainy season starts in mid-October and ends in March while the rest of the year is dry. The Cunene and Cuvelai are the primary basins in the region consisting of the Curoca, Giraul and Lucira rivers. The region also has seasonal rivers and streams, which support some horticulture and aquaculture activities that provide an additional source of food, nutrition and income.

²⁴ Government of Angola (2016), "Censo 2014. Resultados definitivos do recenseamento geral da população e de habitação de Angola 2014", Instituto Nacional de Estatística.

²⁵ IBEP 2008-2009.

B. Agricultural Sector

6. Although Angola used to be a major agricultural exporter, a large share of the food consumed in the country is currently imported, with the exception of roots and tubers. Almost 36 percent of cereal consumption (about 1.1 million tons) is met through imports. This is due in part to the destruction of the agricultural production and marketing infrastructure during the civil war and, in part, to the improvements in terms of trade that came from high oil prices and increased oil export volume. The fall in oil price registered in the last two years and the consequent currency devaluation is a natural incentive for domestic production to increase and substitute part of the imports. However, the extent to which this incentive will materialise depends on other factors such as adequate macroeconomic framework, improvements in the business climate, infrastructure and labor skills. The Government is in the process of implementing policies that will increase revenue and reduce expenditure. At the same time, the Government is striving to improve the business climate to promote economic development, diversification of the non-oil economy (including agriculture), and competitiveness.

7. Angola has an estimated 35 million ha of arable land, of which less than 4 million ha are currently under cultivation. Overall, agricultural productivity and crop yields are extremely low. The soils are generally fertile in the north and the central highlands (Bié, Huambo, and Malanje provinces) and average rainfall exceeds 1,000 mm per year. The country has enormous potential to increase cropped area, raise crop yields, and exploit the potential of its diverse agro-climatic regions to increase production. Inclusive growth in the agriculture sector can reduce rural poverty, diversify the economy, accelerate economic growth, increase food security, improve social indicators in rural areas, and achieve the Sustainable Development Goals.

8. **Constraints and opportunities for agricultural and rural development** – Most of the agriculture in Angola is rain-fed and therefore highly vulnerable to climatic events. The drought conditions experienced since the 2011/12 agricultural season manifested through a combination of rainfall deficits, uneven rainfall distribution and dry spells. The dry conditions were more pronounced in the southern provinces and reduced production of cereals including millet and sorghum, which are the predominant crops in the region. In the three provinces assessed in the PDNA (Cunene, Huila and Namibe) precipitation was significantly below average between 2012 and 2015, though Cunene reported normal rains in 2012. The consecutive years of dryness lasted until 2016 in most areas with some measure of relief provided by occasional short rains but not enough for recovery. Therefore a cumulative negative impact occurred over time with a progressive erosion of livelihoods and food security of affected populations, as well as of the environmental conditions the region.

9. The climatic variability exacerbated the low agricultural productivity levels in the southern region that is illustrated in the national production data on the main crops. Prior to the droughts an increase of 19% in cereal production and 27% in production of pulses/oilseeds, was recorded compared to the previous year. The positive results were partly due to an increase in cultivated area of 6% and investments made by GoA in agricultural activities. However, with the onset of the El Niño event crop production losses were particularly high in 2012, due to widespread drought conditions during the agricultural season that affected 10 provinces, especially in the coastal regions and central highlands, the key crop producing areas in Angola. A total of 1.8 million people in the affected provinces were exposed to food insecurity due to the drought. Cereal production declined by approximately 64% (from 1,412,826 tonnes in 2011 to 509,705 in 2012). Production figures in 2013/14 and 2015/16 showed some recovery but 2016/17 is expected to show a reversal with a decline in outputs. During the 2011/12 agricultural season, production of pulses declined by 68.4% (from over 304,000 to 96,000 tonnes). Cassava production, the country's main crop in terms of quantity and value, decreased by 25.8% (from 14.3 million to 10.6 million tonnes) during this same period. Production figures recovered in 2013 for all crops apart from potatoes which remained low through 2014 and cassava production dropped again in 2014. In 2015 yield losses were estimated at 75% in the three most drought affected provinces. Estimates for 2016 are in the magnitude of 40% production deficit due to the poor agricultural season in 2015/16 (National Institute of Cereals, MINAGRI). Further analysis of the drought conditions undertaken by WFP is presented in Appendix 14.

10. While the agriculture sector is essential to promote national development and economic diversification, its potential will remain untapped if productivity does not increase significantly. Agricultural production has increased gradually since 2002 (end of the war), but crop yields remain

very low compared to other countries in Sub-Saharan Africa. According to FAO, the average yield of beans in Angola is 0.34 ton per ha compared to 0.60 ton per ha in the southern African region; the average yield of groundnuts is 0.38 ton per ha compared to 0.88 ton per ha in the region; and the average millet yield is 0.24 ton per ha compared to the regional average of 0.70 ton per ha. Substantial scope clearly exists for increasing crop yields and crop production through use of improved agricultural technology as well as through an increase in cultivated area. This will require the use of animal traction, mechanisation, adoption of improved agronomic practices, improvements in soil fertility, use of modern agricultural inputs, increased cropped area under irrigation, and dissemination of agricultural knowledge to farmers. In addition, there is substantial scope for a value chain approach, strengthening market linkages, improving commercialisation, and building agribusiness facilities through local entrepreneurs.

11. The livestock subsector, which is an important source of livelihood for the southern provinces, was the most affected by the drought. The prolonged droughts resulted in lack of adequate pasture and reduced availability of water thus animal health conditions were adversely affected particularly through increased vulnerability to disease. Transhumance livestock migrations started earlier and lasted for longer periods of time to provide adequate feed and water for livestock. These migration patterns impeded the participation of herders in the national vaccination campaigns both in 2012 and 2013, which increased the risk of exposure to disease. An outbreak of the Foot and Mouth disease worsened the livestock health conditions in 2015.

12. The smallholder response to droughts is usually resorting to alternative sources of food and income, such as producing and selling charcoal, gathering wild food for consumption and sale, fishing, and selling other forest products for income to purchase food. These typical coping strategies for the lean season have intensified and are being practiced for longer periods, adding pressure on highly stressed environmental resources. Intensification of charcoal production increases the deforestation rate and reduces soil moisture retention capacity and, thus, accelerates soil degradation and reduces the carbon sequestration capacity of local forests.

13. The recovery process from the recurrent droughts, which had cumulative adverse impacts on agricultural based livelihoods provides opportunities for strengthening the disaster risk management capacity of the smallholders and building back better through improved and more sustainable coping strategies. The opportunities lie in supporting alternative livelihoods that promote sustainable natural resource management as coping strategies and climate resilient agricultural practices using improved inputs as well implementing measures that help to reduce future disaster risks. The improved inputs, such as drought tolerant seed varieties and crops that are suitable to the local conditions, can be disseminated. In addition, the smallholders can be equipped with skills to improve their agricultural productivity, such as soil fertility management, soil and water conservation techniques among others. The key constraint of water resources availability also needs to be addressed as a critical element of recovery through dissemination of water harvesting techniques, rehabilitation of existing water points and improved capacity to manage these or newly constructed sites. The skill sets of the officers that provide support and advisory services to the smallholders also need to be improved.

C. Relevant Policy and Institutional Issues

14. The 2015-16 El Niño event resulted in the worst drought for most of the southern African countries in over three decades. The effect on food security was catastrophic for millions of the region's population, in addition to wider humanitarian needs due to water scarcity, including impacts on access to water resources, sanitation, education, health services and status of livelihoods. The recurrent droughts since 2011-12 resulted in the decline in agricultural production, thus increasing poverty levels, particularly in the rural areas where populations are dependent on rain-fed agriculture, compromising the earlier developmental gains. Though the full impact is yet to be assessed, the Regional Inter-Agency Standing Committee (RIASCO) that developed the response plan for the El Niño-induced drought in Southern Africa (May 2016 - April 2017) concluded that some farmers are likely to abandon their land, leading to increased migration from rural to urban areas and cross-border movement for people in search of food and livelihood opportunities.

15. In Angola, the 2015 El Niño-induced drought affected 1.5 million people and 1.2 million in 2016, specifically in the southern regions (National Civil Protection National Committee (CNPC)). The CNPC coordinated the drought Post-Disaster Needs Assessment (PDNA) conducted in July 2016 as the

agency with the mandate for disaster preparedness and response. This is in line with the existing institutional framework through which the GoA recently approved the Plan of Readiness, Contingency, Response and Recovery from Calamities and Disasters, as well as the Strategic Plan for Prevention and Disaster Risk Reduction. However, recognising the negative impact on rural livelihoods of recurring droughts and intermittent floods as a result of the El Niño and La Niña climate events, the PDNA will be followed by a Resilience Building Framework to be developed in 2017. The Resilience Building Framework will build on existing legislation processes for land use zoning to incorporate disaster risk.

16. The PDNA was developed by an Inter-ministerial task force responsible for national preparedness and response to new disasters. The task force includes the Ministry of Social Affairs and Reintegration, which is responsible for responding to the most vulnerable population falling within the high levels of poverty bracket. Given the impact on food security, the Office of Food Security (Gabinete de Segurança Alimentar (GSA)) within the Ministry of Agriculture (MINAGRI) plays a key role in the task force, in cognisance of their mandate for monitoring levels of food security. There may be a need to further consolidate the regulatory framework through the development of a national drought policy. The United Nations Convention to Combat Desertification (UNCCD) is providing support to several countries interested in promulgating national drought policies.

D. Climate Change

17. Climate models predict Angola will experience higher temperatures (1.2 to 3.2°C by the 2060s), more extreme weather events, an expansion of arid and semi-arid regions, seasonal shifts in rainfall, localised floods, increased wildfires, sea level rise, increased rainfall in the northern parts of the country, changes in river flows as well as changes in sea and lake temperatures (NAPA, 2011). The agriculture sector is particularly vulnerable to the impacts of hazards such as drought and flood, as well as changes in the onset and duration of the growing season. Other possible changes are likely to include reduced duration of the growing season in southern and coastal regions, and a shift from two growing seasons to one in the northern regions (Lotz-Sistika and Urquhart, 2014). Potential impacts include: crop failures due to heat and drought stress, production losses due to unpredictable onset of rains, reduced planting area due to consumption of seed stores, and increased susceptibility to pests and disease. These are expected to adversely affect productivity as most of the agricultural production is rain-fed.

Appendix 2: Poverty, Targeting and Gender

A. Poverty

1. Between 2002 (when the civil war ended) and 2014, the growth of real gross national income (GNI) per capita increased from US\$2,900 to US\$6,800, largely led by oil production. On the average, the oil sector represents about 47% of the country's Gross Domestic Product (GDP) and accounts for about 98% of the country's total exports. However, the country is currently experiencing a major financial crisis, mainly due to declining world market oil prices, which fell by two-thirds in 2015.

2. Since the end of the civil war, social indicators have generally improved, though at a pace slower than that of the economy at large. There is still a large gap between income per capita and other welfare indicators such as poverty rates, life expectancy, educational attainment or access to water and basic sanitation.

3. According to the United Nations Development Programme (UNDP) 2015 Human Development Report (HDR), the country's Human Development Index (HDI) increased by about 36% between 2000 and 2014. However, the country continues to be in the low human development category as it ranks 149 out of 188 countries and territories (HDR, 2015). Over the same period, life expectancy at birth increased from about 45 years to about 52 years and expected years of schooling increased from about 5.5 years to 11.4 years.

4. Although the national poverty rate has declined sharply (62% in 2001 down to 37% in 2009), the contrast at national/provincial and rural/urban levels is clear. Poverty remains high and is more severe and widespread in rural areas, at about 58%, than urban areas, 19%. It also varies across the country, surpassing 50% in the east and centre regions (including Cuanza Sul). The poverty rate increases with the head of household's age and decreases with his/her level of education. Poverty is greater in female-headed households, particularly in rural areas. Many women are de facto heads of households because they are members of polygamous households, or because of male labour migration. The latest census (2014) estimates that 38% households are headed by women, and they form the majority of the households living in poverty. The country's poverty situation affects a large number of the population; many lack access to basic services, such as potable water, energy and sanitation. With the oil price crisis striking Angola, the country's economy suffered a major reversal in its growth pattern, leading to scarcity of foreign currency, devaluation of national currency and inflationary pressures. This has led to rising prices for consumables and decreasing the most economically and socially disadvantaged households' access to essential consumer goods. Given their socio-economic characteristics and years of recurring droughts, the Project's target provinces have tended to feel the impact of the worsening macroeconomic crisis more since their productive capacity was seriously eroded by the droughts.

5. The country has a Gini coefficient²⁶ of 0.55; hence the high inequality. It is estimated that, the country's richest 20% of the population receive 59% of all incomes; the poorest 20% receive only 3%. A high level of inequality, between households and between regions, presents serious challenges for poverty reduction.

B. Women and Youth

6. While efforts have been made to reach gender parity in net enrolment for primary schooling, girls continue to have less access to secondary education. Illiteracy rates are substantially higher in women (47%) than among men (20%). The increase in primary school coverage and efforts to reach gender parity in school enrolment since the end of the war have contributed to reduce this rate to 30% among young women (15-24 years old). Despite these efforts, two million children are still outside the school system and girls continue to have less access to secondary education, vocational training and higher education.

7. The combination of limited access to formal vocational training and higher education opportunities strongly condition women's reduced income levels as such circumstances relegate them

²⁶The Gini coefficient is a measure of inequality; it ranges from 0 to 1. The lower the Gini coefficient the lower the inequalities

to sectors such as subsistence agriculture and informal trade. Women and men participate in unequal terms in the management and control over assets and in decision-making, both at household and community level. Over 23% of households are women headed households. Angola is signatory to all major international and regional conventions and protocols relevant for the advancement of women's rights and elimination of all types of violence against women. The Ministry of Family Affairs and for the Promotion of Women (MINFAMU) developed the National Gender Policy and Implementation Strategy. Despite the approval of the Family Law and the Law Criminalising Domestic Violence, the use of customary law, strongly favouring men, is still widespread.

8. The Angolan Government defines youth as people aged 15 to 35. The youth represent about a third of all citizens in the country (32.4%). Migration levels among youth peaks at 24.5% for the age group between 25 and 35 years. The youth in rural areas are faced with the challenge of wanting to explore alternative livelihood opportunities to subsistence farming while having little formal training to equip them to face the labour market. School completion rates decrease after the primary level and progressively drop along the education pathway. Poverty is lower among the 15 – 35 year old range group than any other age group. Most households are youth headed, growing in size progressively with age. It is more frequent for the youth aged 20 – 24 years to have more than one sexual partner, placing this particular group, their partners and their unborn children at greater risk of HIV. This same group reported to have the highest level of knowledge on HIV/AIDS.

C. Project Area and Target Group

9. **Project Area** – ARP focus area will comprise eight municipalities from three provinces – Benguela, Cunene and Huila. The three provinces are situated in the southwestern Angola and have suffered repeated droughts during the period 2011-16; the situation was exacerbated by the *El Niño* phenomenon that hit the region during the same period. More recently, the provinces have experienced the opposite extreme condition, *La Nina*, characterised by localised flooding. This situation has accentuated the fragility of the area's population that lives, primarily, on agricultural and livestock production. About 755,930 people in Cunene, 205,507 in Huila and 273,000 in Benguela were affected by the droughts. It has aggravated the social, economic and environmental conditions of the region and its population. It contributed to increased malnutrition cases, family abandonment, domestic violence, loss of income, increased deforestation and reduction of the already scarce water resources. Access to water, sanitation and electricity is extremely poor. In Cunene only 11% of households have sanitation and electricity and 23% have access to drinking water; in Huila, 26% of the households have sanitation, 16% have access to electricity and 35% have access to drinking water. In Benguela 22% of the households have access to drinking water, 25% have access to electricity and 32% of the households have sanitation.

10. GoA (through the leadership of the National Commission for Civil Protection (CNPC)), the United Nations, European Union and the World Bank undertook a post-disaster assessment and provided recommendations for an immediate response. This work was complemented by other mission assessments carried out by FAO and the MOH-DNSP and confirming the seriousness of this acute and chronic situation. In 2016, a UN team of OCHA, RCO, WHO, UNICEF and FAO also visited the affected regions and confirmed the need of a humanitarian intervention in support of the Government of Angola. Additional information on the three target provinces is provided hereunder.

11. **Benguela Province** – The 2014 Census indicates that about 2.23 million people live in the Benguela Province, 1.06 million (47% of the total) and 1.18 females (53% of the total). Unlike the Provinces of Cunene and Huila, the Benguela population is predominantly urban (about 63. % versus 37% rural population).

12. The Municipality of Benguela is the most populated, consisting of 25% of the Province's population, followed by the Municipalities of Lobito (16%), Cubal (14%) and Ganda (11%). These four Municipalities together account for 66% of the Province's resident population. The Municipality of Chongoroi averages 81,467 inhabitants (4% of the resident population of the Province).

13. Proximity to the *Benguela Cold Current* (an oceanographic phenomenon consisting of the rise of deep waters – rich in nutrients – towards shallower ocean regions that attracts many shoals and thus enables very profitable catches, in *PNUB, 2015*) has created ideal conditions for large-scale fish capture and an overall abundance of fish.

14. There are currently 268 fishing vessels in the Province, catching about 80,000 tonnes of fish – mainly sardines (about 52,000 tonnes) and horse mackerels (about 13 500 tonnes). This accounts for close to a quarter of the total country catches (*Ceso 2015*). However, the overall majority of artisanal vessels are not motorized and are therefore limited to the near coastal zone with an obvious loss to their productivity.

15. The production of sea salt is another activity undertaken throughout the Province's seaside areas but has not earned any particular attention from Provincial Government or other promoters/investors. The productive process is a traditional and labour-intensive one, employing a large number of workers, mostly women.

16. With regard to agricultural activity, and despite very favourable climatic and soil conditions, the sector is poorly developed and needs much further technological advancements to better profit from proper land preparation, harvesting and industrialization – the same can be said of livestock related activities.

17. These weaknesses are highlighted in the *Strategic Development Plan for the Province* that acknowledges that, despite inputs and equipment supply to the population working in agricultural or livestock on a recurring basis, the lack of a technical assistance system and other structured support has not led to the desired results.

18. Agriculture is being done in a traditional way and output is for household consumption needs; some occasional surplus gets sold at local markets. The same applies to cattle raising as veterinarian support and knowledge of pasture optimization are scarce. All these factors have kept productivity very low.

19. **Cunene Province** – According to the 2014 Census, the population of Cunene is about 965,288 people; about 450,814 male (47%) and 514,474 female (53%), the majority of which are located in rural areas. The Province also has a young age structure (56% of the resident population is under 20 years of age). With regard to literacy, 513,374 (53%) of the Province's residents do not know how to read or write, the majority being women (55%), compared to 45% men.

20. Agriculture is essentially undertaken at a subsistence level by small traditional family-type farmers, is rain-fed, productivity is low and the resultant harvests are small. The situation is made worse by the recurring droughts since 2012 and the fact that water reservoir infrastructures are almost non-existent (from *Development Plan for the Cunene Province*).

21. Cereals are the main crop of the region, with a predominance of species that are more tolerant to drought or irregular rainfall, namely millet (*massango*) and sorghum (*massambala*); these are more prominent in areas with lesser rainfall. Corn and bean production are more viable in areas with higher rainfall or where irrigation systems exist. The produce is primarily for home consumption; any production surplus, if at all, is sold on the informal markets to supplement family income.

22. **Huíla Province** – The 2014 Census puts the Huíla population at about 2.5 million people reside in the Province of Huíla – 1.17 million (47%) being males and about 1.32 million (53%) females. About 69% of the population live in rural areas while 18% of the population are 15 to 24 years old (of which about 204,752 are males and 234,756 females).

23. Agriculture, including livestock, plays a prominent role in the socio-economic lives of the population; it is the community's main source of income. However, agriculture is at the subsistence level, undertaken by small-scale farmers, rain-fed and characterised with low productivity. Like in Cunene, Huíla's low productivity is exacerbated by the recurring droughts.

24. The soil and climatic characteristics of the Province have led to the development of a multi-purpose and diversified agriculture. Corn, millet (*massango*) and sorghum (*massambala*) are the main crops, representing more than 90% of the Province's cultivated area (*Development Plan for the Huíla Province*). There has been practically no variation of plantation types over the years.

25. In some of the provincial municipalities, agriculture is done along the rivers and main waterlines, aiming to use naturally drained and more fertile soils. In some of these provinces, the exploitation of dry farming is unfeasible due to the irregularity of rainfall – except in the north, where rivers carry enough water to feed a number of dams. The main crops in this area are corn, beans, sweet potatoes, horticulture, millet and sorghum.

26. In some of the provincial municipalities, the climate is semi-arid with very limited availability surface water resources - to such an extent that droughts totally break down the flow of the main rivers. The way of life of the population is essentially focused on livestock. Dry farming is almost a marginal activity, confined to limiting the small plots that surround dwellings and is based on the cultivation of drought tolerant cereals, such as millet and sorghum. Corn is kept for the heaviest lands (CESO, 2015).

27. In general, livestock rearing is one of the main activities and sources of income in the Province, with cattle and small ruminants (goats and sheep) accounting for more than half of the Province's total production; cattle represents 44% of livestock production. However, pigs and poultry production is significant and cannot be disregarded, especially at a household level, in terms of production for self-consumption (*Development Plan for the Huíla Province*). More importantly, pigs and poultry are mainly owned by women, hence investing in them can be a gender improvement strategy.

28. The main constraints and difficulties encountered by the small-scale livestock producers in the Province are water supply, the absence of veterinary services, adequate pasture management and difficulties in commercializing livestock.

29. Livestock production in the region is based on natural pastures and although grassland capacity varies from one region to another (depending on the level of rainfall, type of soil and vegetation), it is clear that enlarging the size of herds in an attempt to raise income leads to the degradation of pastures. This activity is strongly affected by severe and recurring droughts that lead to large losses in the sector.

30. **Target Group** – The core ARP target group will comprise 8,000 households from eight municipalities; they will primarily be low-income households that work in farming or pastoralism and/or are members of Farmer Field Schools (FFSs). The average household size is 6; hence the project aims at reaching at least 48,000 people (8,000 households x 6). Many of the target households have benefited/are benefiting from the emergency interventions (such as the Land Rehabilitation and Pasture Management in Agro-Pastoral Production Systems of Small-Scale Producers of Southwest Angola (RETESA); it is being supported by the Global Environment Facility (GEF) and the Central Emergency Response Fund (CERF) (supported by several UN agencies – UNICEF, WHO and FAO), mostly implemented by FAO using the FFS approach. As stipulated in Section III. A. Approach, ARP interventions will build on the work done by the emergency programmes. In some of the cases, ARP will fill in some of the identified gaps while, in other cases, it will try to reach some of the areas not reached by the emergency programmes. Support will be provided to strengthen the FFSs that have been set up by the emergency programmes so that the beneficiary households can complete their transition from emergency to recovery and also establish new schools where the potential exists. ARP will set up new FFSs in the vicinity of those previously established to form clusters that would provide benefits in management and supervision.

31. Of the primary target group, women, in particular heads of households, will account for at least 30% and the youth (between 18 years and 35 years old) for 30%. Women are socially, culturally and economically disadvantaged and yet they are responsible for ensuring the well-being of their families by securing the greater part of the family income, mostly from agricultural activities. Therefore, they get disproportionately affected by weather-related shocks. Youth are also an important segment of the population and will require special attention. Lack of opportunities in rural areas leads to the migration of many young people to the main urban centres. To respond to this situation and offer young people (who want to dedicate themselves to agricultural activities and remain in the rural environment) real opportunities, the Project will provide specialized technical training for specific income generating activities, such as apiculture.

32. There is a secondary target group of the Project that includes the public sector (IDA technical staff), Community-Based Organisations (CBOs), and some community members/farmers that will be key for the successful implementation of the Project. This secondary target group will be provided with, *inter alia*, capacity building (training, improved mobility, etc.) which will, in turn, enable them to be of effective service to the Project.

33. **Targeting Strategy** – The Project will use three targeting mechanisms to ensure that the desiring communes and households are duly reached. These will include: a) geographical targeting; b) self-targeting; and c) empowering measures.

34. **Geographical Targeting** – Within the targeted municipalities, the Project will seek to reach the appropriate communes. The main selection criteria will include: a) communes most affected by the drought; b) communes participating in the emergency programmes and ARP interventions would facilitate the target beneficiaries to transition to the recovery phase; c) communes with a high population density; and d) communes with geographical contiguity to maximise efficiency of Project operations.

35. **Self-Targeting** – This will be used mostly with regard to the additional reach to community members that are members of the FFS and those that are non-members and therefore have not received input packages. Awareness creation will be made where households will be informed of the available alternatives with regard to the different crop and livestock based packages. After receiving information on the different alternatives, qualifying households in the targeted municipalities and communes will choose the preferred alternatives. Where needed, capacity building will be provided to equip the households with the required skills to effectively make use of the selected packages.

36. **Empowering Measures** – Within the selected municipalities and communes, the Project will promote the participation of women, youth and poor smallholder farmers by using empowerment and capacity building measures to encourage their participation. Empowering measures will include: a) information and mobilisation campaigns using local information meetings; b) inclusive FFSs; c) a broad range of skills training activities; and d) monitoring of inclusiveness of women and youth. These empowering and capacity building programmes will provide the women, youth and poor smallholder farmer households with the necessary knowledge, skills and assets necessary to recover from years of recurring drought and improve their livelihoods.

37. **Beneficiary Selection Criteria** – ARP beneficiaries will mainly be selected from the group that has been participating in the different emergency programmes in the Project area. The FFS members will be provided with packages for the household level based on the previous assets they possessed and a needs assessment to be undertaken in the initial phase of the project. For those that are non-FFS members' transparency in their selection will be ensured by involving local leadership and local influential persons in the community in selecting Project beneficiary households and communes. An initial identification of households requiring packages has already been done through Provincial and Municipal structures, which will be validated. Following hereunder is a summary some of the criteria that will be used in the selection of Project beneficiary households and communes: a) communes within the target municipalities most affected by the drought; b) most vulnerable (economically and socially) households that have not received input packages from other programmes; c) households with signs of mal-nutrition; d) size of the households; e) female-headed households; f) youth that are not integrated in the schooling system; and g) youths that are unemployed.

Attachment 1: Gender checklist

Criteria	Design
1. The project design report contains – and project implementation is based on - gender-disaggregated poverty data and an analysis of gender differences in the activities or sectors concerned, as well as an analysis of each project activity from the gender perspective to address any unintentional barriers to women's participation.	Yes. A gender poverty national assessment (appendix 2) was made. Women are one of the primary target groups. The project will offer opportunities to empower women by means of giving them support to access assets for agriculture related activities. Women participation in ARP activities will be monitored and gender training for Project implementers provided to ensure implementation effectiveness. Empowerment methods were taken into consideration.
2. The project design report articulates – or the project implements – actions with aim to: Expand women's economic empowerment through access to and control over productive and household assets.	Empowering measures to promote women are a part of the project implementation. Through local meetings, women will engage in all activities and trainings proposed by ARP project - means of information and mobilisation campaigns, ensuring FFSs will be inclusive, delivering skill training activities and monitoring the inclusiveness of women. These empowering and capacity building activities will provide women with the necessary knowledge, skills and assets required to improve their livelihoods.
Strengthen women's decision-making role in the household and community, and their representation in membership and leadership of local institutions.	The ARP will promote approaches intensifying impact by strengthening communication and win-win collaboration between vulnerable and more powerful actors, including action-learning exercises with different stakeholder groups (e.g. male and female farmers) at both individual and collective levels.
Achieve a reduced workload and an equitable workload balance between women and men.	Management of activities and community-based planning proposed by ARP will encourage the use of labour-saving technologies. The FFS programmes will include gender discussions to stimulate debates at household level regarding workloads that are expected to result in a more equitable allocation of tasks between household members.
3. The project design report includes one paragraph in the targeting section that explains what the project will deliver from a gender perspective.	Yes. The gender strategy is reported in the PDR and will be put into action by engaging women in all proposed activities and training and by supporting women to access assets, training and input packages provided by ARP.
4. The project design report describes the key elements for operationalizing the gender strategy, with respect to the relevant project components.	Key elements of operationalizing the gender strategy are described in PDR and shall be enforced by supporting women to: 1) become members of FFSs; 2) enhance their skills in agricultural practices like poultry rearing, apiculture and crop production; 4) comprise at least 30% of FFSs decision-making structures and 5) improve their knowledge on nutrition-sensitive agriculture.
5. The design document describes - and the project implements - operational measures to ensure gender-equitable participation in, and benefit from, project activities. These will generally include:	

<p><i>5.1 Allocating adequate human and financial resources to implement the gender strategy.</i></p>	<p>The ARP will be implemented at the Provincial and Municipality level through the officials in the Governorates, which include the Ministry of Family Affairs and for the Promotion of Women. Resources have been allocated for the engagement and participation of the focal points from the Ministry in the selection of beneficiaries and providing technical support to the implementation of activities. These focal points will work closely with the facilitators of the FFS and social mobilisers. This will ensure the implementation of the gender strategy.</p>
<p><i>5.2 Ensuring and supporting women's active participation in project-related activities, decision-making bodies and committees, including setting specific targets for participation.</i></p>	<p>Women, as one of the primary target groups, will account for at least 30% of the target group. The Project will promote the participation of women by using empowerment and capacity building measures to encourage their participation in project activities. This will be achieved throughout mobilization and sensitization of the communities at project beginning. Women should constitute, at least, 30% of FFs decision making structures.</p>
<p><i>5.3 Ensuring that project/programme management arrangements (composition of the project management unit/programme coordination unit, project terms of reference for staff and implementing partners, etc.) reflect attention to gender equality and women's empowerment concerns.</i></p>	<p>The ARP is aligned with IFAD's Targeting Policy – Reaching the Poor (2010). Target groups have been defined; a targeting strategy developed and means of operationalizing that strategy integrated into Project design and implementation activities. ARP is also in line with IFAD's policies for Gender Equality and Women's Empowerment. Measures are included to ensure that women benefit from Project interventions that will lead to their empowerment.</p>
<p><i>5.4 Identifying opportunities to support strategic partnerships with government and others development organizations for networking and policy dialogue.</i></p>	<p>IDA, Community-Based Organisations (CBOs), and some community members/farmers will be key partners for a Project successful implementation. ARP will provide these structures with, <i>inter alia</i>, capacity building and gender action learning – training, improved mobility – so they can become a network capable of generating a strategic target aimed dialogue amongst them.</p>
<p>6. The project's logical framework, M&E, MIS and learning systems specify in design – and project M&E unit collects, analyses and interprets sex- and age-disaggregated performance and impact data, including specific indicators on gender equality and women's empowerment.</p>	<p>A baseline survey will be undertaken during the first Project year to benchmark the existing situation in the Project Area and to identify gender issues and gaps so that these can be addressed.</p>

Appendix 3: Country Performance and Lessons Learned

A. Country Performance

1. IFAD has been working in Angola since 1991, beginning with the Fund's first project, Malanje Smallholder Sector Rehabilitation Project. After the signing of the Lusaka Peace Accord in November 1994, IFAD began formulating new projects. At the time of the preparation of the Country Strategic Opportunities Paper (COSOP) in 1994, there were two active loan-funded projects, the Northern Region Food Crops Development Project (PRODECA) and the Northern Fishing Communities Development Programme (PESNORTE). PESNORTE became effective in 1999. However, with the new outbreak of war in late 1998, it was impossible to work in the field and operations all but ceased. When the war ended in early 2002 and the security situation improved and the project area became accessible again, project objectives were re-evaluated and judged to still be valid. The implementation period was subsequently extended to the end of 2007, providing valuable operational lessons to be applied in future lending programmes. Following the preparation of the COSOP, a new project, the Market Oriented Smallholder Agriculture Project (MOSAP), was formulated by the World Bank for an amount of USD 49.5 million to be co-financed by IFAD with a loan of USD 8.5 million and became effective in 2009. MOSAP implementation fell behind schedule early on, with field activities having started only around mid-2012, some 2.5 years after effectiveness. This delay was attributed to the difficulties in recruiting and retaining project staff, as well as extremely limited capacity in the Ministry of Agriculture to guide, manage and monitor the project. But after a project restructuring and after the recruitment of FAO to run a smallholder farmer education program ("Farmer Field Schools", FFS), project implementation accelerated and by the project closing date in March 2016, 91% of IFAD funds had been disbursed and results in terms of smallholder farmer adoption of improved technologies were highly encouraging. The Angola Fisheries and Aquaculture Project (AFAP) recently became effective, more than a year after IFAD approval and the Smallholder Agriculture Development and Commercialisation Project in Cuanza Sul and Huila Provinces (SADCP-C&H-SAMAP) was approved by the IFAD Executive Board of April 2017 and is expected to start implementation in 2017.

B. Lessons Learned

2. Some lessons learnt from previous interventions, albeit not specifically from IFAD operations in Angola but more from the regional recovery interventions have been used to inform the design of the ARP; they will also be used during implementation. These lessons include: a) ensuring the effectiveness of assistance through improved information flow to avoid duplication or overlapping of coverage areas; b) the need to establish linkages with public agencies and private sector organizations; c) the needs assessment should be done in stages to identify what parts of the country are more affected and thereafter the specific needs within target communities, and selection of household beneficiaries in these communities; d) the critical steps to establish a procedure to identify beneficiary households and involving the local community in the selection process; e) developing the input packages (including farm power considerations) and ensuring timely distribution; f) use of market oriented strategies for input distribution; g) to support the rapid and efficient implementation of early recovery activities, field supervision/monitoring needs to be strengthened, particularly during the initial period; and h) ensure that capacity is built at the local level for reporting on progress related to early recovery activities.

3. Some other lessons generated from IFAD's experience in the country, though not specifically recovery-intervention related, have guided ARP design and will be used during implementation. These include: a) The FFS approach to agricultural extension is very effective in enhancing smallholder farmers' capacity to adopt improved agricultural practices and technology; b) the use of service providers for activities that are outside the core competences of the Government contributes to greater efficiency in the implementation of activities as well as greater effectiveness in the achievement of project results; and c) involvement of local authorities at the provincial, municipal and communal levels in the monitoring of project activities facilitates local coordination and contributes to a successful project implementation.

Appendix 4: Detailed Project Description

1. The Project goal is to contribute to “improved food and nutrition security of targeted communities”. This underlines the central importance of ensuring food and nutrition security of the target beneficiaries as a prerequisite to enable them to ably and actively participate in development activities. The Project’s Development Objective is the “restoration of productive assets and capacity of households affected by recurrent droughts”. This is to be achieved through the provision of agricultural and livestock support packages that include both inputs and technical capacity building, and construction of basic supporting infrastructure.

2. **Components and Activities** – ARP’s development objective will be achieved through the effective implementation of one technical component (Sustainable Livelihoods Recovery) with three complementary and mutually reinforcing subcomponents: a) Recovery of Household Productive Assets; b) Recovery of Community Productive Assets; and c) Capacity Building. It should be noted that, by virtue of the target area’s climatic conditions, droughts and floods will reoccur. Therefore, while Subcomponent 1.1 will facilitate production restoration, Subcomponents 1.2 and 1.3 will enable the target households and communities to achieve full recovery and also enhance their risk management capacity; this will make them less dependent on emergency interventions. The second component is Project Coordination and Management, a cross-cutting component that will service all three technical subcomponents through effective overall coordination and management.

3. **Component 1: Sustainable Livelihoods Recovery** –This component aims to restore the productive asset potential of the targeted communities and households in selected municipalities of the three target Provinces. This will be done through Interventions aimed at strengthening the community and household productive infrastructure whilst supporting the development and diversification of rural livelihoods. These interventions will be implemented through the Farmer Field School modality for organizational development, extension and training. The component is expected to augment recovery of the drought affected target households building on the emergency operations conducted by government and Development Partners. The expected outcome is ‘enhanced recovery of the target households’ crop and livestock production capacity in the target provinces’. The associated subcomponents and activities are described in the paragraphs that follow.

4. **Subcomponent 1.1 Recovery of Household Productive Assets** – This subcomponent aims at addressing the needs of farm households at community level – members of existing and new Farmer Field Schools and other vulnerable households that are not e-FFS members. On-farm productivity will be enhanced under rain-fed crop and livestock systems (integrated systems) and livelihoods developed, and diversified through the introduction of small livestock and off farm activities. These household interventions will be accompanied by capacity building of beneficiaries and institutional stakeholders to ensure sustainability of activities (Subcomponent 1.3). Two generalised household packages are proposed to address food security and diversify household livelihoods: a) a crop based package for farm households comprising a choice of inputs from cereal seed (maize, millet), cassava, sweet potato, seedlings, bean seed, and hand implements (hoe, pale, spade etc.); and b) livestock based packages for improved food security and livelihood diversification. The expected outcome is restoration of their assets base, improved food security through increased on-farm productivity. Packages on offer are elaborated in the proceeding paragraphs.

5. **Crop Based Packages** – Smallholders in the Project area use local crop varieties, produce no cash crops, do not use purchased inputs and produce only 35 - 40% of their food requirements. The Project will redress these food security issues by enhancing the production and sales of staple food surpluses including maize and millet, whilst diversifying the rain-fed system and household diets by including cassava, sweet potato and beans. Cassava has already been introduced to the Project area as a new crop with potential for improved nutrition and utilisation as a value adding activity. The Project will diversify the cropping system in order to diminish the risk of crop failure. Implementation of this activity will involve offering a food security package to vulnerable households as a ‘one shot’ recovery intervention. Under the model, the pack comprises a choice of inputs that include 25 kg of NPK (sufficient for 0.25 ha), with maize, millet and bean seeds, cassava and sweet potato cuttings and hand tools. The package is intended to ensure that farmers obtain the production potential of improved seeds on a sustainable basis, while benefitting from the fertiliser response. It has been

estimated that in a normal rainfall year, this technology package would yield around 550 kg of maize per ha. Thus beneficiary farmers would produce an extra 100 kg maize on average. The yield of beans is expected to increase from 230 kg/ ha to over 320 kg/ ha as a result of the package. The total project contribution per household will not exceed US\$165. A target of 5,000 households has been set to receive the crop based package.

The package will be accompanied with extension advice through the FFS on minimum tillage and intercropping with legumes.²⁷ The area of cereals will be reduced whilst expanding into areas planted with locally appropriate mixes of cassava, sweet potato and field beans. The climate resilient crop production system will be complemented by the sustainable land management practices described under Subcomponent 1.2. Attention will be given to integrate cassava into the cropping system and for smallholders to view the crop as a source of nutrition and potential value addition²⁸. Other crop based packages could include seed multiplication, agro-processing, compost making, selling of fodder, group nurseries from seeding multiplication and sale. Value addition activities, such as food preservation and drying will also be considered.

6. **Livestock-based packages** – The objective of the livestock based packages is to help rebuild their assets, or to build new livestock assets as a means to secure their household livelihoods. Individual farm households and groups will be eligible for assistance from the Project to develop and diversify their livelihoods through a range of livestock based packages that include poultry, goats and sheep, pig, as a general strategy as well as apiculture and aquaculture in specific locations where suitable.. For the more vulnerable households with restricted access to land, or limited opportunities to support themselves, the basic package will provide an essential safety net.

7. Small stock (local chickens, pigs, goats and sheep) are found around the farm homesteads for a dual purpose of providing animal protein and easy liquidation to access cash for household needs. Interventions, such as poultry (free-range local chicken), and goat and sheep rearing and fattening will be undertaken as enterprise diversifying and risk reducing strategies. The packages will utilize the genetic potential of local breeds upgrading them through minor improvements in feeding. In some situations, the very vulnerable households will be introduced to the small species for the first time so the programme will be accompanied by a support package that includes training for beneficiaries in livestock management.²⁹

8. Communities will be informed, through awareness creation campaigns, about the possible 'menu' of options and the associated Terms of Partnership for each activity. By offering the farm households a choice of livestock opportunities, households will be able to select an activity that matches existing skills, resources and needs. Possible activities include small livestock and apiculture and a range of other livelihood options described in the proceeding paragraphs. Funds have been set aside to sub-contract local NGOs to oversee implementation of the livestock based activities. The livestock package will target 2,000 households³⁰.

9. *Free-range Poultry*³¹ - A free-range poultry package has been designed to target women and in particular women headed households with limited access to labour as the animals require minimum maintenance and have a short reproductive cycle. The poultry package will be offered to around 1,500 households. The package will consist of 15 hens or pullets (coming into lay) with one cockerel. In some cases, younger birds (up to one month of age) will be distributed and these could be a mixture

²⁷Emphasis will be placed on developing the "food security crops" as intercrops or pure stand. The package will include bio-fortified varieties of sweet potatoes wherever available (with high levels of β -carotene) and high iron bean varieties that have been bred through conventional means. Opportunities to improve its use in food security exist by promoting 'sweet' varieties offering edible tops (protein) and good tuber yields (energy, β -carotene) of manageable size.

²⁸ The use of appropriate crop varieties and more resilient production systems (e.g. through better soil, water and nutrient management) can significantly reduce production risks and household vulnerability in drought years. .

²⁹ Local breeds will be distributed through the programme as they are better adapted to local conditions, traditional management practices and feed availability and are likely to be more resistant to local diseases. They are also the breeds that the beneficiaries are familiar with.

³⁰The scavenging poultry and goat/ sheep packages consist of an 80% grant with a household contribution of cash, feed, water and fencing/ housing

³¹The free-range poultry activity has been estimated at around \$180, with a package comprised of 15 hens and 1 cock.

of male and female birds with the males consumed or sold for meat. The poultry package includes an initial stock of birds plus a starter kit consisting of feed (especially where young and growing stock are involved). The package will include a limited provision of supplementary feed, to cover periods of feed shortage and reduced scavengeable resources, as a safety buffer. Feed shortages occur regularly at certain times of the year, either during the dry season. A regular supply of feed, over and above maintenance requirements, is essential to maintain productivity in the poultry system. It is expected that locally available feed resources will be used from the by-products of crops found locally. Feed sources will include household kitchen waste; grains and grain by-products; roots and tubers; leaves of trees, shrubs. Feed energy sources in the project area include cassava and sweet potato. A cafeteria feeding system will be followed which gives poultry the opportunity to select nutrients according to their physiological demands. The package will be supported by vaccination for Newcastle disease, improved feeding systems, and regular provision of water in order to enhance production³².³³ The beneficiary households will be required to ensure provision of adequate housing for the poultry as part of their counterpart contribution to the Project. The poultry package will be provided as a grant. The other livestock packages will be offered as a loan/ multiplier system with repayment in cash or kind.

10. *Goats, sheep, and pigs:* Interventions on goats, sheep and pig will target all households but with a particular focus on women, women headed households and the most vulnerable. Free range goat rearing is a common activity but a broader range of options will be made available that include breeding and fattening³⁴. The sheep and goats will be earmarked for families that have some labour and access to grazing land.

11. In all cases the livestock and crop based packages and support for off-farm activities will not exceed a financial ceiling of US\$180 per household. Recipient households may decide to come together as a group for ease of implementation. For goat and pig rearing and fattening schemes the livestock recipients may be organised into small groups of 5-15 households in order to participate in a pass-on scheme which will strengthen social bonds between member households with peer pressures used to ensure that Project rules are followed.³⁵

12. **Apiculture** – Honey is in high demand and a valuable nutrient. The Department of Forestry has prioritized apiculture and has initiated a programme targeting the southern provinces to develop the sector further, focusing on Lubango in Huila province, Namibe (along the Belo river) and Cunene where there are plans to set up an apiculture school. This government programme, supported by FAO, aims at organizing farm households into units of 100 and providing each household with between 10-30 hives. The ARP intervention, under apiculture, will include the provision of a protection kit, smoker and barrel filter and bottle, estimated at around \$250 per HH^{36 37}. A processing unit will be installed for each 100 households and it includes a honey manual radial extractor, a press, a filter and metallic tins with covers Cuvelai Municipality, in Cunene Province in particular, has been identified as having great potential. A total of 550 households will be targeted to benefit from this intervention in those areas of Cunene and Huila where the potential for apiculture exists.

13. **Aquaculture** – Aquaculture (including Spirulina algae production) will be encouraged where perennial water sources are available.

³² Vaccines against Newcastle disease are available locally and of good quality. They can be purchased locally but quality assurance is needed and the approval of local veterinary expertise. The vaccines need to be maintained at the correct temperature from manufacture to injection and this will be achieved through a system of fridges, cold boxes and vaccine carriers. The livestock department should ensure the availability of vaccine for Newcastle disease.

³³ Point of lay hens are preferred in order to avoid sell out. The cock will promote exchange between farmers.

³⁴ The scavenging poultry and goat/ sheep packages consist of an 80% grant with a household contribution of cash, feed, water and fencing/ housing

³⁵ Criteria for selection of households for the pass-on scheme are: a) willingness and interest to participate in the activity; b) experience and skills in keeping livestock; c) size and make-up of the household; d) access to adequate feed and water for the animals; e) agreement to keep the livestock until full repayment is made; f) agreement to report any sickness or death to the Community Animal Health Workers (CAHWs); and g) agreement to keep records for health control.

³⁶ The major costs in beekeeping are: hives, processing equipment (honey extractor/separator) and tables. Minor cost items include protective clothing, smoker, trays, and some tools. The package will be provided as micro-project IGA grant.

³⁷ Household contribution of 30% for labour and traditional beehives

14. **Off farm activities**– Off farm activities will also be offered to able bodied households and youth for petty trading, provision of commercial services (mechanization and spraying) as well as food preservation and drying.

15. Selection of activities will be demand driven drawn from the menu of options as described above. and presented the community planning process. Communities will be informed, through awareness creation campaigns, about the menu of options (livestock and crop based packages) and the associated terms of partnership for each activity. By offering households the choice of technical packages, they will be able to select an activity that matches their skills, resources and market demands. Local leadership and community members will be instrumental in selecting the beneficiary households, ensuring effective participation and transparency.

16. **Nutrition Mainstreaming** –Recurrent droughts have contributed to increased malnutrition in the target areas. ARP will therefore intensify nutrition mainstreaming in Project interventions. The proposed crop and livestock packages are potential entry points to reach vulnerable households on nutrition activities. These activities will focus on the promotion of improved varieties of food crops that are nutrient-rich and also drought-tolerant, such as iron rich beans. Promotion of diversified nutrient-dense foods, including orange-fleshed sweet potato and Spirulina (blue-green algae), will contribute to food security as well as good nutrition. The FFS is an effective approach for integration of nutrition education to ensure diversified dietary intake.

17. **Subcomponent 1.2: Recovery of Community Productive Assets** – When households are recovering from a shock, they rely on their community networks and, as such, community assets are a means of managing the risks, if well managed. Land management practices and the rehabilitation/development of water sources is a key factor for livelihoods recovery in the Project target areas. Potential beneficiaries consider the lack of water and pasture as the main issues affecting their lives. The Project aims at developing the water infrastructure by improving, rehabilitating and constructing water sources that cover all uses. The subcomponent will be implemented through the Farmer and Agro-Pastoral Field School extension modality adapted to the varied agro-ecologies of the Project area; this is described under subcomponent 1.3. The expected outcome is “stabilised/improved livelihoods through use of community productive infrastructure”. This subcomponent focuses on two areas of interventions: a) water resources development; and b) natural resources management.

18. **Water Resource Development** – Water resource development covers two main areas of intervention: a) rehabilitation, construction and maintenance of water infrastructure; and b) rainwater harvesting³⁸.

19. *Water Resource Infrastructure* – The progressive decline of available water is a major problem in the Project area as a result of the recurring droughts. Rivers are drying up and the water flow to the aquifer of river basins in the region is dropping. Since 2013, there has been a progressive drying of two fertile oasis which are rich in biological resources and ecosystems. The water table is also declining and about 80 percent of the existing boreholes are non-functional, due to water scarcity and disrepair (approximately 2,400 boreholes damaged). It is estimated that less than 20 percent of communities have access to safe water. The entry point for recovery will be through rehabilitation, construction and maintenance of the water infrastructure. The selection of low-demanding community water sources in terms of maintenance at field level is a key factor to assure long-term impact and sustainability. Activities will include the rehabilitation or the establishment of multi-purpose wells and related basic infrastructure necessary for animal health (such as watering points, dip tanks, etc.) and human consumption (tap stands). At the community level, the Project will support the construction of agricultural weirs for domestic and livestock use while ensuring that water is efficiently and effectively utilized. The weirs will also store water during the dry season and elevate the water table during the rainy season in order to allow enough water depth for ease of access to water in areas where rivers are close to depletion in the driest periods.

³⁸Water user groups (WUGs) or associations will be established, in some instances independently from the e-FFSs, especially in newly constructed or rehabilitated water points in order to ensure direct management control of their operations and maintenance and ultimate sustainability of the structures. Members of the water user associations will have rights (the use of water for multiple purposes) and obligations (to contribute maintenance fees, etc.). Each group will be expected to draw up a constitution with rules and regulations that clarify the roles and responsibilities of the group organization and their members. The WUGs will be provided with training in water demand management, which will also be delivered through e-FFS.

20. Rainwater Harvesting – Rehabilitation of ponds and construction of subsurface dams will be the main under the water harvesting intervention. Ponds, which are naturally recharged, are an important water source for cattle but frequently serve as a drinking water source for people during the dry season, although the water quality is questionable. The storage capacity decreases from year to year due to the high amounts of water runoff from the surroundings that causes siltation. Subsurface dams have proven to be an excellent solution for underground water retention with the advantages of increasing water quality and drastically reducing the evaporation rates when compared to open air water storage. New structures will be constructed instead of rehabilitation of existing dams³⁹. Considering the relatively high investment costs of the proposed structures (ranging from \$15,000 to \$50,000 per unit), strict selection criteria will be carefully applied: a) organisation level of users and willingness to contribute to the maintenance costs of the structures; b) technical feasibility of the emplacement; c) access to the water resource; d) closeness to the nearby local materials, such as gravel and stones; e) number of potential users; and f) prioritisation of identified emplacements that give an adequate cost/ benefit ratio.

21. Natural Resource Management – The fragile biophysical environment, shallow soils, poor vegetative cover and the irregular and often high intensity of rainfall, has resulted in severe soil erosion in places, reduced soil fertility with resultant decreases in crop yields. Deforestation and charcoal burning have also contributed to land degradation and soil erosion on communal (forest and rangelands) and private, cultivated land. Land degradation has led to overgrazing, depletion of rangelands and a spiral of unsustainable land management. Interventions are proposed to redress this vicious cycle by rehabilitating rangelands and pastures and undertaking soil and water conservation measures⁴⁰.

22. Rangeland and Pastures – Rangeland development will focus on ecosystem-based rehabilitation around the water points where agro-pastoral systems are predominant. Activities will include community led improvement of fodder and natural grasses and shrubs and the establishment of *miseen défense* areas (area closures). This intervention will be supported by range and herd management practices, improvements in livestock health to reduce livestock pressure on already degraded areas. The intervention will also require technical support from a cadre of CAHWs at municipality and community level who will be provided with veterinary kits and technical training. It is intended that an adequate supply of CAHWs' will be in place and a viable channel of supply of vaccines and vet products, before the distribution of the livestock packages. Attention will also be given to scaling-up the provision of mineral block production (initiated under one of the emergency programmes), certifying CAHWs to improve access for herders to veterinary services and creating awareness within communities of the need for improved animal health care and inoculation. Consideration will be given to improve the effectiveness of the animal vaccination programme by broadening the range of vaccines offered to include small scale livestock and developing the vaccination cold chain at local level.

23. Soil and Water Conservation – Soil conservation and runoff control measures are lacking in many parts of the Project area. Soil and water conservation measures will be identified through the preparation of community level natural resources management plans that will be incorporated within the Farmer Field School methodology (see Subcomponent 1.3)⁴¹. Some of the 'good practices' of community-based natural resources management and climate change adaptation measures found in

³⁹Subsurface dams are an ancient technique fairly widespread worldwide but the existence of this type of dams made during colonial times is unknown and in case they exist, the documents and maps with the exact location may have been destroyed during the Angolan civil war.

⁴⁰The WOCAT (World Overview of Conservation Approaches and Technologies) database of sustainable soil and water technologies will be reviewed with special emphasis on Angola and nearby countries will be used to provide insights on what could work under the local conditions.

⁴¹The community level natural resources management plans will need to be adapted to the needs of specific communities. A starting point is the Agro-pastoral Farmer Field School methodology that has been used by the FAO implemented RETESA and PIRAN projects where agro-silvipasture predominates. There are sites in Cunene and Huila where more conventional crop/livestock production is relevant. The community led natural resource management methodology should include the following steps: a) meeting the community and organising a planning team; b) identifying micro-watersheds; c) conducting biophysical and socio-economic surveys; d) identifying and prioritizing interventions; e) approval of interventions by the community; and f) preparation of a plan for implementation (mapping, input requirements, action plan).

the country will be introduced at both micro-catchment and household level. Attention will be given to the design and implementation of low cost physical and biological soil and water conservation measures on communal and cultivated land. Soil and water conservation measures could include contour stone bunds, multi-purpose vegetative bunds, micro basins and trenches, the natural regeneration of trees in farmed and communal areas and nursery establishment. These activities will be supported through Farmer Field Schools or farmer based organizations (interest groups) to help implement these initiatives. Special attention will be given to vegetative stabilization of the soil and water conservation measures with dual purpose fodder species.

24. Subcomponent 1.3. Capacity Building for Recovery – This subcomponent will provide the essential capacity building for the objectives to be achieved. Capacity building will be undertaken at the institutional, community and household levels. The skills and capacities required at the different levels will be strengthened, and developed where lacking, to ensure communities are able to recover from climate induced shocks and the relevant institutions are able to provide the necessary support and services to the communities and households. The subcomponent includes the following activities.

25. Disaster and Climate Risk Management – This activity aims at building capacities to achieve the objective set out under subcomponent 1.1 for the recovery of household productive assets. The activities will build on existing initiatives at the Provincial level, such as the preparedness, contingency, response and recovery plans as well as the municipal strategies for building resilience. These plans and strategies will need to be operationalized at the community level and this step-down process will be supported by ARP. Concurrently, some efforts are already being made in training of technicians and communities in disaster risk management in relation to both the droughts and floods that have adversely affected the Southern Provinces. The ARP will support training activities in the target areas and ensure that sufficient capacity is available at the Provincial coordination level. The recurring disasters in the ARP target areas are linked to climatic events such as El Niño and La-Niña. Considering that productivity of the various activities undertaken by the target group is climate sensitive, the Project will contribute to efforts to improve the climate risk management capacity. The capacity building activities will result in enhanced resilience to climate risks of the ARP target beneficiaries, which can be substantiated through an appropriate monitoring system yet to be developed. The ARP will thus support the establishment or the roll-out of a resilience monitoring framework in collaboration with other partners. To that effect, main activities under this subcomponent will include: a) preparation of community-based natural resources management plans; b) community-level training in disaster and climate risk management; c) strengthening of provincial disaster prevention systems; and d) support to developing/rolling out of a resilience monitoring framework. The activities are elaborated as follows:

26. Institutional: Provincial and Municipal – The ARP target provinces have developed Action Plans for enhanced coordination and information management as well as Pilot-Strategies to ensure building resilience of vulnerable communities before and after a disaster. The ARP would therefore support further capacity building efforts through seminars and workshops for Provincial level officials to review key concepts of DRM and Resilience-Building in the process of recovery from the protracted drought. The seminars will also facilitate mapping of vulnerable groups and planning for resilience-building action through inter-sectorial interactions. If required Standard Operating Procedures (SOP) for emergency response and the Action Plans to improve the Provincial Contingency Plan will be reviewed. Simulation exercises will be organised for the participating officers with support from specialised agencies such as OCHA. The expected output is 20 disaster risk management trainers at provincial levels trained in rolling out the national training programme for mainstreaming disaster risk management into local development planning and 10 response simulation exercises conducted, including improvement of response and provision of basic communication equipment. The estimated cost is USD 100,000.

27. Support the roll out of a resilience monitoring framework – Based on the drought PDNA conducted with the support of the United Nations, the European Union and the World Bank, the Civil Protection Commission (CNPC) is developing a Disaster Recovery Framework for the El Niño-induced drought-affected Southern provinces to break a cycle of recurrent drought. The ARP will support the rolling out of the Framework to the Municipalities in the target Provinces. The roll-out will mainly involve convening of meetings, workshops and conducting training sessions for the selected officials. The expected outputs would be 600 officials of the inter-sectorial CNPC at municipal and provincial levels

trained in planning, implementing and monitoring resilience-building interventions. The estimated cost of this activity is USD150,000.

28 Community Level Interventions – Climate risk management training will be undertaken through the FFS. Target communities will be provided with training in the management of droughts and floods related to their livelihoods as part of the FFS curriculum. The training will be delivered by the FFS facilitators and trainers that benefited from capacity building activities in the emergency operations and also earlier Government/FAO interventions. The disaster risk management training will build on on-going sessions that are being provided by UNDP and OCHA. The ARRP will support the training sessions in target communities including simulation exercises. The expected outputs are at least 6,290 smallholders trained in climate risk management and 4,000 community members trained in disaster risk management. The estimated cost for the disaster risk management training is USD 100,000.

29. Community Level Institutional and Human Resource Development – The objective of the activity is to enhance the capacity of the target beneficiaries and institutional stakeholders at local level to ensure the effective implementation and sustainability of the interventions described under sub-component 1.1 and 1.2. Envisaged activities include: a) establishment and strengthening of Farmer Field Schools on crop and livestock husbandry; b) establishment and strengthening of Farmer Field Schools in agro-pastoralism and natural resource management; and c) specialised training in livestock based activities (small livestock, apiculture, etc.)

30. Farmer Field Schools – Support will be provided to strengthen the Farmer Field Schools that have been set up through the emergency projects to complete their learning and adoption cycles as well as establish new schools where the potential exists. Consideration will be given to set up schools in the vicinity of those previously established to form 'clusters' that would provide benefits in management and supervision.

31 FFS Background and Status – The Project will build on the FFS approach introduced by FAO under its emergency programme and regarded as the principal extension approach in Angola for institutionalization and scaling up. This activity lies at backbone of the implementation strategy and is the main conduit for recovery and resilience to occur. In most situations the school is used to create social and financial capital whilst acting as a new technology delivery mechanism for crop production, agro-pastoralism and nutrition. The school is vital to support the activities listed under Sub-components 1.1 and 1.2. To date, over 100 FFSs have been set up in the Project provinces. Some new e-FFSs will be set up to reach target beneficiaries not helped by the emergency programmes. Through the emergency programmes, focus of attention was given to development of the communal plot which provides opportunities for crop and nutrition diversification for FFS members, whilst creating a capital fund to sustain the school in the future. The activities implemented under the emergency programme are at a fledgling level of development and considerably more work is needed for farm households to adopt the agricultural practices on their own plots. The approach of ARP will be to: a) strengthen the capacity of the FFS organisation; b) support construction/ maintenance of communal infrastructure; c) support production from the community plot; and d) impact FFS members at household level by fostering the replication and adoption of the new technologies (short duration, drought resistant varieties of cereals and cassava cuttings) and introduction of livestock based packages. The new FFSs will targeted, preferably, in the vicinity of the existing schools to create clusters for more cost-effective extension support.

32. Implementation and phasing of the ARP field activities will depend on the status of the FFS that have been established or planned.

- For those FFSs, set up under the emergency programme, where public goods investment have already been made, households will be eligible from the beginning of project implementation to receive a choice of livelihood packages.
- For communities where new e-FFSs will be established, the process will follow these steps: a) agro-ecosystem analysis/preparation of natural resource management plans; b) FFS awareness raising/sensitisation, organisation of farmers, curricula development; c) establishment and implementation of communal productive infrastructure activities together with FFS training support;(year 1); d) household level livelihoods assessment and targeting; and e) the provision of the crop, livestock and off-farm recovery packages to targeted households (women, youth and the most vulnerable) (from years 2 and 3).

- For communities where no FFSs are envisaged, development will commence by a) conducting an agro-ecosystem analysis, followed by preparation of natural resource management plans; b) establishing communal productive infrastructure through community mobilization – years 1-2 c) provision of crop, livestock and off-farm household recovery packages – years 2-4.

In all cases each household will be eligible to receive the technical package as a one-time support. Interventions, however, will be phased to build self-reliance and ensure sustainability. Support for crop and livestock development will take place only after productive assets have been established and household commitments made.

33. e-FFS Establishment – Each e-FFS group will receive a grant of USD 500 at the start of the first cycle which will allow the group to purchase the necessary learning materials and field inputs needed for the FFS. Part of the funds will be used for a communal field to generate some income for the group to continue activities for the following learning cycles. Beneficiaries are expected to make in-kind contributions to the e-FFSs. The FFS group will consist, of, on average, 30 smallholder farmers (both men and women) from the same or surrounding villages. The training is expected to be conducted within the village and on a common plot. Women farmers are expected to comprise around 50 percent of all trainees. The project expects to cover those communes and municipalities prioritised, by the end of the third year, with at least 30% of total target covered in the first year and 60% in the second year. This will ensure that all farmers in the target schools benefit from at least one full FFS training cycle during the Project period.⁴²

34. Training Methodology – The core of the programme is the training of Master Trainers – identified as government staff from different ministries as well as NGOs in the vicinity – although greater emphasis will be given to develop a cadre of government counterpart staff. Trainers of Master Trainers will be selected from a resource pool of national staff previously trained by FAO⁴³. The core team of trainers will be used to train a local cadre of master trainers from the project area.⁴⁴ This core team of trainers will be complemented by trainers working in neighbouring projects (RETESA, IFAD and MOSAP). Four 3-month Master Trainer training programmes have been scheduled over the duration of the Project to broaden the core base of capacity. For effective implementation of the FFS approach, the government will need to ensure that each municipality participating in the Project has at least three agricultural extension specialists at each EDA and field staff will be deployed at communal level. Ultimately the intention is for the FFS facilitators to be absorbed by IDA as front line extension workers on the government payroll. The Master Trainers will in turn train the Farmer Field School Facilitators in a 3-4 week intensive training programme complemented by periodic refresher training. Two FFS facilitators will be selected for each community and trained. The two facilitators will form a team to implement the FFS curriculum at field level. The existing cadre of FFS facilitators will undertake a refresher training and a further 300 new FFS facilitators will be trained as the new schools are established.⁴⁵ The FFS facilitators will be supported and mentored with technical support from the Master Trainers and Project technical staff⁴⁶.

⁴²The key selection criteria for determining smallholder farmers' eligibility as beneficiaries of the FFS training program are: (a) farming as a household activity; (b) willingness to work in a group/organisation; (c) awareness and willingness to resolve their agricultural problems; (d) preferred location with easy access to the FFS site; (e) average farm size not greater than 5 ha; (f) gender, such that at least 50 percent of FFS participants are women; (g) potential for knowledge transfer to other villages in the same area; and (h) existence of farmer leaders and champions for improving food security.

⁴³The season-long master training will have a 90 day duration. This is the preferred option to train new master trainers because it allows trainers to acquire the necessary technical, methodological and organizational skills to run FFS programmes. Currently there are about 50 persons that have the necessary skills and experience to work as Master Trainers, the majority trained in previous master training courses and others through the earlier shorter courses and experience gained throughout the years.

⁴⁴Each master trainer (MT) will organize and support at least two FFSs. Some master trainers will support three to four FFSs depending on their motivation and experience and the distance between different FFS groups. Some master trainers will also be used to supervise activities at provincial and municipal levels.

⁴⁵Two Farmer Field School facilitators per community

⁴⁶At Municipio level (two persons in each local EDA office and 2 from NGOs) will be trained as Training Coordinators. Each Training Coordinator would train up to 4 Farmer Facilitators each year. The project will increase local capacities by training staff from national institutions (EDA) and from civil society (NGO) in order to assure sustainability.

Finally, in addition to training new trainers and facilitators, the Project will also organize refresher courses for trainers and facilitators over the course of its duration. In each province, over the 24 month training period, there will be two refresher trainings for each of the FFS facilitators of 2 weeks duration to ensure that new topics are included in the programme. The content of the training will be developed based on the needs that emerge. Government will have to ensure that the Master Trainers are assigned on a permanent basis to the Province and that support will be available from municipal technical staff. To facilitate networking and interaction between the groups, the FFSs will be placed in clusters of between 3-4 FFSs, in the vicinity of the core FFS. It is intended that the FFS will lay the foundation for establishing, on a voluntary basis, smaller affinity groups based on livelihood diversification interests, rotating savings and credit associations (ROSCAS), amongst others. The proposed methodology developed by FAO call for a complete FFS training cycle that has been estimated at approximately 30 months (12 months in cycle 1, 6 months in cycle 2, and 12 months in cycle 3).

35, Training Content – The FFS curriculum for farmers will cover a 24 month duration and will be developed seasonally or annually by *the* master trainers *and the* trained FFS facilitators. The curriculum will be further enhanced and modified after their implementation in the field and during refresher courses.

36, Initially, it is expected that the FFS members will be expected to prepare Community-Based Natural Resources Management Plan⁴⁷. The ARP will support the development of action oriented natural resources management plans that allow communities to effectively map their available resources and outline agreed approaches to achieve the common objective of sustainable management⁴⁸. A first stage of preparation of the NRM plan is an agro-ecosystem analysis where farmers are expected to better understand their ecosystem, and the consequences of poor management practices and opportunities that could arise from better management of the system. The approach will be to develop community resource management plans on the basis of identified problems and challenges in land, water, grassland and forest resource use, in order to develop a vision of the future and ownership of the approach. Agreement will have to be reached by the various community members, which will require the active engagement of community leaders and a participatory process. The expected output is the development of at least 20 community natural resources management plans. The community level plans will be aligned with the Municipal Strategies already developed to enhance disaster resilience of identified vulnerable groups in the targeted Provinces.⁴⁹ In addition the Provincial Strategies for Building Resilience may need to be updated. The estimated cost for this activity is USD 100,000.

37. On completion of the community based natural resource management plan the Farmer Field School members with the support of the Master Trainers will prepare the FFS curricula to cover a 24 month cycle. Typically, the first cycle will start with basic production techniques such as seeding and weeding, progressively tackling more complex matters, such as soil fertility management, aspects of conservation agriculture, nutrition and social/organizational issues. The content of the FFS, however, will need to be modified to match the training needs of the different agro-ecological areas and sites in the target provinces. Attention will be given to incorporate sessions on climate change and agro-pastoralism (introduced in the Farmer Field Schools methodology particularly in Namibe), soil and water conservation, seed up-grading and distribution, Integrated Pest Management (IPM), minimum tillage husbandry practices, crop diversification and crop storage. Other topics that are suggested for inclusion in the curriculum are:⁵⁰

⁴⁷Municipal level strategies for building resilience have been developed in the target provinces in line with the Provincial plans. However the lowest level of planning, at commune level, has not adequately been covered.

⁴⁸Facilitators will need to be recruited by the project as principle agents to guide the development of the plans, supported by Municipal level officials that have been trained through earlier interventions by UNDP and other partners.

⁴⁹The Municipal Strategies will be adjusted in line with the community level plans. In some cases the municipal strategies will be shared with the community as part of a validation process and the feed-back from the community will enable the municipal technical staff to refine and improve their plans.

⁵⁰It should be pointed out that the FFS training curriculum should focus on subject areas of common interest to their members. More specialised technical training will be required for specific interest groups particularly in

- Improvement of animal kraals for farmyard manure management;
- Use of animal urine for bio-fertilizer and bio-pesticides;
- Integration of leguminous crops in intercropping and crop rotations;
- Green manuring of legumes and non-leguminous plants;
- Composting and use of Effective Micro-organisms (EM)
- Use of bio-fertilizers such as rhizobium, azola, micorhyzae and biogas slurry; and
- Utilisation of agro-forestry techniques to provide for increased soil cover, restrained run-off, improved soil fertility and mulching opportunities.
- Cassava seed handling, phytosanitary measures and seed certification scheme to minimize disease and pest build up that threaten cassava production.
- Small scale livestock management
- Integration of fish farming with livestock and crop production
- Record keeping, business management and marketing⁵¹.

38 Social Mobilisation and mentoring: Attention will be placed on developing self-reliance amongst the FFS, farmer organizations and interest groups formed around the livelihood activities through a well-tested social mobilization/ community development process. This will be a challenge considering that the FFSs to date were set up under an emergency programme where self-reliance, savings-first and revolving funds were not required. The project, through its community development process will attempt to redress these deficiencies by introducing appropriate procedures aimed at strengthening the capacity of school and group members to resolve their own problems. In order to do so it will be important to clarify from the outset, the roles and responsibilities of the project and those of the rural community. Clear Terms of Partnership will be formed, setting out the responsibilities and obligations of both parties: the project and the beneficiary. As noted above, community members will prepare community based development plans. Community led monitoring and evaluation will also play an important part in this process. The FFS and farm household based groups will be encouraged to create and manage their own in-kind and cash revolving funds through which access to critical inputs would be facilitated and sustained at group level. Other group members should then be able to utilise the funds to replicate the activity. This will create internal social pressure on those household to repay the funds in time to make them available to others in the group.

39. Individual household mentoring will be conducted through the cadre of community development facilitators identified from within the Project areas and recruited by the Project to lead the social mobilization and group formation/strengthening processes. Support for social mobilization will come from local NGOs selected and contracted for this purpose. Funds have also been set aside for sub-contracting. However, as capacity amongst local NGO potential partners to undertake this task is low, the Project will be expected to develop and strengthen their skills. NGOs however will still be used to implement the social mobilization and community development process once the social facilitators have been identified, selected and trained.

40. Mentoring is recognised as an important vehicle to foster social inclusion by reaching out to the households that have not been reached through the emergency programme. The mentoring support will also be needed to identify and assist the more vulnerable households in the community that are often beyond the reach of the mainstream Project activities. Clear criteria are needed to identify community development facilitators as mentors:

- Technical competence in thematic areas (for example, finance, natural resource management);
- Interest and the time available to undertake this work on a full time basis;
- Good communication skills, including the ability to listen, build rapport, show respect for different opinions and address sensitive issues constructively;
- Empathy with the people they work with, and their hopes and challenges;
- Motivation and skills to support group members in their change process and to share the process with new households;

support of livelihood diversification activities. The proposed TA will be expected to cover these specialised trainings.

⁵¹Consideration will be given to using the FFSs records through their facilitators as sources of data for the M&E system.

- Commitment to supporting an individual's change process;
- Ability to work equitably with both male and female household members (including youth and people with disabilities) in a participatory and inclusive manner; and
- Ability to network and provide linkages to other services, such as health, credit.

41. It should be emphasized from the outset that mentoring is about developing self-reliance rather than dependency and that the support is time-bound. This will ensure that the more vulnerable households do not become dependent on the mentors. The community development facilitators will need to be supported by service providers. As the capacity of many of the local service providers is low, the project has created two full time position for a nationally recruited Social Development Expert to be supported by 4 months of International Social Development expertise.

42. Technical Training – Specific technical training will be required to support households and groups involved in specialised livelihoods diversification activities – small livestock, apiculture, etc. These activities are most likely to be conducted outside the FFS curriculum – as the households selected may not be FFS members and/or the training may be specialised and may not interest all FFS members. It is expected that the training support will be largely informal through service provider contracts.

43 In the case of apiculture the training sessions will be provided directly in the selected target communities and will include around 15 training days of theory and practical exercises. The best performing training participants will be encouraged to transfer the knowledge to other community members as new resource persons. The content of the training would include:

- Environmental and agricultural context and importance of beekeeping;
- Conservation and maintenance of the existing bee colonies;
- Increasing bee colony number, productivity and honey quality;
- Manufacturing of basic beekeeping equipment (protective equipment, honey collection tools, hives etc.);
- Honey collection, straining, bottling, storing;
- Control over diseases, pests and enemies of honeybees;
- Diversification of bee products; and
- Marketing.

44. Technical training will also be required to develop and upgrade the capacity of the existing cadre of Community Animal Health Workers (CAHWs) at municipality and community level, train additional CAHWs in areas where their coverage is limited, develop the cadre of Community Development Facilitators at local level and strengthen the capacity of the Farmer Field School facilitators. More women will be trained as CAHWs so as to allow women livestock owners' easier access to services relevant for the small livestock managed by women – poultry, sheep and goats. The CAHWs will be trained in both animal health for cattle and health of small livestock^{52 53}. The training will include priority diseases, treatment regimes, and vaccination protocols.

45. Qualified veterinary oversight will be made available to support the CAHWs through the veterinary institute or alternatively through a local private veterinarian. Regular refresher training will also be provided. The project will assist with course design to ensure that priority and high-risk diseases are covered, including treatment and vaccination protocols..

.

⁵²One of the main constraints to improved household poultry production is the high mortality especially among chicks due to diseases and to predation by wild animals and exposure as a result of poor housing. The programme will provide focused training in poultry health, supplementary feeding, housing and general management. Because the livestock department does not have adequate frontline livestock extension staff on the ground in most districts of the country, the programme will train community animal health workers (CAHWs) to provide extension service to complement efforts of the department.

⁵³ The Institute of Veterinary Services will be committed to ensure that quality drugs are available and accessible to CAHWs. Efforts will also be spent on developing a functioning cold chain which can be maintained.

Appendix 5: Institutional Aspects and Implementation Arrangements

1. MINAGRI will be the lead executing agency and will work closely with the other line ministries and partners whose mandates have a direct bearing on the achievement of the Project goal and development objectives. The Project delivery systems will be integrated into the decentralized government organisational and operational structures that cascade from the national level to communal level.
2. **National Level** – MINAGRI will delegate its responsibility to the Institute for Agrarian Development (*Instituto de Desenvolvimento Agrário* - IDA). As part of its mandate, the institution is responsible for supporting smallholder agriculture in the country, promoting production increases and the improvement of livelihoods of rural households; this is in well with objectives of the Project. IDA will take the role of the main implementing partner on behalf of MINAGRI. It will play a key role in both the overall project management and the coordination of government and non-government agencies participating in the Project.
3. **Provincial Level** – At the provincial level, the MINAGRI Provincial Directorates are responsible for the agriculture sector support and policy issues relating to their respective provinces, as well the overall coordination of the actions carried out by agriculture institutions present in the province. The involvement of the provincial directorates of agriculture in the project will be important for overall oversight of provincial Project implementation at field level by IDA/contracted service providers.
4. **Municipal Levels** – Considering that most of the Project activities will be taking place on farms and in villages at the Commune and Municipal levels, the *Estações de Desenvolvimento Agrário* (EDAs) will play a critical role. EDAs are the field offices of IDA at municipal level; this is where frontline extension staff is located. They are responsible for extension and capacity building of farmers. They are also responsible for collecting data for MINAGRI and for implementation of various government-sponsored programmes.
5. **The Veterinary Service Institute (ISV)** – The Project has interventions in the area of small livestock. Therefore, ISV will provide advice to IDA and EDAs on all aspects related to the Project's livestock activities.
6. **Other Ministries** – ARP, being a recovery Project, will have implications for some other ministries, in addition to the Ministry of Agriculture. The most obvious ones include: a) Ministry of Finance (MoF) – This is the representative of the borrower. In addition, it is responsible for the financial supervision of all government programs; it is also responsible for supervising the budget process and the allocation of project financing for all those projects with external sources of financing; b) Ministry of Family and Women's Promotion (these will be instrumental to ensure appropriate mechanisms for gender and targeting; c) Ministry of Health – the recurring droughts have resulted in a considerable degree of malnutrition. The Ministry will be interested in ensuring that nutritional aspects of the target beneficiaries are progressively being addressed; and d) Ministry of Environment – this will be a major stakeholder in the ARP implementation; many of the capacity building activities will directly involve the Ministry.
7. **Service Providers** – These will play a critical role during ARP implementation. All the emergency programmes onto which ARP would be building have been/are being implemented through different service providers. These range from UN agencies, such as FAO, to specialised NGOs. In addition, services of consultancy firms and/or individual consultants may be sought during the course of ARP implementation. As stipulated in Appendix 8: Procurement, the needed services will be procured following the appropriate procedures, and used to ensure the achievement of ARP objectives.
8. **Oversight Function** – There will be oversight bodies at two different levels; the national and provincial. At the national level, MINAGRI will be supported by a Project Coordination Committee (PCC). The PCC will be chaired by the Minister of Agriculture or his nominee, and composed of membership from institutions with direct relevancy to the achievement of ARP's goal and development objective. The PCC will be responsible for: a) providing strategic guidance for the effective ARP implementation; b) promoting inter-ministerial coordination; c) reviewing and approval of the AWPB; d) reviewing and approval of the annual Project implementation progress reports and provide guidance

on corrective measures to solve any existent implementation issues; and e) ensure that interventions are coordinated, where appropriate, with other Programmes and Projects with similar or related objectives. The Director General of IDA will be the Secretary of the PCC. It will meet at least two times per year or more frequently, as and when need arises.

9. At the provincial level, there will be a Provincial Project Coordination Committee (PPCC) in each participating province. The composition and tasks of the PPCC will reflect the composition and tasks of the PCC. The PPCC will include the Provincial Director of Agriculture, the Provincial Director of IDA and the Area Project Coordinator, a representative of civil society or NGO, a representative of the private sector and two (minimum) representatives of beneficiaries/producers' organisations. The PPCC will also meet twice a year, or more frequently, if required. The responsibilities of the PPCC will include: a) speeding up decisions and procedures; b) review and approval of the beneficiary and IGA selection processes; c) review the provincial level AWPB prepared by the Provincial Directorates of Agriculture and the main area service providers; and d) review the provincial level annual Project implementation progress reports. The PPCC will also meet at least two times per year or more frequently, as and when need arises.

10. **Provincial Governance Committee (PGC)** – In addition to the PPCCs, PGCs will be established in each of the participating provinces to ensure good governance and accountability during Project implementation. They will be composed of local authorities and traditional leaders who will be supported, as and when the need arises, by a representative/agent of the oversight committee. The role and functions of the PGCs will be to oversee implementation from a good governance and accountability point of view. This being a recovery Project with a very limited budget, the process of selecting the direct beneficiaries and allocation of IGA sub-projects could, potentially, generate some grievances. The PGCs will establish a grievance mechanism which will be used to address any grievances that could develop during the course of ARP implementation. The PGCs will keep records of evidences and complaints with minutes of the discussions, recommendations and decisions taken. The PGCs will establish detailed mechanisms for the grievance and complaint process, describing format, language, time for reply and alternative resources, including access to Courts of Law as a last resort after exhausting all the viable peaceful local alternatives/options. Permanent and open dialogue will also be promoted as this is the most suitable way of peacefully addressing any grievances expressed. The oversight agent will be entitled to spot-check the beneficiary selection and IGA sub-project approval process at the PGC level to ensure fairness and transparency and will report to the PCC.

11. **Project Management** – MINAGRI will establish a Project Implementation Unit (PIU) at the national level, but will be located in Lubango, Huila Province. The PIU will be responsible for: a) the day-to-day Project coordination and management, including technical supervision and coordination, overall Project planning, quality oversight, communication, reporting, procurement, financial management, monitoring of Project activities and of its progress on a regular basis, and impact evaluation; and b) manage fiduciary issues in conformity with the standards and requirements agreed upon with IFAD, in accordance with the Financing Agreement and other Project documents, such as the Project Design/Appraisal Documents and the PIM. The PIU will be accountable to the Director General of IDA. The PIU will be accountable to the Director General of IDA.

12. The ARP PIU will include the following positions: a) Project Coordinator; b) Accountant; c) Procurement Assistant; d) Monitoring and Evaluation Assistant; e) Project Assistant; and f) Driver. However, the PIU of the SADCP C&H-SAMAP will provide an oversight role to the ARP PIU, especially in the areas of Financial Management, procurement and monitoring and evaluation.

Appendix 6: Planning, M&E and Learning and Knowledge Management

1. Effective implementation of the Project will require functional Planning, Monitoring and Evaluation (PM&E) systems that provide Project management with data on problems, progress and results, and facilitate management decision making. Equally important is a Knowledge Management (KM) function to ensure that experience gained and lessons learnt are taken into account and used to improve plans and implementation performance throughout the life of the Project. These systems would be particularly important for ARP where it is critically important to ascertain, during the first few months of implementation, whether early recovery is actually taking place as expected.

2. **Planning** – Annual planning will be a decentralized process, starting at the communal/municipality levels where the respective EDAs would prepare municipality-specific plans. The contents will depend on the type of recovery activities that are being implemented (or to be implemented) in a certain municipality. Municipality plans will be consolidated at the provincial level by the office of the Provincial Director of Agriculture and forwarded to the PIU for consolidation into a Project-wide draft AWPB. The consolidated ARP AWPB would be sent to the PCC for review and endorsement and, eventually, sent to IFAD for review and expression of a 'No Objection'. The draft to IFAD should be sent latest by 31st October of every year or 60 days before the start of the next Project Year. IFAD would have 30 days for reviewing and provision of its 'No Objection' and the PIU would have a full month to revise and finalise the AWPB. This process is critical to ensure the timely submission of the draft to each level of approval. The finalised AWPB would be distributed to all ARP implementing agencies by 31st December of every year to ensure a smooth transition of implementation from year to year. The AWPBs will be the basis for implementation and would be results-oriented; there should be a clear link between planned activities and Project outputs.

3. **Monitoring and Evaluation** – An M&E system will be established under ARP whose key function would be to provide information on progress and performance that contributes to effective Project management, decision making and good quality reporting, including to government (the relevant ministries) and to IFAD. Reporting to IFAD would be consistent with the stipulations of the Guidelines for Disaster Early Recovery. Monitoring would focus on collecting data on the status of planned activities in the AWPB, and on creating a cumulative overview of the direct results (deliverables/outputs) that follow implementation, from Project start-up until completion.

4. In line with the implementation approach, the Project's M&E system will be decentralised. The Project's Monitoring & Evaluation Assistant would provide the necessary guidance, develop tools and follow-up; considering that ARP will be building on emergency programmes, it will consider strengthening any existent and relevant tools, as opposed to starting afresh. Training and backstopping will be provided to those involved in data collection and collation at the different levels. Given the fact that many of the activities are to be subcontracted to Service Providers, the different Service Provider agreements would specify responsibilities for monitoring and include templates that facilitate consistent reporting by all Service Providers.

5. The M&E system will devote significant attention to assessing progress and achievements of the interventions. To ensure that implementation of early recovery activities proceeds smoothly and that any problems are dealt with in a timely manner, provision would be made for close monitoring and supervision of ARP activities; especially during the first two years (see section on Supervision). In addition to the monitoring of activities, the M&E system will also monitor and assess early recovery objectives and priorities regularly. This will support prompt identification of problems (such as objectives that are not being met or are off-track) so that the necessary actions can be taken. This will also help to ensure that recovery activities are underpinned by the principles of "do no harm" and "build back better", as required by the IFAD Guidelines for Disaster Early Recovery.

6. An M&E Assistant, under the supervision of the Project Coordinator, will be responsible for the monitoring and evaluation of the Project; the M&E & Knowledge Sharing Specialist of the SAMAP will oversee the ARP M&E function. The relevant units at the different government levels, the main service providers, the implementation partners and the beneficiaries will play an important role in M&E functions.

7. A baseline survey will be undertaken during the first year of implementation to benchmark the existing situation in the Project area, against which the outcomes and impact of ARP will be assessed. To the extent possible, the information contained in the PDNA and other reports, especially those on the emergency interventions undertaken in the ARP areas of focus, should be used to inform the baseline. An effort will be made to concretely identify gender issues and gaps and that information will be used to inform different interventions to address the identified issues and gaps. A Mid-Term Review (MTR) will be undertaken halfway through Project implementation; it will evaluate whether the Project is on course to achieve the objectives. It will identify any prevailing constraints and recommend such re-orientation as may be required to help the Project get back on course to achieve its objectives. The recommendations will take into consideration the likelihood of achieving the Project's targets during the remaining time period and may modify those targets. At completion, an Impact Assessment will be undertaken; it will be used to prepare the Project Completion Report (PCR) which will provide an overview of the accomplishments of ARP and analysis of its performance.

8. **Learning and Knowledge Management** – Knowledge Management (KM) will ensure that Project implementation is a continuous learning process during which quantitative and qualitative data would be compiled, analysed and disseminated as lessons learned, thematic studies and stories from the field that explain challenges encountered and results achieved. The information to be generated by the M&E system will enable IDA/MINAGRI, all the other directly related ministries, the relevant Provincial Directorates of the three participating provinces and other relevant stakeholders to carefully monitor the Project and provide reliable information on the different recovery interventions and the resultant impact (or lack thereof). Considering that IFAD does not have much experience with recovery interventions in the country, information sharing with other recovery projects in Angola and the region would receive particular attention. Knowledge gained in other countries of the region will be made available to ARP. In turn, the ARP experience will inform regional learning on post-disaster recovery interventions.

Appendix 7: Financial Management and Disbursement Arrangements

1. **Implementing Organization** – The ARP PIU in Lubango will be responsible for the day-to-day financial management of the Project. The financial management of IDA is highly centralized such that the provincial administration of IDA in Lubango operates a very limited budget for small purchases (petty-cash), and is staffed by one Administrative and Finance Officer (AFO), who is also responsible for Procurement. As such, the oversight of the financial management unit of ARP, which will be staffed by an Accountant, will be guaranteed by the Financial Management unit of SADCP-C&H-SAMAP in Luanda.
2. **Financial Staffing** – The PIU's financial team will be quite lean, essentially comprising an Accountant. This arrangement raises the financial management risk of ARP, due to difficulties in proper segregation of duties at the Lubango level, considering that the FM unit will be staffed by only one accountant contracted by the project. The Accountant will report to the Project Coordinator and will be supervised by the Financial Management Specialist of SADCP-C&H (henceforth FM Specialist), who will have the additional responsibility of overseeing the FM arrangements of ARP besides her/his commitment to manage the FM unit of SADCP-C&H. In agreement with IDA, his/her TORs will be broadened to include this assignment. The IDA AFO in Lubango will support ARP on a pro-rata basis. Specific tasks will comprise: supporting the ARP accountant in preparing bank reconciliations, bookkeeping and archiving of financial documentation. As an important institutional support to IDA, the AFO will be trained together with the remaining project team on IFAD FM guidelines as well as on use of the accounting software.
3. The selection of the Accountant will be carried out by IDA, in accordance with Government practices for appointment of staff. The selection will be based on a competitive process open to staff of the Ministry of Agriculture as well as external candidates. Knowledge of accounting software should also be taken into account in selecting the candidate.
4. **Annual Work Plan and Budget (AWPB)** – The AWPB will be prepared on the basis of guidelines and regulations reflecting government and IFAD's policy. The FM Specialist will actively participate in the preparation of the AWPB, overseeing the work of the Accountant in preparing the yearly budget. The procedures for preparing the annual budget and project financing needs will be documented in the Project Implementation Manual (PIM). The budget will cover all project activities and will be prepared no later than two months prior to the end of each fiscal year. This draft AWPB will be endorsed by IDA, and submitted to IFAD prior to implementation. The AWPB will describe all the activities to be implemented, description of expenditures by component, category, funding sources and timelines for implementation. It will also contain a procurement plan for the relevant implementation period. Timely preparation and approval of AWPB will be key to guarantee budgetary control. The budget information should be entered and available in the accounting system to allow for the timely recording of commitments, payments, and accruals. Finally, IDA will send to IFAD the first AWPB for no-objection as a condition of first disbursement.
5. **Accounting Policies and Procedures** – The Project will comply with the International Public Accounting Standards (IPSAS). The Financial Statements will be prepared in accordance with the "cash basis" method of accounting. A Financial Management Procedures Manual (FMPM) will be prepared as an annex of the Project Implementation Manual. The FMPM will be elaborated based on the best practices and experience of the ongoing projects AFAP and SADCP-C&H, to guarantee an alignment of the FM procedures of all three projects. The FMPM will contain the accounting policies and procedures, including the chart of accounts, method of determination of the exchange rates and the financial management arrangements to be created for the Project. The FMPM should also lay down the precise internal control arrangements of the Project, with particular emphasis on the role of the FM Specialist within the project's FM structure. Based on the experience of AFAP and SADCP-C&H, ARP will procure and install the accounting software PRIMAVERA, and this shall be a pre-condition for first disbursement.
6. **Financial Reports** – The Project's accounting system will generate the necessary financial information for the Project financial progress reports as well as the year-end Financial Statements that will identify sources of financing, expenses by component and category against the Project's AWPB and the

cumulative expenditures to date. Available resources will be applied exclusively for the achievement of Project objectives. All expenditures will need to have supporting documentation and presented to IFAD by means of Summary Sheets (SS) and Statements of Expenditures (SOEs). The format and content of these reports will be presented in the FMPM. All Project interim financial reports should be prepared by the accountant and FM Specialist, with the latter bearing the responsibility for accuracy. However, the consolidated Financial Statements of the Project for auditing purposes will be prepared by the FM Specialist under the overall responsibility of the Project Coordinator. All supporting documentation should be kept in good order by the ARP accountant and available for review within a reasonable amount of time in case of requests by IFAD. Any amounts to be retroactively financed by IFAD shall be part of the Financial Statements and subject to the normal yearly auditing exercise.

7. **Disbursements Arrangements** – The disbursement methods available to IDA/MINAGRI for the withdrawal of financing proceeds from the loan account are: advances, direct payments and reimbursement. The documentation of the uses of advances will be through SOEs. The ceiling of the Designated Account, the limits of contracts subject to prior review and detail of supporting documentation required to accompany the application for disbursement will be defined in the Letter to the Borrower.

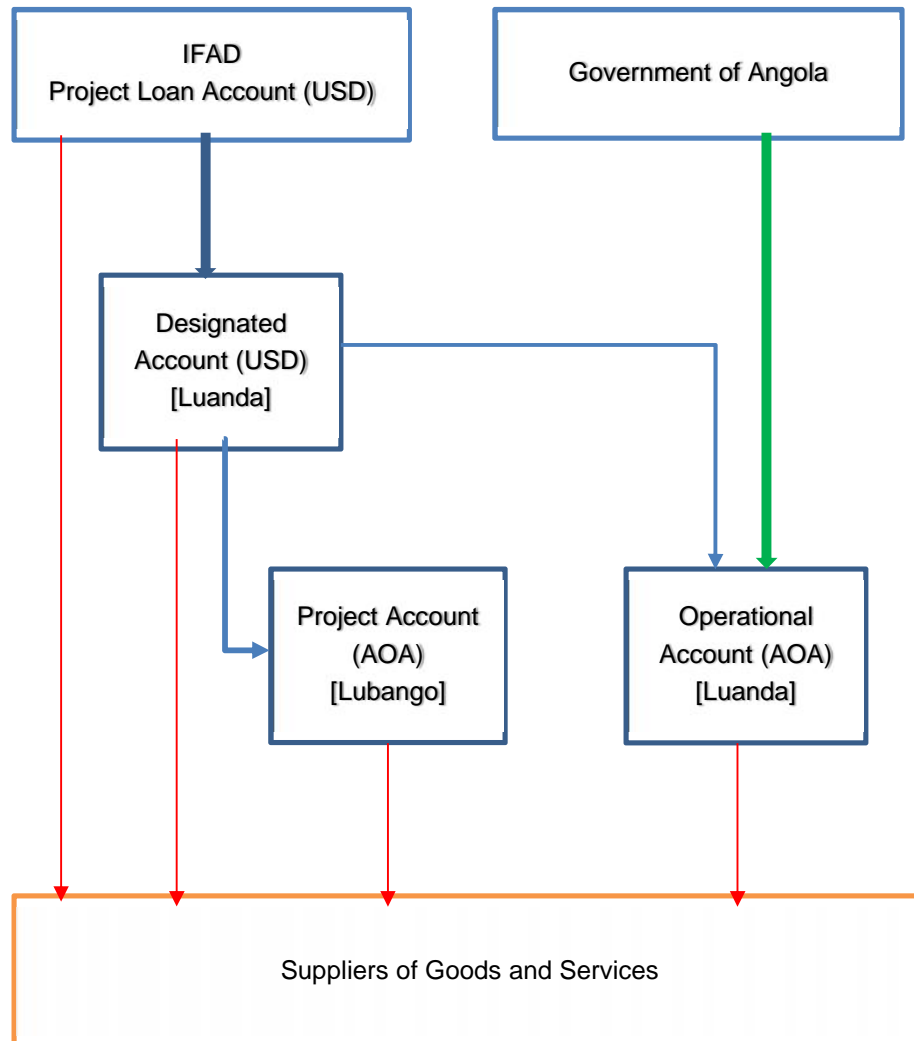
8. **Flow of Funds** – IDA shall open a bank account in USD to receive the proceeds of the financing (Designated Account) in a commercial bank in Luanda. IDA shall also open an Operational Account in Angolan Kwanza (AOA) in the same commercial bank where the Designated Account will be opened. Mandatory signatories of these accounts will be the Project Coordinator and IDA senior staff. The Designated Account will be opened in Luanda due to the fact that the main Finance Unit of IDA is located in its headquarters, and Government owned accounts require at least two signatories to approve transactions. One operational account in AOA will be opened in a commercial bank in Lubango. Mandatory signatories of this account will be the Project Coordinator and senior staff from the IDA Provincial Directorate in Lubango, and/or senior staff of the Provincial Agriculture Directorate in Lubango.

9. The Project Account in Lubango will be used solely for the management of recurrent costs (operations and maintenance, fuel, travel expenditures, small purchases) and will be replenished on a revolving fund basis. For large purchases of goods and services (to be determined during implementation, but ideally expenses above the SOE threshold equivalent) payments must be processed by the ARP accountant upon approval by the FM Specialist and authorization by the ARP Project Coordinator. These expenditures will be paid from the project's Operational Account in Luanda. The Designated Account shall be used solely for the replenishment of the Operational Accounts (one in Luanda, and one in Lubango), and occasionally for the payment of large expenditures in USD. For purchases below the SOE threshold equivalent, payments will be processed by the ARP accountant and authorized by the Project Coordinator and paid from the Project Account. On exceptional basis, and under the direct payment procedure detailed in the paragraph on disbursement arrangements, the project may request that IFAD pays suppliers of goods and services directly from the project's loan account. This procedure should normally be used for payment of invoices above USD 100,000.

10. The flow of funds from the Designated Account to the Operational Account in Luanda will be based on advances to cover monthly budgetary requirements. Particular care must be taken not to transfer large amounts of project funds to this Operational Account to mitigate against the risk of further depreciation of the AOA against the USD. The flow of funds from the Designated Account to the Project Account in Lubango will be managed on a revolving fund basis. Replenishments will depend on the regular financial reports prepared by the ARP Accountant and submitted to the FM Specialist for approval under the overall responsibility of the Project Coordinator. The Financial Management Procedures Manual should detail that the replenishment of the Project Account will require that the Accountant is able to justify 50% of the most recent advance, and 100% of any previous advance to the operational account.

11. Finally, Government of Angola will transfer its counterpart funds to the AOA Operational Account of ARP in Luanda. The flow of funds chart will be confirmed during Negotiations and included in the PIM. A draft flowchart is presented hereunder.

Flow of Funds



12. **Government contribution** – In addition to the counterpart funds deposited in an account held by IDA for the payment of taxes by the Project, Government will also contribute in the form of office space for the Project in the Provincial Installations of IDA in Lubango. The contribution will be accounted by the Project based on the prevailing market rate for a comparable office area in Lubango. The rate may be evaluated by independent real estate agents operating in the city, and should be reviewed annually. As it is envisioned that Government will also contribute in the form of logistics and personnel, contribution will be evaluated pro-rata. Where possible, the Project will keep copies of invoices and receipts for Project goods and services paid directly by government.

13. **Retroactive Financing** – As requested by GoA, the financing agreement will allow for retroactive financing. The total amount to be retroactively financed shall not exceed 10% of the total Project cost. Expenditures to be retroactively financed shall not be incurred before the Project's approval by the Quality Assurance Secretariat. Over the last few years, FAO has implemented emergency programmes in Angola's southern provinces funded by the US Agency for International Development (USAID), OCHA and FAO. MINAGRI and FAO have agreed that FAO will pre-finance some of the Project's activities prior to signing of the Financing Agreement. This retroactive financing is meant to ensure a timely start of the agricultural campaigns in ARP's target areas. All expenditures to be retroactively financed shall meet the Fund's eligibility criteria as set forth in the IFAD General Conditions for Agricultural Financing as amended

on April 2014, with particular emphasis on IFAD's Procurement Guidelines. The activities to be retroactively financed shall be included in the first Annual Work Plan and Budget of the Project, and any purchases disclosed in the Procurement Plan. The total amount of retroactive financing shall also be disclosed in the first Project Financial Statements, which shall be audited. Based on disbursement instructions from GoA, IFAD will reimburse FAO upon confirmation that all conditions for first disbursement are met. However, as detailed in the IFAD guidelines for retroactive financing, IFAD will take no liability for any pre-financed amounts in case the Project is not approved by its Executive Board.

14. **Financial Records** – ARP will keep accurate records of all financial and procurement transactions. All original documents related to Project transactions should be safeguarded, and the Project will continuously sensitize IDA on the need to safeguard all supporting documentation related to Project activities for a period of 10 years following Project closure. To mitigate the risk of loss of financial and procurement documentation, ARP will employ the use of electronic archiving from project inception. The Project team should either procure the services of a competent archiving company operating in Luanda for the digitization of supporting documentation, or (and in the spirit of better regional integration with other Projects within ESA), contact the Projects in the Mozambique portfolio that are employing a custom-built software for electronic archiving.

15. **Assessment, Risk Mitigation and Internal Controls** – The Public Expenditure and Financial Accountability (PEFA) assessment for Angola was carried out in 2016 and, as at May 2017, is still due for publication. Angola ranks 164/177 in the 2016 Transparency International Corruptions Perception risk⁵⁴ with a score of 18, a slight improvement over the year 2015. The World Bank carried out an assessment of the FM and procurement systems during the design of the Project SADCPC-WB (also implemented by IDA) and concluded that inherent risk of the project is classified as "substantial". As such, the same level of inherent risk is applied to APR.

16. The location of the project in Lubango adds an additional risk, as the Provincial Department of IDA in Lubango has very limited FM oversight capability to support ARP. The provincial department has a small Finance Unit, staffed by only an Administrative and Finance Officer. The provincial department only processes small payments through its petty cash, and no accounting software is in use.

17. To mitigate the internal control risk the following measures will be employed by IDA: a) preparation of the FMPM upon approval of ARP design report by government; b) purchase and install an accounting system, which will be a pre-condition for first disbursement; c) hiring the Project's Accountant as a pre-condition for first disbursement; d) revise the TORs of the FM Specialist of SADCPC-C&H to include overall supervision of the work of the ARP accountant and e) hiring an internal auditor within six months after Project effectiveness.

18. Internal control will be insured through effective segregation of functions with the strong involvement of the SADCPC-C&H FM Unit, monthly reconciliation of accounts, and different levels of approvals required depending on amounts of expenses. The need for countersignature from government officials for major bank operations will be a fundamental internal control measure. Physical management of cash is discouraged, with the use of bank transfers and check-books employed for the majority of expenditures. The PIU will detail the internal control arrangements, flow of funds, roles, responsibilities and procedures in the FMPM. The FMPM should specially detail the supervisory role of the SADCPC-C&H FM Specialist over the project accountant, the level of approvals needed to process payments, as well as the minimum supporting documentation that must be presented for justification of expenditures such as travel, per diem and fuel.

19. **Internal Audit** – In order to assess the degree of compliance with the internal controls laid down in the Project's PIM, ARP will contract the services of an internal auditor. As the project's FM unit will be under the overall supervision of the FM Specialist of SADCPC-C&H, ARP may directly contract the internal auditor competitively selected by the latter project. The internal auditor should have relevant work experience with Projects funded by International Financial Institutions. As the level of perceived risk of the Project is high, the Project should be audited at least twice per Project year.

⁵⁴ https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table

20. **External Audit** – Project financial statements will be audited by independent auditors, satisfactory to IFAD, in accordance with International Standards of Auditing (ISA) and IFAD's guidelines on Project audit. The selection of the auditor should be on an open competitive process, and an important selection criteria should be experience in auditing projects of other IFIs operating in Angola. The auditor's report will be submitted to IFAD no later than six months after the closing of the borrower's fiscal year. The external audit will be conducted in accordance with Terms of Reference acceptable to IFAD (sample TORs are attached as Annex 1). Auditors will be required to issue an opinion on project financial statements, including an opinion on SOEs and Designated Account, as per the IFAD Guidelines on Project Audits, and will produce a management letter, identifying any internal control weaknesses, or areas in need of improvement.

Annex 1: Draft TORs: AUDITOR

1. **Audit objective.** The objective of the audit is to enable the auditor to express an opinion on the financial reports of the ARP for the fiscal year then ending as reported in the special-purpose Project Financial Statements (PFS) and special-purpose Statements of Expenditures (SOE's) and special account (SA). The Project's accounting system (books and records), which provides the basis for the preparation of the special-purpose PFS and special-purpose SOE's, was established to record the financial transactions of the Project, and is maintained by the Project's implementing agency, the *Instituto do Desenvolvimento Agrário (IDA) do Ministério da Agricultura*.

2. The audit will be carried out in accordance with International Standards on Auditing and IFAD Guidelines on Project Audits and will include such tests and reviews, as the auditor considers necessary under the circumstances. Special attention will be paid to establishing that: (i) all external funds have been used in accordance with the conditions stipulated in the financing agreements, with due attention to economy and efficiency, and solely for the purposes for which the financing was provided; (ii) counterpart funds have been provided by Minister of Agriculture/IDA and used in accordance with national or organizational financial regulations, with due attention to economy and efficiency, and solely for the purposes for which they were provided; (iii) goods, consultancy and other services, and civil works financed out of project funds have been procured in accordance with stipulations in the financing agreement and/or government regulations; (iv) all necessary supporting documents, records and accounts have been kept in respect of all project ventures, including expenditures reported via SOEs or SAs; (v) the SA has been used in accordance with the provisions of the financing agreement; and (vi) the project accounts have been prepared in accordance with consistently applied cash basis and give a true and fair view of the financial status of the Project at [dd / mm/ yyyy] and of resources and expenditures for the year ended on that date.

3. **Project financial statements.** The Project Financial Statements (PFS's) should include: (i) yearly and cumulative statements of sources and application of funds, which should disclose separately IFADs funds, counterpart funds (government), other donor funds and beneficiaries funds; (ii) balance sheet, which should disclose bank and cash balances (that should agree with the statement of sources and application of funds), fixed assets and liabilities; (iii) yearly and cumulative SOEs by withdrawal application and category of expenditures; (iv) reconciliation of the SA; and (v) consolidated financial statements, where a project consists of more than one entity.

4. A reconciliation between the amounts shown as received by the project and those shown as being disbursed by IFAD should be attached as an annex to the PFS. As part of that reconciliation, the auditor will indicate the procedure used for disbursement (SA funds, letters of credit, special commitments, reimbursement or direct payment) and indicate whether the expenditure is fully documented or uses the SOE format.

5. **Statements of expenditures (SOEs).** In addition to the audit of the PFS, the audit will include a review of SOEs used as the basis for submitting withdrawal applications. The auditor will carry out tests and reviews as necessary and relevant to the circumstances. SOE expenditures will be carefully compared for eligibility with relevant financial agreements, and the disbursement letter, and with reference to the Project Document Report for guidance when necessary. Where ineligible expenditures are identified as having been included in withdrawal applications and reimbursed, auditors will note these separately. A schedule listing individual SOEs withdrawal applications by reference number and amount should be attached to the PFS. The total withdrawals under the SOE procedure should be part of the overall reconciliation of IFAD disbursements described above.

6. **Special accounts (SAS).** The auditor is also required to audit the activities of the SA(s) associated with the project, including the Authorized Allocation or Initial Deposit, replenishments, interest that may accrue on the outstanding balances, and the year-end balances. The auditor must form an opinion as to the degree of compliance with IFAD procedures and the balance(s) of the SA(s) at year's end. The audit should examine: (i) the eligibility of withdrawals from the SA during the period under review; (ii) the operation of the SA in accordance with the relevant financing agreement(s); (iii) the adequacy of internal controls within the project appropriate for this disbursement mechanism; and (iv) the use of correct exchange rate(s) to convert local currency expenditures to United States dollars.

7. **Audit opinion.** Besides a primary opinion on the Project Financial Statements, the annual audit report of the Project Accounts should include a separate paragraph commenting on the accuracy and propriety of expenditures withdrawn under SOE procedures and the extent to which the IFAD can rely on SOE's as a basis for loan disbursement. The financial statements, including the audit report, should be received by the IFAD no later than six months after the end of the accounting period to which the audit refers. The auditor should submit the report to the borrower's designated agent rather than to any staff member of the project entity. The agent should then promptly forward two copies of the audited accounts and report to the IFAD.

8. **Management letter.** In addition to the audit reports, the auditor will prepare a "management letter", in which the auditor: (i) give's comments and observations on the accounting records, systems, and controls that were examined during the course of the audit; (ii) Identifies specific deficiencies and areas of weakness in systems and controls and make recommendation for their improvement; (iii) reports on the degree of compliance of each of the financial covenants on the financing agreement and give comments, if any, on internal and external matters affecting such compliance; (iv) communicates matters that have come to attention during the audit which might have a significant impact on the implementation of the project; and (v) brings to the borrower's attention any other matters that the auditors considers pertinent.

9. **General.** The auditor should be given access to all legal documents, correspondence, and any other information associated with the Project and deemed necessary by the auditor. Confirmation should also be obtained of amounts disbursed and outstanding at the IFAD. It is highly desirable that the auditor become familiar with the relevant IFAD Audit Guidelines or IFAD Guidelines for financial management and procurement.

10. **Auditor's qualifications.** The person appointed as the project auditor should: (i) have an internationally recognized professional accounting qualification i.e. the person appointed should be either a certified public accountant, a chartered accountant or should be the holder of an equivalent professional accounting qualification; (ii) be a member in good standing of a body of accountants affiliated to the International Federation of Accountants (IFAC); and; (iii) have experience and knowledge of the World Bank or IFAD's current financial management requirements.

11. **Key Staff.** (i) Team Leader – a senior consultant with ten (10) years of audit works with audits in the WB projects or IFAD projects, and a Master degree in one of the following fields: Economic, Accountability or Management, and recognized as a professional accounting qualification; (ii) an Auditor – a consultant with five (05) years of audit works with audits in the WB projects or IFAD projects, and a Economic Degree or any other related area; and (iii) an Auditor Assistant – A consultant with three (03) years of audit works, an Economic degree or any other related area, and good audit knowledge.

Annex 2: Financial Management Assessment Questionnaire (FMAQ)⁵⁵

Project: Agricultural Recovery Project (ARP)	Date: May 2017
Implementing Entity: Institute for Agricultural Development (IDA) within Ministry of Agriculture (MINAGRI)	
Self-assessment completed by	Date :
Review completed by:	Date: May 2017

GUIDANCE: NOTES

The FMAQ provides an indicative list of issues and questions to be considered in the financial management assessment. It is clearly difficult for a single questionnaire to adequately cover the diversity of IFAD's operating environment and projects. The FMAQ should be customized to better address specific project circumstances by adapting the questions (adding, deleting, or modifying) to better suit the assessment objectives.

The FMAQ has been designed to primarily cover an assessment of a Lead Project Agency which is a Government Department and/or a PIU.

Before commencing the assessment, it is essential to have a clear view of the probable project implementation arrangements - where the project financial management arrangements are administered through a PIU which primarily uses stand-alone financial systems the PIU is effectively the Implementing Entity and so focus of the FMA should be on the financial management arrangements in the PIU.

Advice on applying the Financial Management Questionnaire (FMAQ) for a self -assessment should be sought from the CFS Finance officer.

If there is more than one implementing agency, an FMAQ should be completed for each entity that will receive and disburse project funds.

Implementing Entity:

	Topic	Response	Remarks
1.	Organization and Staffing		
	Implementing Entity NOTE: In the case of a Government Department, the FMS should initially focus on the status of the country PFM systems in order to gauge level of fiduciary risks to which the proposed project may be exposed. Once an understanding of the PFM environment has been ascertained, the FMS should switch focus down to project level and focus on the department(s) or unit(s) that will financially administer the project.		
1.1	Which entity is the LPA? What is the entity's legal status?	As per Government decree nr. 228/12 of 3 December 2012, IDA is a collective person with legal personality under the tutelage of MINAG.	As a legal entity, IDA enjoys administrative and financial autonomy. It may hold its own assets and has its own statute separate from MINAG.
1.2	Will financial management of the project be the responsibility of the LPA or be undertaken within the-PIU?	Financial Management of the project will be the responsibility of a standalone PIU	As per other donor projects, IDA will be creating a standalone PIU for the management of the project, including Financial Management. Up until January 2017 IDA was fully dependent on the Financial Management arrangements of MINAG, and did not operate its budget independently (contrary to its statute). As such, there's little available capacity to manage the project funds, hence the creation of a dedicated FM unit.

⁵⁵This questionnaire should be used as guidance for and in support of the Summary Project Fiduciary Risk Assessment @ Design (Annex III).

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
1.3	Has the entity implemented a donor financed project in the past - if so, please provide details?	Yes.	In the past 5 years IDA has implemented the following projects: MOSAP – a project jointly financed by the World Bank and IFAD and supervised by the Bank, SADCP-WB – an up-scaled version of MOSAP, financed by the World Bank, with the same PIU that implemented MOSAP. The IFAD project SADCP – C&H (or SAMAP as its known by the Angolan counterparts) was approved by the IFAD EB in April 2017 and should become effective before end of third quarter 2017.
Staffing			
1.4	What is the (proposed) organizational structure of the accounting department? Attach an organization chart.	One Financial Management, one accountant. While not part of the Accounting Unit, a Procurement Specialist and Assistant will be part of the project team.	The accounting department will be working with the minimum staff needed to guarantee segregation of duties.
1.5	Identify the (proposed) accounts staff, including job title, responsibilities, educational background and professional experience. Attach job descriptions and CVs of key accounting staff.	At this current point in project design no FM staff have been proposed.	TORs as per design document are attached.
1.6	Are written position descriptions that clearly define duties, responsibilities, lines of supervision, and limits of authority for all of the officers, managers, and staff?	Partial.	Design team has proposed TORs for Finance Manager and Accountant. Attached.
1.7	Is the finance and accounts staff adequately qualified and experienced?	At this current point in project design no FM staff have been proposed.	
1.8	Are the project accounts and finance staff trained in IFAD procedures?	At this current point in project design no FM staff have been proposed	
1.9	Are any Finance Staff appointed on contract? What is the duration of the contracts Indicate key positions not contracted yet, and the estimated date of appointment	At this current point in project design no FM staff have been proposed	

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
1.10	What is training policy for the finance and accounting staff?	No policies in place (based on assessment of other IFAD and WB financed projects)	Based on the assessment of FM arrangements of the IFAD-financed project AFAP (ongoing), IFAD should provide FM training to the project as soon as the project's FM team has been established.
1.11	Is there evidence that finance staff are regularly transferred to other Government departments At what frequency are personnel transferred?	No evidence.	IDA currently operates a very small finance team. As stated in line 1.2, up until January 2017 IDA did not have financial autonomy, and depended heavily on MINAG's FM structure.
1.12	Is the project finance and accounting function staffed adequately?	At this current point in project design FM unit not staffed yet.	

Topic		Response	Remarks
2.	Budgeting		
2.1	Who is responsible for preparation and approval of project budgets?	IDA and ARP PIU will be responsible for preparation and approval of budget.	Most of the responsibilities of preparing ARP's budget will rely on the PIU. IDA to approve this budget prior to submitting
2.2	Are project budgets prepared for all significant project activities in sufficient detail to provide a meaningful tool with which to monitor subsequent performance?	No draft 18-month AWPB submitted so far.	
2.3	Are procedures in place to plan project activities, collect information from the units in charge of the different components, and prepare the budgets?	No draft 18-month AWPB submitted so far.	
3	Funds Flow/Disbursement Arrangements		
3.1	Does the Implementing Entity have previous experience of using imprest fund and donor funding SOE procedures? Were there any problems or issues encountered by project staff in the operation of the imprest fund or SoE procedures in the past?	Yes, IDA has experience using imprest fund and SOE procedures. No issues so far.	IDA has implemented the project MOSAP jointly financed by IFAD and the World Bank. Additionally, IDA will also implement the newly approved IFAD project SADCP-C&H. Most of the FM team of MOSAP has been recruited for SADCP-WB (World Bank project). As such, this will allow for synergies between all the donor funded projects in the operation of imprest funds.

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
3.2	Does the Implementing Entity have experience in the management of disbursements from IFAD or other donors? Have there been the major problems in the past in receipt of funds by the entity?	Yes. No major issues recorded so far.	As noted above, IDA has recently implemented the project MOSAP and is now implementing SADCPC-WB and will start implementation of SADCPC-C&H (IFAD project).
3.3	Does the entity have/need to develop capacity to manage foreign exchange risks?	No.	While there's indeed capacity at the project level (mostly MOSAP/SADCPC-WB), IDA itself does not have the capacity to manage this risk.
3.4	Are the beneficiaries required to contribute to project costs? How are payments made for the counterpart funds? If counterpart funds are to be contributed in kind (in the form of labour), are proper guidelines formulated to record and value the labour contribution?	No beneficiary contributions foreseen, Counterpart funds will be transferred to project accounts.	Government will transfer its counterpart contributions in AOA to the project's Operational Account in Luanda. The PDR appendix on Financial Management discusses how project will account for in-kind contribution from Government.
3.5	Is part of the project implemented by communities or NGOs? Does the PIU have the necessary reporting and monitoring features built into its systems to track the use of project proceeds by such agencies?	The project will be implemented solely by PIU/PPIUs. Yes	

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
.6	Describe (proposed) project funds flow arrangements; (attach flow chart and explanation of the flow of funds from IFAD, government and other financiers.	Yes. (attached)	<p>1. IDA shall open a bank account in USD to receive the proceeds of the financing (Designated Account) in a commercial bank. An additional Operational Account will be opened in AOA in the same bank where the Designated Account will be opened for the day-to-day operations of the project. Mandatory signatories of these accounts will be the Project Coordinator and IDA senior staff. As the main Finance Unit of IDA is located in its headquarters, and due to the fact that Government-owned accounts require at least two signatories to approve transactions, the Designated Account will be opened in Luanda.</p> <p>2. One project account in AOA, will be opened in a commercial bank in Lubango. Mandatory signatories of this accounts will be the Project Coordinator and senior staff from the delegation of IDA in Lubango, and/or senior staff of the Provincial Delegation of the Ministry of Agriculture in Lubango.</p> <p>3. As it is envisioned that ARP will create Provincial Programme Implementation Units (PPIU), the project will open provincial operational accounts in the provinces of Cunene and Namibe. These accounts will be used only for small purchases to support the PPIU, as most of the payments will be centralized in Lubango.</p> <p>4. Finally, Government of Angola will transfer its counterpart funds to the AOA operational account of ARP in LuANDA. The arrangements for the transfer of resources to the provinces will be detailed in the project's FMPM and reflected in the audit plan. The flow of funds chart will be confirmed during Negotiations and included in the PIM.</p>
3.7	In which bank will the Imprest Account be opened?	In a Commercial Bank to be chosen by IDA.	As per the latest meetings with IDA staff, the imprest account has been opened in Banco Angola de Investimento (BAI) and the signatories of the account will be confirmed once the financing agreement is signed.

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
3.8	Are the (proposed) arrangements to transfer the proceeds of the financing (from the government / Finance Ministry) to the Implementing Entity satisfactory?	Yes.	Proceeds of the financing will flow directly to the Designated Account in the name of the implementing entity from IFAD.

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
4.	Internal Controls		
4.1	Segregation of duties - are the following functional responsibilities performed by different units or persons: (i) authorization to execute a transaction; (ii) recording of the transaction; and (iii) custody of assets involved in the transaction?	Yes, however partially.	The FM Unit of ARP will be comprised of a Finance Manager and an Accountant. This will guarantee that authorization and recording of transactions are done by different persons. Custody of the assets will still be done by either the Finance Manager or Accountant, reducing level of internal controls. Possible synergies with SADCP-C&H will be explored during implementation to assess if the FM unit of ARP may benefit from support of the SADCP FM unit.
4.2	Are the functions of ordering, receiving, accounting for, and paying for goods and services appropriately segregated?	Yes.	Ordering and receiving goods will be the responsibility of Procurement Specialist and Assistant. Accounting for and paying goods and services will be done by FM unit, with its 2-person unit.
4.3	Are bank reconciliations prepared by someone other than those who make or approve payments?	No.	The 2-person Finance Management Unit will not allow enough segregation of duties for bank reconciliations to be performed by someone other than the Finance Manager and Accountant.
5.	Accounting Systems, Policies and Procedures		
5.1	Does the entity have an integrated accounting system that allows for the proper recording of project financial transactions, including the allocation of expenditures in accordance with the respective components, disbursement categories, and sources of funds? Will the project use the entity accounting system?	No integrated accounting system in use by IDA.	ARP will procure the accounting software PRIMAVERA, as the same software was used by MOSAP, and is currently being used by SADCP-WB, AFAP and will also be procured for SADCP-C&H. The choice of accounting software guarantees some uniformity in the portfolio, and ease of access to technical support from other more experienced projects.
5.2	Are controls in place concerning the preparation and approval of transactions, ensuring that all transactions are correctly made and adequately explained?	Partially.	The control structure will be built into the project's PIM.
5.3	Is the chart of accounts adequate to properly account for and report on project activities and disbursement categories?	No chart of accounts proposed so far (project still in design phase).	

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
5.4	Can cost allocations to the various funding sources be made accurately?	Yes.	Based on the experience of the other ongoing projects, the accounting software is able to perform budget monitoring.
5.5	Are the General Ledger and subsidiary ledgers reconciled and in balance?	No General Ledger or subsidiaries in place thus far.	
5.6	Are all accounting and supporting documents retained on a permanent basis in a defined system that allows authorized users easy access?	No system in place at the current design phase.	Design report proposes that ARP implements electronic archiving already from inception to guarantee that all accounting and supporting documentation are retained for the required 10 year period.
5.7	What is the basis of accounting (e.g., cash, accrual)?	Cash basis.	As per national laws.
5.8	What accounting standards are followed?	IPSAS.	The project will implement IPSAS cash basis.
5.9	Does the project have an adequate policies and procedures manual to guide activities and ensure staff accountability?	Not at this current phase of design.	However, all manuals will be developed based on the manuals being used by SADCP-C&H and AFAP.
5.10	Do procedures exist to ensure that only authorized persons can alter or establish a new accounting principle, policy or procedure to be used by the entity?	Not at this current phase of design.	This procedure will be included in the project's PIM.
5.11	Is there a written policies and procedures manual covering all routine project financial management activities? Are manuals distributed to appropriate personnel?	Not at this current phase of design.	However, all manuals will be developed based on the manuals being used by SADCP-C&H and AFAP.
Payments			
5.12	Are all invoices stamped PAID, dated, reviewed and approved, and clearly marked for account code assignment?	Records not accessible at this current stage of design..	
Cash and Bank			
5.13	Does the organization maintain an adequate, up-to-date cashbook, recording receipts and payments?	Yes.	However, transactions are very limited so far. Up until January 2017 IDA was not an independent budget unit.
5.14	Are bank and cash reconciled on a monthly basis?	Not assessed at this current phase of design.	
5.15	Indicate names and positions of authorized signatories of project bank accounts.	Not shared with design team at this time.	

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
	Safeguard over Assets		
5.16	Is there a Fixed Asset accounting system, with a Fixed Asset Register, fully implemented - as part of an integrated accounting system Is the system maintained up to date ?	Not assessed at this current phase of design.	
5.17	Are there periodic physical reconciliation of fixed assets and stocks?	Not assessed at this current phase of design.	
	Other		
5.18	Has the project advised employees, beneficiaries and other recipients to whom to report if they suspect fraud, waste or misuse of project resources or property?	Not assessed at this current phase of design.	
5.19	Do policies and procedures clearly define conflict of interest and related party transactions (real and apparent) and provide safeguards to protect the organization from them?	Not in place so far.	Project will staff will be trained on IFAD's guidelines on fraud and corruption
5.20	Do controls exist for the preparation of the project payroll and are changes to the payroll properly authorized	Not in place so far.	Project Implementation Manual will capture all payroll related matters.
6.	Reporting and Monitoring		
6.1	Does the reporting system need to be adapted to report on the project components?	No reporting system in place.	The reporting system implemented by ARP will be tailored to report as per IFAD's requirements.
6.2	Does the project have established financial management reporting responsibilities that specify what reports are to be prepared, what they are to contain, and the frequency of production.?	No Financial Management Procedures Manual established so far.	However, all manuals will be developed based on the manuals being used by SADCP-C&H and AFAP.
6.3	What is the frequency of preparation of financial statements? Are the reports prepared in a timely fashion so as to useful to management for decision making?	Financial statements will be prepared once per year.	This will be assessed during implementation.
6.4	Do the financial reports compare actual expenditures with budgeted and programmed allocations?	To be assessed	
6.5	Are financial reports prepared directly by the automated accounting system or are they prepared by spreadsheets or some other means?	No accounting system in use so far. Financial reports prepared by spreadsheets.	Once project acquires PRIMAVER, all financial reports will be generated by the accounting software.
6.6	(In case of need of consolidated financial statements) Is the accounting system sufficiently equipped to ensure proper consolidation of entities' financial data?	To be assessed during implementation.	

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
Information Systems			
6.7	Is the financial management system computerized?	Yes.	The FM system proposed under ARP s fully computerized.
6.8	Can the system produce the necessary project financial reports?	Yes.	PRIMAVERA has been shown to accurately prepare reports as per IFAD's giui
6.9	Is the staff adequately trained to maintain the system?	To be assessed once the PIU staff has been recruited.	
6.10	Are adequate systems in place to "back up" financial records	To be assessed during implementation.	However, sister project AFAP, being implemented by the Institute for Fisheries Development (IPA) does not have back-up capabilities. Recent mission of May 2017 recommended that AFAP should purchase a mini-server to house primavera.
7. Internal Audit			
7.1	Is there an internal audit department in the LPA?	No, not within IDA.	IDA is audited, together with MINAG, by <i>Inspeção Geral do Estado</i> (IGE) an entity answering to the Ministry of Finance. However, there are concerns on the actual capacity of IGE to conduct a lengthy internal audit. ARP will contract the services of an internal auditor to review compliance of internal controls with IFAD guidelines
7.2	What are the qualifications and experience of internal audit department staff?	To be assessed at a later stage.	
7.3	To whom does the internal auditor report?	Ministry of Finance.	
7.4	Will the internal audit department include the project in its work program?	Yes.	It is possible to explicitly request IGE to include IDA in its audit of MINAG.
7.5	Are actions taken on the internal audit findings?	To be assessed at a later stage.	
8. External Audit			
8.1	Who is the external auditor of the entity?	No external auditor for the IDA.	ARP will contract an independent external auditor.
8.2	Are there any delays in audit of the entity? When are the audit reports issued?	No external auditor for the IDA.	
8.3	Is the audit of the entity conducted according to the International Standards on Auditing?	No external auditor for the IDA.	

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Topic		Response	Remarks
8.4	Were there any major accountability issues brought out in the audit report of the past three years? Were there any issues noted in prior audit reports related to the operation of project imprest accounts or use of SOE procedures?	No external auditor for the IDA.	
8.5	Will the entity auditor audit the project accounts or will another auditor be appointed to audit the project financial statements?	No.	ARP will contract an independent external auditor.
8.6	Has the project prepared acceptable terms of reference for an annual project audit?	Not assessed at this stage of design.	

Attachment 3: Summary of Project Fiduciary Risk Assessment at Design

Project: **Agricultural Recovery Project**

Implementing Entity: **Institute for Agriculture Development (IDA) within Ministry of Agriculture (MINAGRI)**

		Initial Risk Assessment	Proposed Mitigation	Final Risk Assessment
Inherent Risk		H		
1. TI Index		18	NA	H
2. RSP Score		3.0	NA	H
Control Risks				
1. Organization and Staffing		H	The extremely competitive market for the few highly qualified FM staff in the country might render difficult the hiring of experienced FM unit, unless unsustainable salaries are proposed. If hired FM staff does not have the required (relevant) years of experience, ARP should receive FM support from the projects SADC-WB and SADC-C&H, which are both implemented by IDA. Additionally, IFAD should provide a detailed training on FM guidelines and procedures during project inception, and guarantee continuous FM support for the first 6 months of implementation.	H
2. Budgeting		H	The ongoing economic crisis in Angola has caused a scarcity of foreign currency, especially USD in the financial market. Due to this, a parallel exchange market has thrived to the extent that the exchange rate in the parallel market have reached twice the official rate in May 2017 (reports show that the high has reached almost 5 times by end of 2016). While cost tables have been prepared based on official rates, there's a risk of loss of purchasing power of the project due to some prices being pegged against unofficial exchange rates. Due to the volatile situation, careful planning of funds flow from the Designated Account (USD) to the AOA account will need to be put in place, due to the risk of further depreciation of the AOA.	H
3. Funds flow and Disbursement Arrangements		M	IDA has garnered sufficient experience in the management of donor's funds (especially, imprest funds) in the past 5 years. Funds flows and disbursement arrangements should not pose severe issues to the project. However, as noted in the line above, the FM team will need to avoid transferring large amounts of funds to the AOA account due to the risk of rapid depreciation against the USD.	
4. Internal Controls		H	Current proposal of FM unit is one Finance Manager and one accountant. A Procurement Officer and an Assistant are also proposed. This structure is the minimum needed to guarantee some level of segregation of duties. A Financial Management Procedures Manual (FMPM) should be elaborated as an annex to the PIM detailing every aspect of the functional arrangements of the FM unit. Ideally, the FMPM should be ready before start-up costs are disbursed.	H
5. Accounting Systems, Policies & Procedures		M	As stated above, the FMPM should be elaborated as soon as the project becomes effective. In addition, the project should purchase the accounting	M

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

		software PRIMAVERA as soon as start-up costs are disbursed. All accounting procedures should be drawn in the FMPM.	
6. Reporting and Monitoring	H	The use of accounting software will significantly reduce the risk of low quality of reporting and financial monitoring.	M
7. Internal Audit	H	While in principle the <i>Inspeção Nacional de Finanças, INF</i> (from Ministry of Finance) is responsible for the internal audit of Government entities, reports from the implementing agency (IDA), as well as from the implementing agency of the IFAD project AFAP (IPA – Institute for Artisanal Fisheries) show that these audits are not frequent. The World Bank assessment concluded that the INF has weak capacity, and as such the project will need to contract an independent internal auditor.	H
8. External Audit	H	ARP to be audited by an independent external auditor due to issues of internal capacity of INF to provide external audit services.	H
Project Fiduciary Risk @ Design	H		H/M/L

Summary of Project Fiduciary Risk Assessment at Design (cont'd)

Comments/Notes: Strengths:

1. The project's Implementing Agency has experience implementing IFIs projects (1 joint IFAD-WB project already closed, 1 ongoing WB project, 1 IFAD project approved and starting by end of third quarter of 2017), and is thus familiar with imprest fund procedures and IFAD's FM procedures and guidelines.
2. There's a very good opportunity for strong FM collaboration between the three above-mentioned projects that IDA will be implementing in the next few years.

Weaknesses:

1. Available FM expertise in-country is scarce, and could prove expensive for the project. FM staff that will be hired for the project might not have the needed years of relevant experience.
2. IDA does not have a strong FM unit, given that until January 2017 IDA managed only a very small budget for recurrent costs, being fully dependent on the Ministry for its operational budget.
3. MINAG does not have the capacity to conduct internal audits of the project, and the World Bank has assessed that the Ministry of Finance unit responsible for internal audits of Government entities (*Inspeção Nacional de Finanças, INF*) lacks capacity to audit its projects.

Proposed Mitigations:

1. FM staff that will be hired will require extensive training, especially on IFAD's FM and procurement guidelines. IFAD should also provide continuous (remote) support to the FM staff for the first 6 months after FM staff has been hired.
2. A very detailed Financial Management Procedures Manual (FMPM) should be written by the project after effectiveness. This manual can be based on the SADC-WB manual, which itself based on the manual used for the joint IFAD-WB project MOSAP.
3. The project should hire an internal auditor to review compliance with internal control from time-to-time. This auditor could be the same hired by the newly approved IFAD project SADC-C&H, also implemented by IDA.

Appendix 8: Procurement

1. All procurement will be carried out in accordance with IFAD Procurement Guidelines and IFAD “Policy on preventing fraud and corruption in activities and operations”. Procurement responsibility will rest with the MINAGRI/IDA. All procurement financed by IFAD will be exempt from duties and taxes. Procurement of Goods, Works and Services financed by the IFAD loan will be undertaken by the PIU in accordance with the IFAD’s Procurement guidelines and procedures. These will be described in the Project Implementation Manual (PIM) with additional requirements of IFAD’s Prior-Review procedures specified in the Letter to the Borrower (LTB).
2. Project specific principles governing project procurement will be the following:
 - a. Procurement will be carried out in accordance with the Financing Agreement, the Letter to the Borrower and the Project Implementation Manual and any subsequent changes reflected in IFAD’s mission reports (e.g. supervision reports, mid-term reviews, etc.); All procurements shall be carried out in accordance with the IFAD’s procurement guidelines. The overall procurement responsibility will rest with the MINAGRI/IDA.
 - b. Procurement shall be conducted within the project implementation period (from the date of effectiveness to the date of completion). Procurement cannot be undertaken between the date of completion and the closing date;
 - c. Procurement must not exceed the availability of funds duly allocated by the financial agreement;
 - d. Procurement Plans must be consistent with the approved Annual Work Plan and Budget (AWBP); and
 - e. The principle of value for money must be sought: Best value does not necessarily mean the lowest initial price option, but rather represents the best return on investments, taking into consideration the unique and specific circumstances of each procurement activity; the balance of time, cost and quality required; and the successful overall outcome of the contract in meeting its original objectives.
3. Further, ICB procurement will be done in accordance with IFAD Procurement Guidelines and Handbook, using the World Bank’s Standard Bidding Documents (SBD). All ICBs will be subject to the IFAD’s prior review and the SBD will be agreed between IFAD and the PIU/IDA.
4. The following project activities are subject to IFAD’s procurement procedures:
 - a. **Goods.** This activity will include procurement of vehicles and motorcycles, agricultural implements, IT equipment, and furniture. Goods will also include any activities included in the selected subproject proposals.
 - b. **Works.** This activity will include rehabilitation and construction of water infrastructure and any activities included in the selected IGA subproject proposals.
 - c. **Consultancies.** This activity will include: i) recruitment of the various service providers; and (ii) recruitment of Project staff.

Particular Methods of Procurement of Goods, Works, and Non-consulting Services

- a. **International competitive bidding (ICB).** Except as otherwise provided in the paragraph below, Goods, Works, and Non-consulting Services shall be procured under contracts awarded on the basis of ICB.
- b. **Other methods of procurement of goods, works, and non-consulting services.** The following methods, other than ICB, may be used for procurement of goods, works, and non-consulting services for those contracts specified in the Procurement Plan.

Other Procurement Methods

Procurement Method
(a) National Competitive Bidding (NCB), subject to the provisions of the paragraph below on NCB

(b) National Shopping
(c) Direct contracting
(d) Community participation procedures acceptable to the Bank/Fund

5. For NCB, Angolan regulations will apply. All bid documents will need to be satisfactory to IFAD and subject to the additional procedures and modifications stipulated below and to be reflected in the Financing Agreement.

6. **General.** The procedures followed for NCB shall be those set forth in '*Lei No. 20/10 da Contratação Pública*' of the Republic of Angola of September 7, 2010, ('the Law'), with the modifications described in the following paragraphs.

7. **Eligibility.** The eligibility of bidders shall be as defined in the IFAD Procurement Guidelines; therefore, no bidder or potential bidder shall be declared ineligible for contracts financed by the fund for reasons other than those provided in guidelines. Bidding shall not be restricted to domestic bidders. No restriction based on nationality of bidders and/or origin of the goods shall apply other than those imposed by primary boycotts as contemplated in the guidelines. Foreign bidders shall be allowed to participate in NCB without restriction and shall not be subject to any unjustified requirement that will affect their ability to participate in the bidding process such as, but not limited to, the submission of evidence of good standing with regard to taxes paid to the Angolan Government and with regard to social security contributions made in Angola.

8. Prior registration or obtaining a license or authorisation shall not be a requirement for any bidder to participate in the bidding process.

9. Government-owned enterprises or institutions of Angola shall be eligible to participate in the bidding process only if they can establish that they are legally and financially autonomous, operate under commercial law, and are not dependent agencies of the borrower or sub-borrower.

10. **Bidding documents.** Standard bidding documents acceptable to the Fund shall be used.

11. **Participation by joint ventures.** Participation shall be allowed from joint ventures on condition that such joint venture partners will be jointly and severally liable for their obligations under the contract.

12. **Preferences.** No domestic/regional preference or any other kind of preferential treatment shall be given for domestic/regional bidders, for domestically/regionally manufactured goods, and/or for domestically/regionally originated related services.

13. **Applicable procurement method.** Subject to these provisions, procurement shall be carried out in accordance with the 'Public Competitive Bidding' method (*Concurso Público*) set forth in the Law.

14. **Qualification.** Qualification criteria shall entirely concern the bidder's capability and resources to perform the contract considering objective and measurable factors. The qualification criteria shall be clearly specified in the bidding documents, and all criteria so specified and only such criteria so specified shall be used to determine whether a bidder is qualified. Qualification criteria shall be assessed on a 'pass or fail' basis, and merit points shall not be used. Bidders' qualifications shall be assessed by post-qualification and such an assessment shall be conducted separately from the technical and commercial evaluation of the bids.

15. **Advertisement.** A shorter version of the advertisement text, including the minimum relevant information, may be published in a national newspaper of wide circulation provided that the full text is simultaneously published in the official gazette (*Diário da República*) or on a widely used website or electronic portal with free national and international access.

16. **Bid preparation time.** Bidders shall be given at least 28 days from the date of the invitation to bid or the date of availability of bidding documents, whichever is later, to prepare and submit bids.

17. **Bids submission and bid opening.** Bids may be submitted by electronic means only provided that the Fund is satisfied with the adequacy of the system, including, among other things, that the system is secure, maintains the integrity, confidentiality, and authenticity of the bids submitted, and uses an electronic signature system or equivalent to keep bidders bound to their bids.

18. Bids shall be opened in public, immediately after the deadline for their submission in accordance with the procedures stated in the bidding documents. The public bid opening shall take place in only one session. At the public bid opening, the names of the bidders and the total amount of each bid and of any alternative bids if they have been requested or permitted, shall be read aloud and recorded when opened. Bids shall not be evaluated as part of the bid opening process, and no bid shall be rejected during the public bid opening session, except for late bids. Bidders shall not be allowed to complete their bids after the deadline for submission of bids has expired.

19. **Bid validity.** No automatic extension of the bid validity shall apply. If justified by exceptional circumstances, an extension of the bid validity may be requested in writing from all bidders before the original bid validity expiration date and it shall cover only the minimum period required to complete the evaluation and award of the contract. The extension of the bid validity requires the IFAD's No Objection for those contracts subject to prior review.

20. **Bid evaluation:** Evaluation of bids shall be made in strict adherence to the evaluation criteria declared in the bidding documents. Evaluation criteria other than price shall be quantified in monetary terms and the manner in which they will be applied for the purpose of determining the lowest evaluated bid shall be established in the bidding documents. A weighting/scoring system shall not be used.

- a. A contract shall be awarded to the qualified bidder offering the lowest-evaluated and substantially responsive bid. No negotiations shall be permitted.
- b. Bidders shall not be eliminated on the basis of minor, non-substantial deviations.
- c. Requests for clarification and the bidder's responses shall be made in writing and they shall not be notified to other bidders.
- d. After the public opening of bids, information relating to the examination, clarification, and evaluation of bids and recommendations concerning the awards shall not be disclosed to bidders or other persons not officially concerned with this process until publication of the award of the contract.

21. **Rejection of all bids and re-bidding.** All bids shall not be rejected, the procurement process shall not be cancelled, and new bids shall not be solicited without the IFAD's prior concurrence.

22. **Securities.** Bid securities shall not exceed 3 percent of the estimated cost of the contract; and performance securities shall not exceed 10 percent of the contract price. The successful bidder shall be given at least 15 days from the receipt of notification of contract award to submit a performance security. No advance payment shall be made without a suitable advance payment security.

23. **Publication of contract award.** Information on contract award shall be published at least in a national newspaper of wide circulation within two weeks of receiving the IFAD's No Objection to the award recommendation for contracts subject to prior review and within two weeks from the award decision for contracts subject to post review. The publication shall include the following information: (a) the name of each bidder who submitted a bid; (b) bid prices as read out at bid opening; (c) evaluated prices of each bid that was evaluated; (d) the names of bidders whose bids were rejected and the reasons for their rejection; and (e) the name of the winning bidder, the final total contract price, and the duration and summary scope of the contract.

24. **Contracts Register:** Procurement carried out at Project level would be recorded and registered against the Procurement Plan. In addition, all contracts, with or without prior IFAD approval, would be listed in the Contracts Register maintained by the procuring entity with the dates of approval as provided by IFAD. When a contract is amended, the amendment would be recorded in the Register. If a contract is cancelled or declared ineligible for financing by IFAD, this information would be written in the Contracts Register. As this register facilitates the review and approval of payment requests on contracts, it is to be updated and submitted to the IFAD Country Director on a quarterly basis.

25. **Complaints by bidders and handling of complaints.** The borrower shall establish an effective and independent protest mechanism allowing bidders to protest and to have their protest handled in a timely manner.

26. **Contract and contract modifications.** Contracts shall be in writing and the bid of the successful bidder shall become part of the contract documents without any modification introduced by the contracting authority. In the case of contracts subject to prior review, the IFAD's No Objection shall be obtained before agreeing to (a) a material extension of the stipulated time for performance of

a contract; (b) any substantial modification of the scope of services or other significant changes to the terms and conditions of the contract; (c) any variation order or amendment (except in cases of extreme urgency) which, singly or combined with all variation orders or amendments previously issued, increases the original contract amount by more than 15 percent; or (d) the proposed termination of the contract. A copy of all contract amendments shall be furnished to the IFAD for its record.

27. **Post-review** – All other contracts would be subject to post-review and may be subject to procurement audit by the Fund. The Procurement unit shall maintain accurate records of all procurement activities and documents related to the project. The procurement files will be maintained for review by IFAD supervision missions and independent audits. The project staff would also consolidate procurement activities into quarterly and annual progress reports.

28. **Ex post review** – The Project would retain all documentation up to five years after the closing date of the financing for examination by IFAD or by independent auditors. This documentation includes, but not be limited to, the signed original contracts, the evaluation of the respective proposals and recommendation of award. IFAD does not finance expenditures for goods, works or consulting services that have not been procured in accordance with the procedures specified in the financing agreement. In such cases, IFAD may, in addition, exercise other remedies under the financing agreement, including cancellation of the amount in question from the financing. Even if the contract was awarded after obtaining a “No Objection” from IFAD, IFAD may still declare mis-procurement if it concludes that the “No Objection” was issued on the basis of incomplete, inaccurate or misleading information furnished by the Project or the terms and conditions of the contract had been modified without IFAD’s approval.

29. **Right to inspect/audit.** In accordance with the Procurement Guidelines, each bidding document and contract financed from the proceeds of the financing shall provide that bidders, suppliers, and contractors, and their subcontractors, agents, personnel, consultants, service providers or suppliers, shall permit the IFAD, at its request, to inspect their accounts, records, and other documents relating to the submission of bids and contract performance and to have them audited by auditors appointed by the IFAD. Acts intended to materially impede the exercise of the IFAD’s inspection and audit rights constitute an obstructive practice as defined in the Procurement Guidelines.

30. **Fraud and corruption.** In accordance with the Procurement Guidelines, each bidding document and contract financed from the proceeds of the financing shall include provisions on matters pertaining to fraud and corruption. The IFAD will sanction a firm or individual, at any time, in accordance with prevailing IFAD sanctions procedures, including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (a) to be awarded a IFAD-financed contract; and (b) to be a nominated subcontractor, consultant, supplier, or service provider of an otherwise eligible firm being awarded a IFAD-financed contract.

31. **Debarment under the national system.** The IFAD may recognise, if requested by the borrower, exclusion from participation as a result of debarment under the national system, provided that the debarment is for offenses involving fraud, corruption, or similar misconduct, and further provided that the IFAD confirms that the particular debarment process afforded due process and the debarment decision is final.

32. **Particular methods of procurement of consultants’ services**

- (a) **Quality- and Cost-Based Selection (QCBS).** Except as otherwise provided in the next paragraph, consultants’ services shall be procured under contracts awarded on the basis of QCBS.
- (b) **Other methods of procurement of consultants’ services.** The following methods, other than Quality- and Cost-Based Selection, may be used for procurement of consultants’ services for those contracts specified in the Procurement Plan:

Other Procurement Methods for Consulting Services

Procurement Method
(a) Quality-Based Selection (QBS)
(b) Selection under a Fixed Budget (FBS)

(c) Least-Cost Selection (LCS)
(d) Selection Based on the Consultants' Qualifications (CQS)
(e) Single Source Selection (SSS)
(f) Selection of Individual Consultants (IC)
(g) Single source procedures for the selection of Individual Consultants
(h) Selection of UN agencies
(i) Procurement involving local communities will be conducted according to procedures to be detailed in the PIM and acceptable to IFAD.

33. **IFAD Review of Procurement Decisions:** The review thresholds are shown in the below Table. The Procurement Plan shall set forth those contracts that shall be subject to prior review by the IFAD. All other contracts shall be subject to post review by the IFAD. The IFAD may, at its own discretion, require that a sample of contracts below the threshold be subject to prior review, at any time or when the Procurement Plan is updated.

Thresholds for Procurement and Review Methods

Expenditure Category	Contract Value Threshold (US\$)	Procurement/Selection Method	Contracts Subject to Prior Review
Works	10,000,000	ICB	All
	3,000,000 < 10,000,000	NCB	All
	< 3,000,000	NCB	None (Post Review)
	< 100,000	Shopping	None (Post review)
	All values	Direct Contracting	All
Goods	1,000,000	ICB	All
	250,000 < 1,000,000	NCB	All
	< 250,000	NCB	None (Post Review)
	< 75,000	Shopping	None (Post review)
	All values	Direct Contracting	All
Consulting Services – Firms	200,000	QCBS/Other (QBS/FBS/LCS)	All
	< 200,000	CQS/Other (QCBS/QBS/FBS/LCS)	None (Post Review)
	All values	SSS UN Agencies	All
Consulting Services - Individuals (IC)	100,000	IC – Qualification	All
	< 100,000	IC – Qualification	None (Post review)
	All Values	IC – SSS	All

The Procurement Unit

34. ARP procurement activities shall be coordinated by a Procurement Assistant (PA) with the required experience and familiarity with IFAD and WB procurement procedures. The PA will work under the guidance of the SAMAP/SADCP-C&H Procurement Specialist. The position would be filled through a competitive recruitment process and the PA will be responsible for undertaking procurement activities within the defined thresholds and prepare procurement documents for processes and facilitate procurement for the ARP following guidelines to be specified in the Project Implementation Manual (PIM). These will include procurement procedures for Goods, Works and Services, community based procurement procedures, internal control, reconciliation and dispute resolution, risk management, post-procurement, audit and monitoring, etc.

Procurement Plan

35. The implementing agency has to prepare its procurement plan for the activities to be carried out during the first 18 months of Project implementation. The Procurement Plan shall be submitted to the Project Coordination Committee for approval prior to submission to IFAD for review and No Objection. This procurement plan shall be agreed between the borrower and the IFAD during negotiations. The procurement plan will be made available at the Project's database and on the IFAD's website after loan approval. The Procurement Plan shall be prepared annually and submitted to IFAD for review and expression of No Objection 60 days before the beginning of each subsequent Project year. When preparing the Procurement Plan, an accurate and realistic planning and prioritisation of needs is an essential prerequisite to effective procurement and a key tool for monitoring project implementation.

36. The frequency of procurement supervision missions will be once every six months. Special procurement supervision for post-procurement reviews will be carried out at least once every 12 months.

37. Procurement Plan shall include the following:

- a) A brief description of each procurement activity to be undertaken during that project implementation period;
- b) The estimated value of each activity in US\$ equivalent to Angolan Kwanza (AOA);
- c) The method of procurement to be adopted for each activity;
- d) Works Procurement Packages with Methods and Time Schedule
- e) Goods Procurement Packages with Methods and Time Schedule
- f) Consultancy Assignments with Selection Methods and Time Schedule
- g) The method of review IFAD will undertake for each activity (Post or Prior Review); and
- h) Timelines showing milestones when the key stages of the procurement cycle will be achieved.

38. **Goods and Works and Non-consulting Services** – Procurement decisions will be subjected to the following Prior Review Thresholds:

Expenditure Category	Contract Value Threshold (US\$)	Procurement/Selection Method	Contracts Subject to Prior Review
Works	10,000,000	ICB	All
	3,000,000 < 10,000,000	NCB	All
	< 3,000,000	NCB	None (Post Review)
	< 100,000	Shopping	None (Post review)
	All values	Direct Contracting	All
Goods	1,000,000	ICB	All
	250,000 < 1,000,000	NCB	All
	< 250,000	NCB	None (Post Review)
	< 75,000	Shopping	None (Post review)
	All values	Direct Contracting	All

- **Reference to (if any) Project Operational/Procurement Manual:** Procurement related to goods, works and services, consultants' services will be carried out, by PIU of ARP, following procedures as laid down in the Operational Manual to be approved by the IFAD.
- **Any Other Special Procurement Arrangements:** PIU shall comply strictly with procurement provisions as indicated in the manual for sub-projects.

39. **Selection of Consultants** – Selection decisions will be subjected to prior review by the IFAD. In addition, all TOR's for consultant's services, irrespective of value of the contract, shall be reviewed by the IFAD.

Expenditure Category	Contract Value Threshold (US\$)	Procurement/Selection Method	Contracts Subject to Prior Review
Consulting	200,000	QCBS/Other (QBS)	All

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Expenditure Category	Contract Value Threshold (US\$)	Procurement/Selection Method	Contracts Subject to Prior Review
Services –Firms	< 200,000	CQS/Other (QCBS/QBS/)	None (Post Review)
	All values	SSS UN Agencies	All
Consulting Services - Individuals (IC)	100,000	IC – Qualification	All
	< 100,000	IC – Qualification	None (Post review)
	All Values	IC – SSS	All

40. **Risk Identification and Mitigation** – The risk mitigation measures for the project include enhancement of the ARP's procurement capacity by: (a) linking the ARP Procurement Unit to that of SAMAP/SADCP-C&H for oversight and guidance; (b) training of IDA procurement personnel; and (c) preparation of the procurement implementation manual. Considering the above mitigating measures, the residual procurement risk for the project is considered Moderate. Further the potential risks to project success and mitigation measures are summarised below:

Issues	Mitigation Measures
Inadequate and incomplete TORs, technical specifications and Bill of Quantities (BOQ)	Capacity building and Technical assistance
Inadequate contract administration	Continuous capacity building and strict follow-up and supervision
Inadequate procurement planning and monitoring and follow-up of procurement activities	Make Procurement Planning a requirement as part of the Annual Work Plan and Budget
Non-compliance with procurement regulations	Technical assistance and/or capacity building
Inefficiencies in procurement processes	Strict follow-up and supervision
Inadequate capacity in procurement	Technical assistance and/or capacity building
Inadequate record keeping	Capacity building
Improper Receipt of bids and opening	Capacity building and/or technical assistance
Bid examination and evaluation requiring improvements	Capacity building and/or technical assistance

Appendix 9: ARP Costs and Financing

1. **Main Assumptions** – This Appendix provides the analysis of costs and financing for the Agriculture Recovery Project (ARP). It describes the assumptions made in estimating the Project costs which in turn support the detailed cost tables and financing plan. The analyst has used the COSTAB software to capture the financial data and has prepared a detailed cost table for each component. These cost tables have been consolidated into summary cost tables that present the Project cost by component, expenditure account and financiers. The full set of detailed and summary tables is presented in the Annexes to this Appendix.

2. ARP is to be financed over a four-year period (2017-2020). The information collected during the design mission provided the key parameters for the Project costs. Data collected have been checked for consistency with average costs of goods and services in Angola. ARP costs have been estimated on the basis of prices prevailing at the time of design in April 2017.

3. **Economic Growth** – Angola's natural resources helped attracting foreign direct investment and ensured economic growth over the last ten years. The economy has recently undergone a structural shock due to lower crude oil prices. Forecasts about the evolution of the country's oil exports and international commodity prices are uncertain. Average GDP growth is projected to remain at 3.5% in 2017, in line with 2016 and down from 3.8% in 2015: oil sector will grow at 4%, while the non-oil sector is expected to show a small improvement, growing by 3.4%, driven mainly by a strong recovery in agriculture sector which is expected to play a key role in boosting the country's exports and generating earnings in foreign currency⁵⁶. However, Angolan growth is expected to average just 2.8% a year in 2017-21⁵⁷.

4. **Inflation Rate** – National inflation inputted in the COSTAB is based on forecasts provided by the Economist Intelligence Unit (EIU). Inflation in Angola has peaked since 2015 following the successive reductions in fuel subsidies and the Kwanza's continued weakness against the US\$, which continues to push up the cost of imported goods. During the project implementation period (2017-2020), an average yearly international inflation of 1.6% has been considered, based on the Unit Value Index (in US dollars) of manufactures (MUV), which is commonly used as a deflator in the commodity-price literature. Both local and foreign inflation rates are compounded at mid-year. Inflation figures used in the calculation of the Project costs are shown in Table 1. Price contingencies have been applied on all costs, with the exception of grants and subsidies. Physical contingencies (5%) have been applied to equipment and materials, works, goods, services and inputs.

Table 1: Inflation Rates

Inflation Rates (%)	2017	2018	2019	2020
Annual				
Local	24.0	15.0	10.0	7.0
Foreign	1.6	1.6	1.6	1.6
Compound				
Local	27.7	52.0	70.7	85.1
Foreign	1.7	3.3	5.0	6.7

5. **Exchange Rate** – The initial exchange rate for the analysis has been set at Kwanza (AOA) 165 to US\$ 1, the official rate prevailing in April 2017. In the absence of AOA/US\$ exchange rate forecasts provided by the Central Bank of Angola (BNA) a constant purchasing power exchange rate, as calculated by COSTAB, has been used. . Conversions from current USD values into AOA use the constant purchasing power parity (CPPP) exchange rates reported in Table 2.

⁵⁶ Source: African Development Bank, African Economic Outlook (AEO) 2016.

⁵⁷ Source: the Economist Intelligence Unit (EIU).

Table 2: CPPP Rates

Exchange Rate	Up to negotiation	Up to Project start-up	2017	2018	2019	2020
AOA to US\$	165.0	165.0	207.1	242.6	268.3	286.3

6. Considering the two digit local inflation rate and the difficulties in forecasting the AOA/US\$ exchange rate, the costs have been inputted in US\$ in the COSTAB, also to mitigate cost overruns.

7. **Taxes and Duties** – Import duties (on vehicles, office furniture and equipment) and taxes are applied to costs of all transactions where appropriate. Both consumption and production taxes are applied on all imported and locally procured goods and services, except for training, workshops and international technical assistance which are tax exempted. For directly recruited local staff the Project will cover the social insurance charges of 8%. Taxes and duties have been estimated using information collected during the design mission. All items to be imported for the Project attract custom duties of different proportions. The Government will waive the duties and taxes or will finance the cost of all taxes on goods procured under the Project. Taxes and duties applied in Project costing, displayed by expenditure category, are summarized in Table 3.

Table 3: Taxes, Duties and Foreign Exchange by Expenditure Category

Expenditure category	% Taxes and duties	% foreign exchange
<i>I. Investment Costs</i>		
A. Consultancies	7.5	50
B. Equipment & materials	17	60
C. Works	10	60
D. Vehicles	17	60
E. Workshops	0	5
F. Training	0	5
G. Goods, services & inputs	17	60
H. Grants & subsidies	0	0
I. Unallocated	0	0
<i>II. Recurrent Costs</i>		
A. Operating costs	20	50
B. Salaries & allowances	8	0

8. **Project Costs** – Total ARP costs including price contingencies, duties and taxes are estimated at about USD 7.6 million over the four-year Project implementation period. Of this amount about 26% represents the foreign exchange content, and about 8.6% are duties and taxes. Total base costs amount to USD 7.3 million, while contingencies are estimated to add to this amount another USD 0.3 million (of which USD 0.1 million are physical contingencies and USD 0.2 million are price contingencies), corresponding to 3.8% of the base costs. Investment costs account for 69% of the base costs (and recurrent costs for remaining 31%). Funds allocated to Project management and coordination amount to about USD 1.3 million or 17% of total Project costs.

9. Project investments are organized in two components: a) Component 1: Sustainable Livelihoods Recovery; and b) Component 2: Project Coordination and Management. The first component is divided into three subcomponents: 1.1: Recovery of household productive assets; 1.2: Recovery of community productive assets; and 1.3: Capacity building for recovery.

10. A summary breakdown of the Project costs by component is shown in Table 4. Project summary and detailed costs are provided in Annexes 1 and 2.

Table 4: Project Costs Summary by Component (including contingencies)

	(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total		
A. Sustainable Livelihood Recovery					
1. Recovery of Household Productive Assets	1,121	771	1,892	41	26
2. Recovery of Community Productive Assets	1,363	574	1,936	30	26
3. Capacity Building for Recovery	1,963	228	2,191	10	30
Subtotal Sustainable Livelihood Recovery	4,446	1,573	6,019	26	82
B. Project Coordination and Management					
1. Project Coordination and Management	1,025	279	1,304	21	18
Subtotal Project Coordination and Management	1,025	279	1,304	21	18
Total BASELINE COSTS	5,471	1,852	7,323	25	100
Physical Contingencies	45	67	112	60	2
Price Contingencies	117	54	171	31	2
Total PROJECT COSTS	5,633	1,973	7,606	26	104

11. **Expenditure Categories** – The expenditure accounts are based on the standardisation that IFAD is adopting after phasing its Loan and Grants System. The expenditure and disbursement account structure for ARP is reported in Table 5 and a summary breakdown of the Project costs by expenditure category is shown in Table 6.

Table 5: Project Expenditure and Disbursement Accounts

I. Investment Costs	
A. Consultancies	A. Consultancies
B. Equipment & materials	B. Equipment & materials
C. Works	C. Works
D. Vehicles	D. Vehicles
E. Workshops	E. Workshops
F. Training	F. Training
G. Goods, services & inputs	G. Goods, services & inputs
H. Grants & subsidies	H. Grants & subsidies
I. Unallocated	I. Unallocated
II. Recurrent Costs	
A. Operating costs	A. Operating costs
B. Salaries & allowances	B. Salaries & allowances

Table 6: Project Costs by Expenditure Categories

	(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total		
I. Investment Costs					
1. Consultancies and TA	220	292	512	43	7
2. Equipment & materials	42	88	130	32	2
3. Works	518	259	778	67	11
4. Vehicles	144	55	199	72	3
5. Workshops	3	48	50	5	1
6. Training	-	1,109	1,109	-	15
7. Goods, services & inputs	784	301	1,085	72	15
8. Grants & subsidies	-	750	750	-	10
9. Unallocated	-	-	-	-	-
10. Duties & Taxes	-	394	394	-	5
Total Investment Costs	1,711	3,295	5,006	34	68
II. Recurrent Costs					
1. Operating costs	141	84	225	63	3
2. Salaries & allowances	-	1,873	1,873	-	26
3. Duties & Taxes	-	219	219	-	3
Total Recurrent Costs	141	2,176	2,317	6	32
Total BASELINE COSTS	1,852	5,471	7,323	25	100
Physical Contingencies	67	45	112	60	2
Price Contingencies	54	117	171	31	2
Total PROJECT COSTS	1,973	5,633	7,606	26	104

12. **Project Financing** – The following financiers will be contributing to the Project: IFAD (through a loan and a grant); the Government of Angola (GOA); FAO and the Project beneficiaries. IFAD will fund the Project through a grant of USD 1 million and a loan of 5 USD million. The loan is granted on ordinary terms.

13. GOA will finance the taxes and duties as well as general office expenses for the Project coordination and management unit for a total of USD 0.7 million, representing 9.5% of total costs. The estimate of taxes and duties is based on the rates in effect prevailing at the time of the design. In conformity with the principle that no taxes or duties would be financed out of the proceeds of the IFAD Loan/Grant, any future changes in the rates and/or structures of taxes and duties would have to be met by GOA. Beneficiaries will contribute about USD 0.4 million representing 5% of Project costs: it will consist mainly of in kind contribution (unskilled labour). FAO will contribute with 0.5 USD million through Technical Assistance (provided through its Technical Cooperation Programmes), cars and related Operations & Maintenance, salary of one driver and office equipment for the Project coordination and management unit. The proposed financing plan for ARP is summarised in Table 7.

Table 7: Project Financing Plan

	The Government		FAO		IFAD loan		IFAD grant		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Sustainable Livelihood Recovery												
1. Recovery of Household Productive Assets	312	15.5	294	14.6	1,286	64.0	-	-	117	5.8	2,008	26.4
2. Recovery of Community Productive Assets	146	7.2	-	-	1,606	79.3	-	-	273	13.5	2,024	26.6
3. Capacity Building for Recovery	113	5.1	161	7.2	954	42.8	1,000	44.9	-	-	2,227	29.3
Subtotal Sustainable Livelihood Recovery	571	9.1	454	7.3	3,845	61.4	1,000	16.0	390	6.2	6,260	82.3
B. Project Coordination and Management												
1. Project Coordination and Management	155	11.5	36	2.7	1,154	85.8	-	-	-	-	1,346	17.7
Total PROJECT COSTS	726	9.5	491	6.5	5,000	65.7	1,000	13.1	390	5.1	7,606	100.0

14. **Project Sustainability** – Most ARP costs are represented by investment costs (the ratio investment to recurrent costs is 2:1). Therefore, post Project sustainability is not considered a risk.

Summary of Project costs and financing, as well as detailed cost tables are presented in the Annexes below.

ANNEX 1: ARP - SUMMARY COST TABLES

Table	Description
A1	Components Project Cost Summary, by year
A2	Detailed Cost Estimate by Expenditure Category
A3	Expenditure Accounts by Components
A4	Expenditure Accounts by Financiers
A5	Disbursement Accounts by Financiers
A6	Local/Foreign/Taxes by Financiers
A7	Project Components by Year – Investment/Recurrent costs
A8	Expenditure Accounts by Years -- Totals Including Contingencies

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table A1: Project Cost Summary by Components and by Year

Republic of Angola Agriculture Recovery Project (ARP) Project Components by Year – Totals Including Contingencies (US\$ '000)					
	Totals Including Contingencies				
	2017	2018	2019	2020	Total
A. Sustainable Livelihood Recovery					
1. Recovery of Household Productive Assets	575	672	625	137	2,008
2. Recovery of Community Productive Assets	316	652	691	365	2,024
3. Capacity Building for Recovery	1,548	285	238	157	2,227
Subtotal Sustainable Livelihood Recovery	2,439	1,609	1,553	659	6,260
B. Project Coordination and Management					
1. Project Coordination and Management	370	274	351	351	1,346
Subtotal Project Coordination and Management	370	274	351	351	1,346
Total PROJECT COSTS	2,809	1,883	1,904	1,011	7,606

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table A2: Detailed Cost Estimate by Expenditure Category

<p style="text-align: center;">Republic of Angola Agriculture Recovery Project (ARP) Detailed Cost Estimate by Expenditure Category</p>										
	(AOA '000)			% Foreign Exchange	% Total Base Costs	(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Foreign	Local	Total			Foreign	Local	Total		
A. Investment Costs										
1. Consultancies and TA	36,300	48,180	84,480	43	7	220	292	512	43	7
2. Equipment & materials	6,930	14,454	21,384	32	2	42	88	130	32	2
3. Works	85,536	42,768	128,304	67	11	518	259	778	67	11
4. Vehicles	23,760	9,108	32,868	72	3	144	55	199	72	3
5. Workshops	413	7,838	8,250	5	1	3	48	50	5	1
6. Training	-	182,941	182,941	-	15	-	1,109	1,109	-	15
7. Goods, services & inputs	129,439	49,618	179,057	72	15	784	301	1,085	72	15
8. Grants & subsidies	-	123,668	123,668	-	10	-	750	750	-	10
9. Unallocated	-	-	-	-	-	-	-	-	-	-
10. Duties & Taxes	-	65,071	65,071	-	5	-	394	394	-	5
Total Investment Costs	282,377	543,645	826,022	34	68	1,711	3,295	5,006	34	68
B. Recurrent Costs										
1. Operating costs	23,183	13,910	37,092	63	3	141	84	225	63	3
2. Salaries & allowances	-	309,034	309,034	-	26	-	1,873	1,873	-	26
3. Duties & Taxes	-	36,146	36,146	-	3	-	219	219	-	3
Total Recurrent Costs	23,183	359,090	382,272	6	32	141	2,176	2,317	6	32
Total BASELINE COSTS	305,560	902,735	1,208,294	25	100	1,852	5,471	7,323	25	100
Physical Contingencies	11,095	7,397	18,492	60	2	67	45	112	60	2
Price Contingencies	110,522	244,022	354,544	31	29	54	117	171	31	2
Total PROJECT COSTS	427,177	1,154,154	1,581,330	27	131	1,973	5,633	7,606	26	104

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table A3: Expenditure Accounts by Components

Republic of Angola
Agriculture Recovery Project (ARP)
Expenditure Accounts by Components - Totals Including Contingencies
(US\$ '000)

	Sustainable Livelihood Recovery			Project Coordination and Management	
	Recovery of Household Productive Assets	Recovery of Community Productive Assets	Capacity Building for Recovery	Project Coordination and Management	Total
I. Investment Costs					
A. Consultancies and TA	-	-	106	456	561
B. Equipment & materials	27	48	73	-	148
C. Works	-	938	-	-	938
D. Vehicles	-	-	242	-	242
E. Workshops	-	-	-	50	50
F. Training	-	-	1,128	-	1,128
G. Goods, services & inputs	1,357	51	-	-	1,408
H. Grants & subsidies	-	712	38	-	750
I. Unallocated	-	-	-	-	-
Total Investment Costs	1,384	1,749	1,586	506	5,225
II. Recurrent Costs					
A. Operating costs	-	-	173	116	290
B. Salaries & allowances	625	276	468	724	2,091
Total Recurrent Costs	625	276	641	840	2,381
Total PROJECT COSTS	2,008	2,024	2,227	1,346	7,606
Taxes	285	133	113	115	646
Foreign Exchange	830	622	232	288	1,973

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table A4: Expenditure Accounts by Financiers

Republic of Angola
Agriculture Recovery Project (ARP)
Expenditure Accounts by Financiers
(US\$ '000)

	The Government		FAO		IFAD loan		IFAD grant		Beneficiaries		Total		For.	Local	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Exch.	(Excl. Taxes)	Taxes
I. Investment Costs															
A. Consultancies and TA	34	6.1	-	-	502	89.4	25	4.5	-	-	561	7.4	228	299	34
B. Equipment & materials	13	8.7	21	14.0	102	68.9	-	-	13	8.5	148	1.9	45	90	13
C. Works	94	10.0	-	-	675	72.0	-	-	169	18.0	938	12.3	563	281	94
D. Vehicles	41	17.0	100	41.5	100	41.5	-	-	-	-	242	3.2	145	56	41
E. Workshops	-	-	-	-	50	100.0	-	-	-	-	50	0.7	3	48	-
F. Training	-0	-	-	-	192	17.0	936	83.0	-	-	1,128	14.8	-	1,128	-
G. Goods, services & inputs	239	17.0	-	-	1,063	75.5	-	-	106	7.5	1,408	18.5	845	324	239
H. Grants & subsidies	-	-	-	-	655	87.3	38	5.1	57	7.6	750	9.9	-	750	-
I. Unallocated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Investment Costs	421	8.1	121	2.3	3,339	63.9	1,000	19.1	344	6.6	5,225	68.7	1,828	2,976	421
II. Recurrent Costs															
A. Operating costs	98	33.7	40	13.7	153	52.6	-	-	-	-	290	3.8	145	87	58
B. Salaries & allowances	207	9.9	330	15.8	1,508	72.1	-	-	46	2.2	2,091	27.5	-	1,924	167
Total Recurrent Costs	305	12.8	370	15.5	1,661	69.7	-	-	46	1.9	2,381	31.3	145	2,011	225
Total PROJECT COSTS	726	9.5	491	6.5	5,000	65.7	1,000	13.1	390	5.1	7,606	100.0	1,973	4,987	646

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table A5: Disbursement Accounts by Financiers

Republic of Angola
Agriculture Recovery Project (ARP)
Disbursement Accounts by Financiers
(US\$ '000)

	The Government		FAO		IFAD loan		IFAD grant		Beneficiaries		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
1. Consultancies and TA	34	6.1	-	-	502	89.4	25	4.5	-	-	561	7.4	228	299	34
2. Works	94	10.0	-	-	675	72.0	-	-	169	18.0	938	12.3	563	281	94
3. Vehicles	41	17.0	100	41.5	100	41.5	-	-	-	-	242	3.2	145	56	41
4. Equipment_material	13	8.7	21	14.0	102	68.9	-	-	13	8.5	148	1.9	45	90	13
5. Training	-0	-	-	-	192	17.0	936	83.0	-	-	1,128	14.8	-	1,128	-
6. Workshops	-	-	-	-	50	100.0	-	-	-	-	50	0.7	3	48	-
7. Goods, services & inputs	239	17.0	-	-	1,063	75.5	-	-	106	7.5	1,408	18.5	845	324	239
8. Grants & subsidies	-	-	-	-	655	87.3	38	5.1	57	7.6	750	9.9	-	750	-
9. Salaries & allowances	207	9.9	330	15.8	1,508	72.1	-	-	46	2.2	2,091	27.5	-	1,924	167
10. Operating costs	98	33.7	40	13.7	153	52.6	-	-	-	-	290	3.8	145	87	58
11. Unallocated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PROJECT COSTS	726	9.5	491	6.5	5,000	65.7	1,000	13.1	390	5.1	7,606	100.0	1,973	4,987	646

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table A6:
Local/Foreign/Taxes by Financiers

Republic of Angola
Agriculture Recovery Project (ARP)
Local/Foreign/Taxes by Financiers

	(AOA '000)											(US\$ '000)												
	The Government		FAO		IFAD loan		IFAD grant		Beneficiaries		Total	The Government		FAO		IFAD loan		IFAD grant		Beneficiaries		Total		
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Foreign	5,518	1.3	18,824	4.4	358,507	83.9	-	-	44,328	10.4	427,177	27.0	25	1.3	97	4.9	1,653	83.8	-	-	198	10.0	1,973	25.9
II. Local (Excl. Taxes)	11,936	1.2	83,953	8.3	677,928	66.8	201,845	19.9	39,501	3.9	1,015,162	64.2	55	1.1	394	7.9	3,347	67.1	1,000	20.0	192	3.8	4,987	65.6
III. Taxes	138,992	100.0	-	-	-	-	-	-	-	-	138,992	8.8	646	100.0	-	-	-	-	-	-	-	-	646	8.5
Total Project	156,445	9.9	102,776	6.5	1,036,435	65.5	201,845	12.8	83,829	5.3	1,581,330	100.0	726	9.5	491	6.5	5,000	65.7	1,000	13.1	390	5.1	7,606	100.0

Table A7: Project Components by Year – Investment/Recurrent costs

Republic of Angola
Agriculture Recovery Project (ARP)
Project Components by Year – Investment/Recurrent Costs
(US\$ '000)

Totals Including Contingencies					
	2017	2018	2019	2020	Total
A. Sustainable Livelihood Recovery					
1. Recovery of Household Productive Assets					
Investment Costs	438	437	444	65	1,384
Recurrent Costs	137	235	181	72	625
Subtotal Recovery of Household Productive Assets	575	672	625	137	2,008
2. Recovery of Community Productive Assets					
Investment Costs	215	593	630	310	1,749
Recurrent Costs	101	59	60	55	276
Subtotal Recovery of Community Productive Assets	316	652	691	365	2,024
3. Capacity Building for Recovery					
Investment Costs	1,163	201	152	70	1,586
Recurrent Costs	385	84	85	87	641
Subtotal Capacity Building for Recovery	1,548	285	238	157	2,227
Subtotal Sustainable Livelihood Recovery	2,439	1,609	1,553	659	6,260
B. Project Coordination and Management					
1. Project Coordination and Management					
Investment Costs	161	61	140	143	506
Recurrent Costs	209	212	210	208	840
Subtotal Project Coordination and Management	370	274	351	351	1,346
Total PROJECT COSTS	2,809	1,883	1,904	1,011	7,606
Total Investment Costs	1,977	1,292	1,367	589	5,225
Total Recurrent Costs	831	591	537	422	2,381

Table A8: Expenditure Accounts by Years; Totals Including Contingencies

Republic of Angola Agriculture Recovery Project (ARP) Expenditure Accounts by Years -- Totals Including Contingencies (US\$ '000)					
	Totals Including Contingencies				
	2017	2018	2019	2020	Total
I. Investment Costs					
A. Consultancies and TA	217	61	140	143	561
B. Equipment & materials	67	55	21	6	148
C. Works	178	249	299	211	938
D. Vehicles	242	-	-	-	242
E. Workshops	50	-	-	-	50
F. Training	752	161	144	70	1,128
G. Goods, services & inputs	454	442	449	64	1,408
H. Grants & subsidies	18	324	314	95	750
I. Unallocated	-	-	-	-	-
Total Investment Costs	1,977	1,292	1,367	589	5,225
II. Recurrent Costs					
A. Operating costs	75	76	72	68	290
B. Salaries & allowances	757	515	465	354	2,091
Total Recurrent Costs	831	591	537	422	2,381
Total PROJECT COSTS	2,809	1,883	1,904	1,011	7,606

ANNEX 2: ARP DETAILED COST TABLES (USD)

Table	Description
B1	1.1 Recovery of Household Productive Assets
B2	1.2 Recovery of Community Productive Assets
B3	1.3 Capacity building for recovery
B4	2.1 Project coordination and management

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table B1: 1.1 – Recovery of Household Productive Assets

Totals Including Contingencies (US\$ '000)																	
Unit	Quantities					Unit Cost (US\$)	Base Cost (US\$ '000)										
	2017	2018	2019	2020	Total		2017	2018	2019	2020	Total	2017	2018	2019	2020	Total	
I. Investment Costs																	
A. Crop and livestock packages /a	Household	2,000	1,000	1,000	-	4,000	180.0	360	180	180	-	720	381	194	197	-	771
B. Livelihood options																	
1. Free range poultry package /b	Household	250	500	500	250	1,500	180.0	45	90	90	45	270	48	97	98	50	293
2. Small scale livestock package (goat, sheep, pig)	Household	-	250	250	-	500	180.0	-	45	45	-	90	-	48	49	-	98
3. Off farm activities	Household	-	250	250	-	500	180.0	-	45	45	-	90	-	48	49	-	98
4. Apiculture																	
a. Apiculture package /c	Household	50	200	200	50	500	180.0	9	36	36	9	90	10	39	39	10	98
b. Apiculture processing units /d	Number	-	2	2	1	5	5,000.0	-	10	10	5	25	-	11	11	6	27
Subtotal Apiculture								9	46	46	14	115	10	49	50	16	125
Subtotal Livelihood options								54	226	226	59	565	57	243	247	65	613
Total Investment Costs								414	406	406	59	1,285	438	437	444	65	1,384
II. Recurrent Costs																	
A. Salaries and allowances																	
1. Technical assistance																	
Social development specialist - ITA	person month	2	1	1	-	4	6,000.0	12	6	6	-	24	12	6	6	-	24
Social development specialist - NTA	person month	24	24	24	24	96	2,000.0	48	48	48	48	192	48	49	50	51	198
Apiculture specialist /e	lumpsum							56	56	-	-	111	56	57	-	-	113
Crop specialist /f	lumpsum							-	100	100	-	200	-	102	104	-	206
Subtotal Technical assistance								116	210	154	48	527	116	215	160	51	542
2. Field allowances																	
Per diem	Days	100	100	100	100	400	200.0	20	20	20	20	80	20	20	21	21	83
Total Recurrent Costs								136	230	174	68	607	137	235	181	72	625
Total								550	636	580	127	1,892	575	672	625	137	2,008

^{1/a} Financial support will be offered to farm households up to a ceiling level of \$180 per household.

^{1/b} The poultry package will be offered as a grant to target households. The package will consist of 25 hens or pullets (coming into lay) with two cockerels.

^{1/c} The package includes: a protection kit, smoker and barrel filter and bottle. The package will be provided as micro-project IGA grant.

^{1/d} A processing unit will be installed for each 100 households. It includes: a honey manual radial extractor, a press, a filter and metallic tins with cover

^{1/e} Funded through a FAO TCP

^{1/f} Funded through a FAO TCP

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table B2: 1.2 – Recovery of Community Productive Assets

	Unit	Quantities					Unit Cost (US\$)	Base Cost (US\$ '000)					Totals Including Contingencies (US\$ '000)				
		2017	2018	2019	2020	Total		2017	2018	2019	2020	Total	2017	2018	2019	2020	Total
I. Investment Costs																	
A. Nursery establishment on common plot /a	Number	35	30	10	-	75	600.0	21	18	6	-	45	22	19	7	-	48
B. Water Resource Development																	
1. Water point rehabilitation /b	Number	1	2	2	2	7	22,000.0	22	44	44	44	154	23	47	48	49	168
2. Water point rehabilitation/construction: weirs (in permanent rivers) /c	Number	2	2	2	2	8	20,000.0	40	40	40	40	160	42	43	44	44	173
3. Rainwater harvesting: ponds /d	Number	3	4	5	3	15	22,000.0	66	88	110	66	330	70	95	120	73	358
4. Rainwater harvesting: subsurface dams /e	Number	2	3	4	2	11	20,000.0	40	60	80	40	220	42	65	87	44	239
Subtotal Water Resource Development								168	232	274	190	864	178	249	299	211	938
C. Natural Resource Management																	
1. Rehabilitation of pastures /f	Hectares	-	10,000	10,000	-	20,000	21.4	-	214	214	-	427	-	214	214	-	427
2. Soil and water conservation /g	Hectares	-	500	500	500	1,500	190.0	-	95	95	95	285	-	95	95	95	285
Subtotal Natural Resource Management								-	309	309	95	712	-	309	309	95	712
D. Livestock health and production																	
1. Basic package /h	Group	150	150	150	150	600	25.0	4	4	4	4	15	4	4	4	4	16
2. Extended package /i	Group	20	20	20	-	60	541.0	11	11	11	-	32	11	12	12	-	35
Subtotal Livestock health and production								15	15	15	4	47	15	16	16	4	51
Total Investment Costs								204	573	603	289	1,668	215	593	630	310	1,749
II. Recurrent Costs																	
A. Salaries and allowances																	
1. Technical assistance																	
Pasture management expert - ITA	person month	3	1	1	1	6	6,000.0	18	6	6	6	36	18	6	6	6	37
Water resource engineer - ITA	person month	3	1	1	1	6	6,000.0	18	6	6	6	36	18	6	6	6	37
Livestock expert - ITA	person month	2	-	-	-	2	6,000.0	12	-	-	-	12	12	-	-	-	12
Soil and water conservation expert - ITA	person month	2	1	1	-	4	6,000.0	12	6	6	-	24	12	6	6	-	24
Subtotal Technical assistance								60	18	18	12	108	60	18	19	13	110
2. Field allowances	Day	200	200	200	200	800	200.0	40	40	40	40	160	40	41	42	42	165
Total Recurrent Costs								100	58	58	52	268	101	59	60	55	276
Total								304	631	661	341	1,936	316	652	691	365	2,024

/a It includes: equipment, seeds and tools. Plot size: 0.5-1.5 ha.

/b Water point rehabilitation for human and livestock consumption. It includes: wells, trenches, animal water holes, pumping system (diesel) and tapstand

/c Water point rehabilitation for human and livestock consumption, as well as for irrigation.

/d For domestic/ household consumption. It implies: removal and compaction of earth, construction of dykes and canals, decantation dykes and fencing

/e For domestic/ household consumption. Built in temporary rivers. Main need for the proposed subsurface dam is labour for digging from the community as the materials are locally available except for geotextile that will be installed to prevent leaking in som

/f Contract for fodder

/g These activities will be supported by matching grants to Farmer Field Schools or farmer based organizations (interest groups). Unit costs include: tools and TA.

/h It covers 6 municipalities (25 groups per municipality). Activity includes: technical support from a cadre of Community Animal Health Workers (CAHW). Packages include: mineral block, cold blocks, vaccines and store.

/i It covers 6 municipalities (10 groups per municipality). Activity includes: technical support from a cadre of Community Animal Health Workers (CAHW). Packages include: mineral block, cold blocks, vaccines and store.

REPUBLIC OF ANGOLA
Agricultural Recovery Project
Detailed Design Report

Table B3 – 1.3 Capacity building for recovery

Table B4 - 2.1 Project coordination and management

		Quantities					Unit Cost	Base Cost (US\$ '000)					Totals Including Contingencies (US\$ '000)				
Unit		2017	2018	2019	2020	Total	(US\$)	2017	2018	2019	2020	Total	2017	2018	2019	2020	Total
I. Investment Costs																	
A. Disaster and climate risk management training																	
1. Institutional - Provincial and Municipal																	
a. DRM and Resilience-Building training /a	lumpsum							100	-	-	-	100	101	-	-	-	101
b. Recovery Framework /b	lumpsum							200	-	-	-	200	202	-	-	-	202
Subtotal Institutional - Provincial and Municipal								300	-	-	-	300	302	-	-	-	302
2. Community level																	
a. Training through FFS /c	lumpsum							150	-	-	-	150	151	-	-	-	151
Subtotal Disaster and climate risk management training								450	-	-	-	450	454	-	-	-	454
B. Community level institutional and human resource development																	
1. Farmers Field Schools (FFS)																	
a. Training of Master Trainers /d	Set	2	-	-	-	2	15,000.0	30	-	-	-	30	30	-	-	-	30
b. Training of FFS facilitators /e	Set	3	5	2	-	10	5,000.0	15	25	10	-	50	15	26	10	-	51
c. Refresher training of current FFS facilitators	Set	1	1	1	1	4	5,000.0	5	5	5	5	20	5	5	5	5	21
d. Establishment of new schools /f	Number	35	30	10	-	75	500.0	18	15	5	-	38	18	15	5	-	38
e. Training in community based natural resource management planning	Set	1	-	1	-	2	10,000.0	10	-	10	20	10	-	10	-	-	20
f. Implementation of FFS- farm households /g	Session	2,760	5,760	5,280	1,920	15,720	13.8	38	79	73	26	217	38	81	76	28	224
g. Community development																	
Training of community development facilitators /h	Session	2	2	1	-	5	5,000.0	10	10	5	-	25	10	10	5	-	26
Social mentoring support to households	Session	40	40	5	-	85	80.0	3	3	0	-	7	3	3	0	-	7
Subtotal Community development								13	13	5	-	32	13	14	6	-	32
h. Community animal health workers (CAHW)																	
Training of CAHW (municipality level)	Set	2	2	2	2	8	10,000.0	20	20	20	20	80	20	20	21	21	83
Training of CAHW (para vet)	Set	2	2	2	2	8	2,500.0	5	5	5	20	5	5	5	5	5	21
Subtotal Community animal health workers (CAHW)								25	25	25	25	100	25	26	26	26	103
Subtotal Farmers Field Schools (FFS)								154	163	133	56	506	155	167	139	60	520
2. Training of national personnel in FFS																	
	Set	4	-	-	-	4	10,000.0	40	-	-	-	40	40	-	-	-	40
3. Logistical support to FFS																	
Bicycles for FFS facilitators (1 per 2 schools)	Number	40	40	5	-	85	300.0	12	12	2	-	26	12	12	2	-	26
Bicycles for social development facilitators (1 per 2 schools)	Number	40	40	5	-	85	300.0	12	12	2	-	26	12	12	2	-	26
Subtotal Logistical support to FFS								24	24	3	-	51	24	25	3	-	52
Subtotal Community level institutional and human resource development								218	187	136	56	597	220	191	142	60	612
C. Institutional and technical support																	
1. Training of IDA/EDA in technical subjects	Set	-	1	1	1	3	10,000.0	-	10	10	10	30	-	10	10	11	31
2. Social mobilization/IGA support	Contract	1	-	-	-	1	25,000.0	25	-	-	-	25	25	-	-	-	25
3. IGA field level training to groups (through Service Provider)																	
a. Training/ mentoring of IGA recipients	lumpsum							30	-	-	-	30	30	-	-	-	30
b. Training in apiculture	lumpsum							30	-	-	-	30	30	-	-	-	30
c. Training in livestock husbandry	lumpsum							60	-	-	-	60	60	-	-	-	60
Subtotal IGA field level training to groups (through Service Provider)								120	-	-	-	120	121	-	-	-	121
4. Institutional support																	
a. Institute of Agronomic Research (IA) /i	Contract	1	-	-	-	1	20,000.0	20	-	-	-	20	20	-	-	-	20
b. Institute of veterinary research (IV) /j	Contract	1	-	-	-	1	40,000.0	40	-	-	-	40	40	-	-	-	40
c. Water resources - NGO development	Contract	1	-	-	-	1	20,000.0	20	-	-	-	20	20	-	-	-	20
Subtotal Institutional support								80	-	-	-	80	81	-	-	-	81
Subtotal Institutional and technical support								225	10	10	10	255	227	10	10	11	258
D. Logistical Support																	
1. Vehicles																	
a. Double Cabin Pickup /k	Number	3	-	-	-	3	40,000.0	120	-	-	-	120	121	-	-	-	121
2. Motorcycles /l	Number	40	-	-	-	40	3,000.0	120	-	-	-	120	121	-	-	-	121
3. Office equipment																	
Desktop /m	Number	5	-	-	-	5	1,500.0	8	-	-	-	8	8	-	-	-	8
Photocopier/Printer/Scanner	Number	1	-	-	-	1	5,000.0	5	-	-	-	5	5	-	-	-	5
Office Furniture /n	Set	5	-	-	-	5	1,000.0	5	-	-	-	5	5	-	-	-	5
Meeting room furniture	Set	1	-	-	-	1	3,000.0	3	-	-	-	3	3	-	-	-	3
Subtotal Office equipment								21	-	-	-	21	21	-	-	-	21
Subtotal Logistical Support								261	-	-	-	261	263	-	-	-	263
Total Investment Costs								1,153	197	146	66	1,563	1,163	201	152	70	1,586
II. Recurrent Costs																	
A. Salaries and allowances																	
1. Technical assistance																	
TA	lumpsum							300	-	-	-	300	302	-	-	-	302
2. Field allowances	Day	200	200	200	200	800	200.0	40	40	40	40	160	40	41	42	42	165
Subtotal Salaries and allowances								340	40	40	40	460	343	41	42	42	468
B. Operations & Maintenance																	
1. Motorcycle O & M	Number	40	40	40	40	160	750.0	30	30	30	30	120	30	31	31	32	124
2. Vehicles O & M /o	Number	3	3	3	3	12	4,000.0	12	12	12	12	48	12	12	12	13	50
Subtotal Operations & Maintenance								42	42	42	42	168	42	43	44	44	173
Total Recurrent Costs								382	82	82	82	628	385	84	85	87	641
Total								1,535	279	228	148	2,191	1,548	285	238	157	2,227

/a 20 disaster risk management trainers at provincial levels trained and 10 response simulation exercises conducted

/b About 600 officials of the intersectoral CNPC at municipal and provincial levels will be trained in planning, implementing and monitoring resilience-building interventions.

/c About 6,290 smallholders trained in climate risk management and 4,000 community members trained in disaster risk management.

/d It targets: 20 persons for 3 months.

/e It targets: 20 persons (i.e. 2 facilitators per school, for 10 new schools) for 2 weeks.

/f It consists of capital injection (seed money).

/g It covers cost of FFS facilitators.

/h Each session targets 20 persons and lasts 2 weeks.

/i It supports multiplication of cassava cuttings and seeds.

/j It supports multiplication of forage seeds.

/k Two pickups for the PIU and 1 pickup for the IDA Provincial Office in Huila.

/l Purchased in support to Municipalities: 15 for Huila, 15 for Cunene and 10 for Benguela

/m Package inclusive of printer and stabilization unit.

/n Each set consists of desk, chair, lamp and file cabinet.

/o Computed as 10% of purchase costs

1

¹² It is assumed that much of the relevant baseline information is already available from the undertaken Post-Disaster Needs Assessment but one would need to compile it into a document relevant to ARP's specific target areas.

Appendix 10: Economic and Financial Analysis

1. This Appendix presents the financial and economic analyses of the Agriculture Recovery Project (ARP) that will be proposed to IFAD funding.

I. Project benefits and beneficiaries

2. **Overview.** The Project will contribute to improved food and nutrition security of targeted communities through the restoration of productive assets and capacity of HHs affected by recurrent droughts. ARP will provide agricultural and livestock support packages that include inputs, services and technical capacity building, and will build basic supporting infrastructure.

3. ARP will promote the production of staple food surpluses, whilst diversifying the rain-fed system and household diets by including other crops (e.g. cassava and beans). ARP will therefore support the diversification of the cropping system in order to diminish the risk of crop failure. Implementation of this activity will involve offering a starter-pack to vulnerable HHs, together with extension advice (through FFS) on minimum tillage, intercropping with legumes and other climate-resilient practices. In addition, HHs will be helped to diversify their livelihoods through a range of income generating activities, such as small stock keeping. ARP will also promote water resource development and natural resource management (through rehabilitation of pastures and soil and water conservation). The end result for target areas will be: (i) increased crop and livestock production; and (ii) expanded land under climate-resilient practices.

4. **Project Benefits.** Financial benefits will be in the form of increased financial returns of the HHs targeted by ARP. Social benefits will include a reduction in poverty rates in the areas targeted by the Project, with special measures taken to ensure inclusion of disadvantaged groups. This will be the effect of the increased financial returns for HHs consequent to Project interventions. Environmental benefits will consist of reduced land degradation and increased carbon sequestration of rangelands. Due to limited data availability, only the HH increased returns are taken into account here.

5. **Direct Project Beneficiaries.** Primary Project beneficiaries will be approximately 7,000 HHs increasing crop and livestock production, and adopting climate-resilient practices. Assuming an average household size of 6 people, total beneficiaries would be about 42,000 people.

6. **Indirect Project Beneficiaries.** There will also be large numbers of people who will benefit indirectly from the Project through: diffuse knowledge of improved crop and livestock production; increased access to water; better quality agriculture products and more diversified food, with positive effects in terms of improved nutrition and overall food security. In addition to this, all those living in the rural areas where supported HHs will be located will benefit from strengthened local economies resulting from inflows of income and strengthened local demand. Thus, Project activities will indirectly stimulate the whole rural economy benefiting rural population (including the rural poor) and possibly reducing rural-urban migration.

II. Financial Analysis

7. **Objectives.** The objectives of this financial analysis are: (i) to assess the financial viability of the development interventions promoted under ARP; (ii) to examine the impact of Project interventions on target HHs incomes; and (iii) to establish the framework for the economic analysis of the Project, which will complement the financial analysis (see section III).

8. **Methodology and financial models.** The analysis is developed by building 'activity' and HH financial budget models for crop production. 'Activity' models simulate revenues and costs of producing crops over 1 ha of land or keeping livestock. HH models simulate some possible

combinations of crop and livestock ‘activity’ models, since ARP will enhance on-farm productivity under rain-fed crop and livestock systems (integrated systems).

9. The analysis builds selected financial performance indicators, which will be used to examine the impact of Project interventions on economic activities of targeted smallholder HHs. Indicators include: gross margins, for ‘activity’ models; gross and net incomes for HH models. Gross margins are computed as a difference between total revenue and total operating (variable) costs. Operating costs include the costs for running the activities conducted every year during the production process. They include costs for hiring external labour. Family labour is valued with a proxy (i.e. market rural wage) in order to obtain sound financial results. Net margin is computed as a difference between gross margin and cost of family labour valued as indicated above. In the HH models, farm income is computed as a combination of the net margins of selected crop and livestock activities, according to their weight in overall HH production. Net margins and incomes are computed before tax.

10. Returns to family labour are also computed: they are obtained as a ratio between gross margin and total family labour used in farming activities. The parameter indicates how much is earned for each day of work attributed to the crop enterprise, irrespective of who provided the labour.

11. Activity and HH models have been built taking into account ARP interventions. However, a wide range of crop and livestock integrated systems potentially exists in Project provinces, depending on different agro-climatic characteristics and HHs’ choices. Models taken onto consideration in this analysis represent a limited set of possible livelihood options that could be eventually combined in more complex scenarios. The models refer to both ‘without project’ (WoP) and ‘with project’ (WP) scenarios. They are related to 1 ha of farmland.

12. The list of activity models used in the analysis is provided in Table 1. Given the recovery nature of the project, a limited range of crops and livestock activities is taken into consideration. It is also assumed that farmers barely keep livestock as profitable economic activity. Thus, only basic goat keeping is considered in the WoP scenario. A full description of the financial and economic models is reported below. The detailed budgets are reported in the Annex 1 to the present Appendix.

Table 1: List of ‘Activity’ Models

System	WoP model	WP model
Staple food production	Maize_conventional	Maize_improved
Crop diversification	Cassava_conventional	Cassava_improved
	Beans_conventional	Beans_improved
Improved small livestock production	Goat keeping_conventional	Goat keeping_improved
		Free range poultry keeping_improved

Source: own elaboration

13. **Baseline activity models (WoP).** These financial models describe the traditional practices generally adopted by smallholders in rainfed crop production and livestock keeping. Farmers grow low-yielding local crop varieties, do not use purchased inputs and do not adopt climate-resilient practices (e.g. drought resistant varieties). Yields are well below the potential and the returns to family labour are very low. Livestock keeping is also conducted in a very basic manner, without use of feed, nutrient integrations and vaccines. This ‘without’ Project scenario is assumed to coincide with the current situation (i.e. baseline is assumed to be static).

14. **Improved activity models (WP).** As a result of recovery Project interventions, target smallholders will: diversify crop production including legumes in crop rotations/intercropping with positive effects in terms of better incomes and reduced risk, as well as improved food and nutrition security; adopt climate-resilient and good agricultural practices in rainfed fields, including reduced/zero tillage, manure application and improved residue management, use of improved hybrid seeds⁶⁰ and proper fertilization with effects in terms of better yields than under traditional farm

⁶⁰We assumed that in the WP scenario farmers use improved and selected seeds which have a higher cost than recycled seeds which are used in the WoP scenario. A difference in seed rate between the two scenarios is also kept.

management and overall enhanced production at farm level⁶¹; adopt improved and modern livestock production practices according to the logic of integrated crop and livestock farming systems; use improved animal husbandry practices and produce good quality animal products. Yields are increased gradually, given the difficult conditions in the rural areas.

15. **Data.** Financial output and input prices are derived from information compiled at national level by IDA - *Instituto de Desenvolvimento agrario* (see the *Boletim de Mercados e precos agricolas*). All technical parameters used to build the financial models were derived from information obtained during the design mission (April 2017) through interviews with officers from the Ministry of Agriculture, IDA, FAO and other key stakeholders. Data have been checked for consistency with average costs of goods and services in the country.

16. **Opportunity cost of capital.** The financial discount rate provides the alternative financial returns/opportunity costs to the investor. It has been used in this analysis to assess the viability and robustness of the investments as compared with market alternatives. The discount rate is estimated at 12%, computed as average between: (i) average deposit interest rate paid by commercial or similar Banks in the country; (ii) lending interest rate; (iii) real interest rate; and (iv) long-term bonds rate, as shown in Table 2.

Table 2: Computation of discount rate to be used in the analysis

Indicator	Deposit interest rate	Lending interest rate	Real interest rate	Long-term bonds rate	Average
Rate (%)	3.3	20	16	8.75	12

Source: own elaboration

17. **Activity model financial results.** Expected financial benefits for targeted households are summarized in Table 3. Results show encouraging results in the WP models as compared with the WoP ones for all the proposed crop and livestock activities. Results suggest significant potential for creating positive benefits for targeted households in selected productive activities through Project interventions, Favourable cash flows show that the HHs will have the capacity to cover the operating costs (see detailed budgets in Annex 1), and that their farming activity will be self-sustained in the longer term (after the initial starter-pack). Results of the models have been validated using secondary data collected during the design mission.

Table 3: Financial returns for crop and livestock activity models

Summary activity models		Financial analysis		
System	Models	Without Project (WoP)	With Project (WP)	Incremental gross margin
		Net margin	Net margin	
		AoA		\$/yr
Staple food production	Maize	6,060	22,431	99
Crop diversification	Cassava	32,880	40,875	48
	Beans	66,588	99,591	200
Improved small livestock production	Goat keeping	786	24,648	145
	Free range poultry keeping		98,017	594

Source: own elaboration

⁶¹It is clearly possible that differences in yields (and production costs) are due to factors other than the adoption of practices (e.g. the level of education or the capacity to access to capital which may vary among the farmers' groups). However, it is plausible to assume that similar variance exists within each group and unobserved HH characteristics have a similar probability distribution within the group itself. Here we compare economic results within the same farmers' groups (and not among different groups). The same HH adopts both 'conventional' (WoP) and improved practices (WP). In this way, we deal with the element of unobserved HH characteristics (microeconomic comparative static analysis).

18. **HH models.** HH models have also been built, as a combination of the crop and livestock activity models described above. The models proposed here represent only a possible combination of crop and livestock activity models. Even if Project area is characterised by a semi-arid climate, HH models are built taking into account the potential agro-climatic differences which characterise the different project intervention areas (Provinces and Municipalities), as also reflected through the different crop combinations in the HH models. Specifically, two main models are considered: subsistence farmers cultivating 0.8 ha in drier areas; and smallholder farmers cultivating 1.5 ha in wetter areas. Such HHs also keep livestock. For the sake of simplicity, unit herds are set equal to the activity livestock models described above.

19. **HH model assumptions.** In the WoP scenario farmers adopt conventional farming practices and make use of limited amount of external inputs. In the WP scenario, however, as a result of Project interventions, smallholders will be able to increase their production (through more intensive cultivation of their own land), and diversify productive activities (crop diversification and engagement in improved small stock keeping). Overall, a conservative approach has been adopted in the models.

20. **HH model results.** Results show substantial increases in farm incomes that should attract smallholders in adopting improved technologies (see Table 4). Even if HH models are built in a very conservative way, all financial farm models are commercially viable with significantly higher cash flows in the with-project situation. They have been built by taking into account the financial results per unit of activity reported in Table 3, combined according to HH model assumptions summarised above. Table 4 shows both WoP and WP scenarios for HH categories (subsistence and smallholder) in different climatic contexts (lower and higher rainfall areas). For each farm category the Table shows farmland area, livestock size, and farm income (the latter being computed as weighted average of activity gross margins). It is assumed that farmers will not expand their farmland area while engaging in Project activities.

Table 4: Financial returns for HH models

Farm type 1 - subsistence in drier areas	Unit	WoP						WP					
		Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total
Farmland area	ha	0.8					0.8	0.4	0.4	-			0.8
Livestock size	herd				0.5		0.5				0.5	-	0.5
Farm Income	AOA	4,545			393		4,938.2	8,972	14,306	-	12,324	-	35,603
Farm type 2 - smallholder in wetter areas	Unit	WoP						WP					
		Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total
Farmland area	ha	0.8	0.3	0.4			1.5	0.6	0.4	0.5			1.5
Livestock size	herd				0.5		0.5				1.0	1.0	2.0
Farm Income	AOA	4,848	9,864	26,635	393		41,740.4	13,459	16,350	49,796	24,648	98,017	202,270

Source: own elaboration

III. Economic Analysis

21. **Objectives.** The objectives of this economic analysis are: (i) to examine the economic viability of the Project as a whole, from the national society standpoint, in which aggregated economic benefits are compared with total economic Project costs; (ii) to assess Project impact and the overall economic internal rate of return (EIRR); and (iii) to perform sensitivity analysis in order to measure the robustness of the economic analysis and to measure variations in the overall EIRR due to unforeseen factors. A summary of the economic analysis is presented in Annex 2 to this Appendix.

22. **Methodology and Assumptions.** The analysis is conducted over a 20-year period (including the 4-year Project implementation period) and is based on the estimation of economic benefits gained from the increased economic performances of target HHs. Economic prices of most inputs and outputs - used to estimate the economic benefits - have been computed through calculating economic import/export parity prices at farm gate, applying conversion factors for each category of costs,

eliminating taxes and transfers. Specifically, import parity prices were calculated for maize, pulses (soybean) and fertilisers (urea) on the basis of the World Bank projections for the year 2025 – considered as the middle year for the period of the analysis –expressed in 2010 constant prices and adjusted to 2016 current process using the weighted index for each category of commodity index as published on the World Bank web site (commodity price forecasts). Conversion factors (CF) used to generate shadow prices, derived as described above, are shown in Table 5. In addition: (i) the economic exchange rate (Shadow Exchange rate – SER) of AOA 148/US\$ is adopted⁶²; (ii) a social discount rate of 5% is chosen, as recommended by The World Bank; and (iii) an economic cost of labour of 357 AOA per day (computed using the CF, starting from the financial cost of 400 AOA per day) is used. HH net benefits are obtained by subtracting costs of family labour to the farm benefits.

Table 5: Conversion factors used in the economic analysis

Item	Conversion factor
Maize	1.59
Soybeans	0.75
Urea	0.50

Source: own elaboration

23. Economic benefits of the Project would accrue to the Angola economy in terms of the improved farming systems that will sustainably increase food crop yields and livestock production, diversify farming activity, and increase overall food and nutrition security. Specifically, main quantifiable economic benefits arising from the Project derive from increased economic returns (net benefits) of target HHs generated by Project activities as compared with the baseline. Therefore, the analysis is based on the estimation of the incremental economic net benefits estimated as the difference between the annual net benefits in the crop and livestock models in WP and WoP scenarios. Net benefits are computed after (family) labour costs.

24. Financial Project costs were converted to economic costs, excluding taxes and duties as well as price contingencies, using the COSTAB software (CPP option is used). In order to avoid double counting of the costs in the economic analysis, only the incremental economic costs are considered. Costs already included in the estimation of the net incremental benefits (e.g. costs at farm level borne by farmers engaging in the proposed activities and accounted for in the economic models) have been excluded. There are no further investment costs after PY4.

25. **Activity model economic results.** A summary of the economic returns (gross and net benefits) for crop and livestock activity models, computed applying the methodology described above, is reported in Table 6.

Table 6: Economic returns for crop and livestock activity models

Summary activity models		Economic analysis					
System	Models	Conventional (WoP)		Improved (WP)			Incremental net benefits
		Gross Benefit	Net benefit	Gross Benefit	Net benefit	Net benefit	
		AoA		AoA		\$	
Staple food production	Maize	39,249	25,668	81,157	70,022	475	301
Crop diversification	Cassava	52,880	35,010	69,682	54,259	368	131
	Beans	59,439	45,858	89,280	78,145	530	219
Improved small livestock production	Goat keeping	10,861	2,283	30,345	26,057	177	161
	Free range poultry keeping			72,539	51,095	347	347

Source: own elaboration

⁶²SER is computed as follows: $SER = SCF \times OER$, where SCF = standard conversion factor (equal to 0.9 in this specific case) and OER = Official Exchange Rate (AOA 148/US\$). SCF is computed using the following formula: $SCF = (M + X) / [(M + T_m) + (O(X - T_x))]$, where M = total imports, X = total exports, T_m = import taxes, and T_x = export taxes". Angola shows a surplus of its trade balance, which averaged 11,906 USD Million in the 2002-2016 period. Exports averaged 19,250 USD Million in the same period. Angola exports mostly crude oil (more than 90% of total exports). Trade surplus was 4,470 USD Million in the second quarter of 2016 (see World Bank Data). As expected under these circumstances, SER is lower than OER.

26. Economic benefits at HH level are then estimated through the economic HH models reported in Table 7. They have been built by taking into account the economic results per unit of activity reported in Table 6, combined according to HH model assumptions summarised above. Table 7 shows both WoP and WP scenarios for different HH categories (subsistence and smallholders) in different climatic contexts (lower and higher rainfall areas), similarly to what already discussed in the financial analysis.

Table 7: Economic returns for HH models

Farm type 1 - subsistence in drier areas		WoP						WP					
	Unit	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total
Farmland area	ha	0.8					0.8	0.4	0.4				0.8
Livestock size	herd				0.5		0.5				0.5		0.5
Net income	AOA	19,251			1,142		20,392.4	28,009	18,991		13,028		60,028
Farm type 2 - smallholder in wetter areas		WoP						WP					
	Unit	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	Total
Farmland area	ha	0.8	0.3	0.4			1.5	0.6	0.4	0.5			1.5
Livestock size	herd				0.5		0.5				1.0	1.0	2.0
Net income	AOA	20,534	10,503	18,343	1,142		50,522.1	42,013	21,703	39,073	26,057	51,095	179,941

Source: own elaboration

27. **Aggregation and phasing of implementation.** Overall economic benefits of the Project are computed by aggregating the estimated incremental net benefits estimated through the models. A breakdown of direct beneficiaries targeted over the years as a result of the implementation of Project activities, and phasing, is reported in Table 8 (see 'Households targeted and phasing in').

28. The adoption rate related to the implementation targets has been estimated in a conservative way, given the difficult in-country circumstances. In the base case, the adoption rate for planned activities at smallholder level is estimated at 66%, as shown in Table 8 (see 'Households reached and phasing in').

Table 8: Direct Project beneficiaries and phasing in

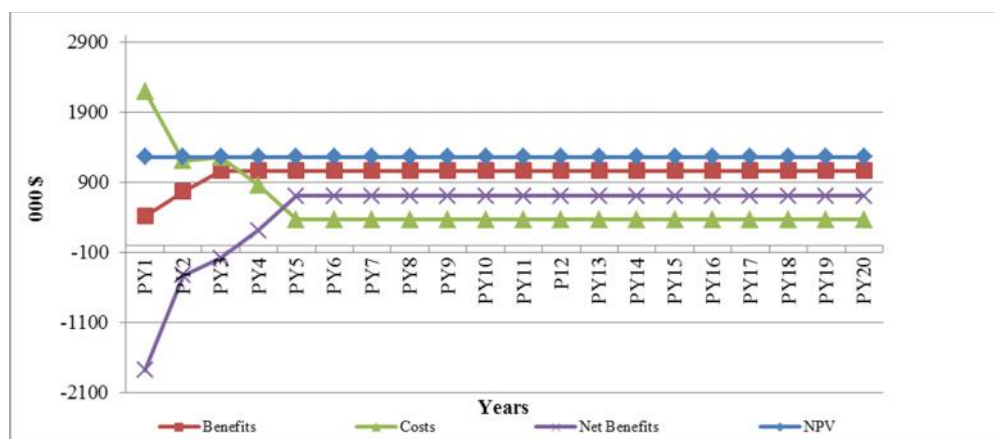
Activity benefits	Households targeted and phasing in					
	2017	2018	2019	2020	Total	Total incl. HH members
Crop package	2,000	1,000	1,000		4,000	24,000
Free range poultry package	250	500	500	250	1,500	9,000
Small scale livestock IGA package (goat keeping)	0	250	250	0	500	3,000
Other IGA activities (average crop&livestock)	450	450	100	-	1,000	6,000
Total	2,700	2,200	1,850	250	7,000	42,000
Adoption rate	Households reached and phasing in					
	66%	66%	66%	66%	Total	Total incl. HH members
Crop package	1,320	660	660	-	2,640	15,840
Free range poultry package	165	330	330	165	990	5,940
Small scale livestock IGA package (goat keeping)	-	165	165	-	330	1,980
Other IGA activities (average crop&livestock)	297	297	66	-	660	3,960
Total	1,782	1,452	1,221	165	4,620	27,720

Source: own elaboration

29. **Project Economic Internal Rate of Return.** The overall Economic Internal Rate of Return (EIRR) of the Project is estimated at 18.3% (base case) which is above the opportunity cost of capital in Angola estimated at 12% (see Table 2 above), indicating the economic convenience of the Project. It is emphasized that computed EIRR has been estimated in a conservative way. Also, this is a reasonable result given the recovery aspect of the Project, logistic and climatic difficulties in rural areas, and overall country macroeconomic scenario. It is based on the assumption that overall adoption is limited to 66% of target farmers. In case of higher % adoption, the EIRR will increase due to higher benefits, as shown in the sensitivity analysis below.

30. **Net Present Value.** The Net Present Value (NPV) is USD 4.16 million over the 20-year period of analysis, with the benefit stream based on the quantifiable benefits as specified above. The flow of Project costs and benefits is reported in Figure 1.

Figure 1: Flow of Project economic costs and benefits



Source: own elaboration

31. **Sensitivity Analysis.** In order to test the robustness of the above results, a sensitivity analysis has been carried out. The EIRR and NPV were subject to sensitivity analysis in order to measure variations due to unforeseen factors and account for risk. Criteria adopted in the sensitivity analysis are: 10, 20 and 50% cost over-run; 10 and 20% increase in benefits; 10 to 50% benefits decrease; and 1 to 2 years of delay in the implementation. Results are presented in Table 9. They indicate a relatively strong resilience to limited increases of costs and reductions of benefits as well as benefits delay.

32. Also, the minimum number of beneficiaries needed in order to obtain a positive NPV and therefore a profitable Project has been computed. This indicator can turn in hand during the implementation of the Project while monitoring Project performances. As shown in Table 9 the minimum number of beneficiaries amounts to about 3,000 HHs (corresponding to an adoption rate of about 44%).

Table 9: Sensitivity analysis for informed decision-making

	Base case scenario	Cost increments			Benefits increments		Benefits decrease			Benefits delay		Minimum number of beneficiaries to have a positive NPV	Minimum adoption rate % to have a positive NPV
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	-50%	1 year	2 year		
EIRR	18.3%	14.8%	11.9%	5.1%	14.4%	26.1%	14.4%	10.6%	-3.2%	13.3%	10.2%	3,000	44%
NPV (\$)	4,159,180	3,337,880	2,516,580	52,680	5,396,398	6,633,616	2,921,962	1,684,744	-2,026,910	3,187,967	2,263,003		

Source: own elaboration

33. **Risk analysis.** In line with what is reported in the main report, the bulk of risk to be considered in the sensitivity analysis relates to: a) limited public sector capacity at local levels; b) limited capacity at community level; c) the procurement process takes more time than expected; d) the Project fails to establish appropriate liaison with other post-emergency projects in the ARP areas of focus; e) the implementation of some of the ARP activities negatively lead to undesirable consequences on the environment; f) selection of participating villages and beneficiaries fail to take into account the social and ethnic aspects of the area; g) the transition between emergency, recovery and longer-term development interventions could create a dependency syndrome.

34. Table 10 reports the impact of each of these key risk components on Project economic performance indicators. The probability of occurrence is supposed to affect the entity of cost/benefit

increases/decreases reported above, i.e. a low probability translates into a 10% decrease in benefits (or a 1 year delay in benefits), while a medium probability is supposed to determine a 20% benefits decrease (or a 2 years benefits delay). It is important to notice that these impacts should be considered purely as indicative and do not rely on any proven evidence.

Table 10: Risk analysis

Risk description (link with the risk matrix)	Prob. of occurrence	Proxy to compare with SA results	EIRR (%)	NPV (\$)
INSTITUTIONAL: Limited Public Sector Capacity at Local Levels	Medium	Benefits delay 2 years	10.2%	2,263,003
SOCIAL: Limited Capacity at Community Level	Low	Decrease in benefits (10%)	14.4%	2,921,962
INSTITUTIONAL: Protracted Procurement Process	Medium	Benefits delay 2 years	10.2%	2,263,003
INSTITUTIONAL: Poor Coordination with Other Projects	Low	Decrease in benefits (10%)	14.4%	2,921,962
SOCIAL: Negative Impact on the Environment	Low	Increment in costs (10%)	14.8%	3,337,880
SOCIAL: Failure to Respect Social Framework	Low	Benefits delay 1 year	13.3%	3,187,967
SOCIAL: Creation of Dependency Syndrome	Medium	Increment in costs (20%)	11.9%	2,516,580

Source: own elaboration

35. Fiscal Impact. In the short-term, the impact of the project on the Government budget will be neutral or slightly negative, given that the Government's contribution to project costs essentially covers taxes and duties on items which wouldn't have been purchased without the project, and additional operational costs for extension services (IDA in targeted municipalities). In the medium to long-term, the potential fiscal impact shall be positive, even if limited in size, given: (i) Project dimension with respect to country economy; and (ii) the recovery aspect of ARP.

Annex 1: Models for Financial Analysis

1. Crop activity models

Maize financial			WoP	WP																			
Assumptions and parameters	Unit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Unit quantities	Seed rate	Kg/ha	40	20																			
	Fertilizer NPK 12-24-12	kg/ha	0	50																			
	Fertilizer Amonium sulfate	kg/ha	0	25																			
	Pesticides	lt/ha	0	1																			
	Ploughing	oxen p-day/ha	2	0																			
	Manual Ploughing	person-day/ha	14	0																			
	Land preparation and planting	person-day/ha	8	8																			
	Fertilizer/pesticide application	person-day/ha	0	2																			
	Harvesting	person-day/ha	10	13																			
	Shelling/cleaning/Packing	person-day/ha	4	5																			
Unit prices	Output price, farm gate	AoA/Kg	100	100																			
	Seed, purchase price - improved	AoA/Kg	300	300																			
	Seed, purchase price - recycled	AoA/Kg	190	190																			
	Fertilizer NPK 12-24-12	AoA/Kg	280	280																			
	Fertilizer Amonium sulfate	AoA/Kg	220	220																			
	Pesticides	AoA/l	4,000	4,000																			
	Sacks	AoA/unit	150	150																			
	Input costs (starter pack)	AoA	0	29,700																			
Investments	Manual labour	AoA/person day	400	400																			
	Animal draft power	AoA/oxen p-day	4,000	4,000																			
Output and input quantities																							
Outputs	Yield	Kg/ha	380	432	532	665	665	665	665	665	665	665	665	665	665	665	665	665	665	665	665	665	
	Plot size	ha	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Inputs	Seeds	Kg	40	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Fertilizer NPK 12-24-12	Kg	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Fertilizer Amonium sulfate	Kg	0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	
	Pesticides	lt	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Family Labour	Sacks	units	8	9	11	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	
	Ploughing	person-day	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Manual Ploughing	person-day	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
	Land preparation and planting	person-day	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Fertilizer/pesticide application	person-day	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	Harvesting	person-day	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
	Shelling/cleaning/packing	person-day	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	Financial Budget																						
Revenue	Total production	AoA	38,000	43,225	53,200	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500	66,500		
Investment costs	Input costs (starter pack)	AoA	0	29,700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Seeds	AoA	7,600	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	
Costs	Fertilizer NPK 12-24-12	AoA	0	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	
	Fertilizer Amonium sulfate	AoA	0	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	
	Pesticides	AoA	0	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	
	Sacks	AoA	1,140	1,297	1,596	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	1,995	
	Animal draft power	AoA	8,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Family labour	AoA	15,200	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	
	Gross margin	AoA	21,260.0	42,128	22,104	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	35,005	
	Net margin (after labour costs)	AoA	6,060.0	1,628	11,304	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	24,205	
	Returns to family labour	AoA/day	559.5	1,560.3	818.7	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	1,296.5	

Cassava financial			WoP	WP																			
Assumptions and parameters		Unit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Unit quantities	Seed rate	Kg/ha	10,000	10,000																			
	Fertilizer NPK 12-24-12	kg/ha	0	50																			
	Fertilizer Amonium sulfate	kg/ha	0	25																			
	Pesticides	lt/ha	0	1																			
	Ploughing	oxen p-day/ha	2	0																			
	Manual Ploughing	person-day/ha	14	0																			
	Land preparation and planting	person-day/ha	20	20																			
	Fertilizer/pesticide application	person-day/ha	0	2																			
	Harvesting	person-day/ha	50	60																			
	Shelling/cleaning/Packing	person-day/ha	0	0																			
Unit prices	Output price, farm gate	AoA/Kg	25	25																			
	Seed, purchase price - improved	AoA/Kg	-	-																			
	Seed, purchase price - recycled	AoA/Kg	5	5																			
	Fertilizer NPK 12-24-12	AoA/Kg	280	280																			
	Fertilizer Amonium sulfate	AoA/Kg	220	220																			
	Pesticides	AoA/l	4,000	4,000																			
	Sacks	AoA/unit	150	150																			
Investments	Input costs (starter pack)	AoA	0	29,700																			
Labour unit cost	Manual labour	AoA/person day	400	400																			
	Animal draft power	AoA/oxen p-day	4,000	4,000																			
Output and input quantities																							
Outputs	Yield	Kg/ha	5,040	3,949	4,860	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075	6,075
	Plot size	ha	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Inputs	Seeds	Kg	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
	Fertilizer NPK 12-24-12	Kg	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	Fertilizer Amonium sulfate	Kg	0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	Pesticides	lt	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Sacks	units	101	79	97	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122
	Ploughing	person-day	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Family Labour	Manual Ploughing	person-day	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Land preparation and planting	person-day	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fertilizer/pesticide application	person-day	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Harvesting	person-day	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Shelling/cleaning/packing	person-day	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Financial Budget																							
Revenue	Total production	AoA	126,000	98,719	121,500	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875	151,875
Investment costs	Input costs (starter pack)	AoA	0	29,700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Costs	Seeds	AoA	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
	Fertilizer NPK 12-24-12	AoA	0	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
	Fertilizer Amonium sulfate	AoA	0	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500
	Pesticides	AoA	0	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
	Sacks	AoA	15,120	11,846	14,580	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225	18,225
	Animal draft power	AoA	8,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Family labour	AoA	20,000	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600	15,600
Performance indicators	Gross margin	AoA	52,880	43,073	33,420	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150	60,150
	Net margin (after labour costs)	AoA	32,880	-2,228	17,820	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550	44,550
	Returns to family labour	AoA/day	1,058	1,104	857	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542	1,542

Beans_financial			WoP	WP																			
Assumptions and parameters	Unit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Unit quantities	Seed rate	Kg/ha	80	60																			
	Fertilizer NPK 12-24-12	kg/ha	0	50																			
	Fertilizer Amonium sulfate	kg/ha	0	25																			
	Pesticides	lt/ha	0	0																			
	Ploughing	oxen p-day/ha	2	0																			
	Manual Ploughing	person-day/ha	14	0																			
	Land preparation and planting	person-day/ha	8	8																			
	Fertilizer/pesticide application	person-day/ha	0	2																			
	Harvesting	person-day/ha	10	13																			
	Shelling/cleaning/Packing	person-day/ha	4	5																			
Unit prices	Output price, farm gate	AoA/Kg	600	600																			
	Seed, purchase price - improved	AoA/Kg	680	680																			
	Seed, purchase price - recycled	AoA/Kg	400	400																			
	Fertilizer NPK 12-24-12	AoA/Kg	280	280																			
	Fertilizer Amonium sulfate	AoA/Kg	220	220																			
	Pesticides	AoA/l	4,000	4,000																			
	Sacks	AoA/unit	150	150																			
Investments	Input costs (starter pack)	AoA	0	29,700																			
Labour unit cost	Manual labour	AoA/person day	400	400																			
	Animal draft power	AoA/oxen p-day	4,000	4,000																			
Output and input quantities																							
Outputs	Yield	Kg/ha	204	191	235	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294	294	
	Plot size	ha	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Inputs	Seeds	Kg	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	Fertilizer NPK 12-24-12	Kg	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
	Fertilizer Amonium sulfate	Kg	0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	
	Pesticides	lt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sacks	units	4	4	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
Family Labour	Ploughing	person-day	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Manual Ploughing	person-day	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
	Land preparation and planting	person-day	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Fertilizer/pesticide application	person-day	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	Harvesting	person-day	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
	Shelling/cleaning/packing	person-day	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Financial Budget																							
Revenue	Total production	AoA	122,400	114,660	141,120	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	176,400	
Investment costs	Input costs (starter pack)	AoA	0	29,700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Costs	Seeds	AoA	32,000	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	40,800	
	Fertilizer NPK 12-24-12	AoA	0	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	
	Fertilizer Amonium sulfate	AoA	0	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	
	Pesticides	AoA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Sacks	AoA	612	573	706	882	882	882	882	882	882	882	882	882	882	882	882	882	882	882	882	882	
	Animal draft power	AoA	8,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Family labour	AoA	15,200	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	10,800	
Performance indicators	Gross margin	AoA	81,788	83,487	80,114	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	115,218	
	Net margin (after labour costs)	AoA	66,588	42,987	69,314	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	104,418	
	Returns to family labour	AoA/day	2,152	3,092	2,967	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	4,267	

2. Livestock activity models

Goat keeping financial			WoP	WP																			
Assumptions and parameters	Units	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Marketing	Selling price, adult	AoA/head	4000																				
	Selling price, kid	AoA/head	1500																				
Labour	Family labour	person days/yr	24	12																			
Labour unit cost	Manual labour	AoA/person day	400.0																				
Feeding	Feed costs (maize bran, sunflower cake, cotton seed cake)	AoA/head	112																				
Animal husbandry	Drugs (Ivomec, acaricide, dewormer, coccidiostats)	AoA/head	176																				
Investments	Veterinary costs	% of gross revenue	15%	5%																			
	Housing	AoA	315																				
	Animal purchase	AoA	40300																				
	Starter pack	AoA	0	29700																			
Other costs	Miscellaneous expenditure	% of gross revenue	4%																				
Other technical parameters	Female replacement	%	19%	20%	22%	25%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
	Twinning	%	40%	42%	42%	42%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
	Kidding rate	n kids/doe/year	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
	Kids mortality	%	35%	35%	35%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
	Juvenile mortality	%	20%	22%	20%	18%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	
	Adults mortality	%	15%	14%	13%	12%	11%	10%	9%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	
	kids	heads	2	3	9	8	7	9	9	9	10	11	11	12	12	13	14	14	15	16	17	18	
Stock (heads)	juvenile	heads	2	2	2	7	6	6	8	8	8	9	9	10	10	11	12	12	13	14	14	15	
	adults (female)	heads	10	10	9	8	9	9	9	10	10	11	12	12	13	14	14	15	16	17	18	19	
	adults (males)	heads	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Off-take (heads)	Total	heads	8	8	12	14	12	13	14	13	14	14	15	15	16	17	18	19	20	21	22	23	
	Juvenile	heads	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	adults (female)	heads	3	2	2	2	3	3	3	3	3	3	3	4	4	4	4	5	5	5	5	6	
	Total	heads	7	7	8	9	11	12	13	14	15	16	17	19	20	21	22	24	25	26	27	29	
Financial budget																							
	Sales (live animals)	AoA	16,800	15,500	15,500	16,645	18,295	22,705	24,317	25,938	28,330	30,544	32,592	34,827	37,123	39,396	41,727	44,122	46,553	49,033	51,571	54,165	
Revenue	Revenue	AoA	16,800	15,500	15,500	16,645	18,295	22,705	24,317	25,938	28,330	30,544	32,592	34,827	37,123	39,396	41,727	44,122	46,553	49,033	51,571	54,165	
Starter pack	Starter pack	AoA	0	29,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Investment costs	Housing	AoA	0	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Investment costs	AoA	0	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Operating Costs	Feed	AoA	931	927	1,394	1,564	1,390	1,473	1,538	1,510	1,543	1,609	1,658	1,716	1,793	1,877	1,969	2,075	2,192	2,321	2,464		
	Veterinary costs	AoA	2,520	775	775	832	915	1,135	1,216	1,297	1,416	1,527	1,630	1,741	1,856	1,970	2,086	2,206	2,328	2,452			
	Drugs (Ivomec, acaricide, dewormer, coccidiostats)	AoA	2,291	2,285	2,609	2,750	2,871	3,036	3,187	3,343	3,528	3,723	3,924	4,137	4,364	4,601	4,851	5,116	5,394				
	Miscellaneous	AoA	672	620	620	666	732	908	973	1,038	1,133	1,222	1,304	1,393	1,485	1,576	1,669	1,765	1,862				
	Operating Costs	AoA	6,414	4,607	5,398	5,811	5,908	6,552	6,914	7,188	7,621	8,081	8,515	8,988	9,498	10,024	10,576	11,161					
Labour costs	Hired labour	AoA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Family labour	AoA	9,600	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800		
Total costs	Operating + Labour + Investments	AoA	16,014	11,407	10,198	10,611	10,708	11,352	11,714	11,988	12,421	12,881	13,315	13,788	14,298	14,824	15,376	15,961					
Livestock inventory	Capital value	AoA	43000	42400	38262	41661	45019	45407	47925	51018	53528	56309	59524	62764	66128	69749	73562	77556	81779				
	Changes in livestock inventory	AoA	0	-600	-4,138	0	3,399	3,358	387	2,518	3,093	2,511	2,781	3,215	3,240	3,364	3,622	3,812					
Performance indicators	Gross margin	AoA	10,386	39,993	5,964	14,234	15,745	16,540	19,921	21,843	23,219	25,244	27,291	29,079	30,989	32,994	34,963	36,955	39,000				
	Net margin (after labour costs)	AoA	786	33,193	1,164	9,434	10,945	11,740	15,121	17,043	18,419	20,444	22,491	24,279	26,189	28,194	30,163	32,155	34,200				
	Returns to labour	AoA/day	433	1,666	249	593	656	689	830	910	967	1,052	1,137	1,212	1,291	1,375	1,457	1,540					

Free range poultry keeping financial			WP																			
Assumptions and parameters	Units		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Marketing	Selling price, hen	AoA/head	750																			
	Selling price, rooster	AoA/head	1400																			
	Selling price, village chicken	AoA/head	750																			
Labour	Family labour	person days/yr	60																			
Labour unit cost	Manual labour	AoA/person day	400.0																			
Feeding	Feed Costs for Chicks (4 weeks)	AoA/head	48																			
	Feed costs for Broilers (12 weeks)	AoA/head	144																			
Animal husbandry	Veterinary cost	AoA/head	64																			
Investments	One-time veterinary contribution	% of gross revenue	10%																			
	Housing	AoA	473																			
	Starter pack	AoA	29700																			
	Animal purchase	AoA	17800																			
Other costs	Miscellaneous expenditure	% of gross revenue	10%																			
Other technical parameters	Mortality of chicks	%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
	Mortality of broilers	%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
	Hatched chicks per hen per year	heads	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Stock (heads)	Chickens	heads	0	158	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315
	Broilers	heads	0	142	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284	284
	Hens	heads	20	5	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Rooster	heads	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total	heads	22	305	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326
Off-take (heads)	Hens (selling)	heads	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Rooster (selling)	heads	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Broilers	heads	40	142	309	309	309	309	309	309	309	309	309	309	309	309	309	309	309	309	309	309
	Total	heads	46	148	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315
Financial budget																						
	Sales (live animals)	AoA	35,150	111,463	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900
Revenue	Revenue	AoA	35,150	111,463	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900	236,900
Starter pack	Starter pack	AoA	29,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investment costs	Housing	AoA	6,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	One-time veterinary contribution	AoA	24,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Net investment costs	AoA	30,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Costs	Feed for chicks	AoA	0	6,434	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868	12,868
	Feed for broilers	AoA	3,172	43,955	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037	47,037
	Animal health care	AoA	1,410	19,536	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905	20,905
	Miscellaneous	AoA	3,515	11,146	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690	23,690
	Operating Costs	AoA	8,097	81,071	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500	104,500
Labour costs	Hired labour	AoA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Family labour	AoA	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
Total costs		AoA	62,097	105,071	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500	128,500
Performance indicators	Gross margin	AoA	56,753	30,391	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400
	Net margin (after labour costs)	AoA	2,753	6,391	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400	108,400
	Returns to labour	AoA/day	946	507	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207	2,207

Annex 2: Economic Analysis

ECONOMIC ANALYSIS																				
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20
Total estimated net incremental economic benefits	412,173	765,047	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409
Total incremental economic costs of the project	2,197,000	1,201,000	1,252,000	856,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000
Benefits-Costs	- 1,784,827	- 435,953	- 187,591	208,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409
Sensitivity Analysis																				
	Base case scenario	Cost increments			Benefits increments			Benefits decrease			Benefits delay									
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	- 50%	1 year	2 year									
EIRR	18.3%	14.8%	11.9%	5.1%	14.4%	26.1%	14.4%	10.6%	-3.2%	13.3%	10.2%									
NPV (\$)	4,159,180	3,337,880	2,516,580	52,680	5,396,398	6,633,616	2,921,962	1,684,744	-2,026,910	3,187,967	2,263,003									

Sensitivity analysis																				
\$																				
Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20
Additional benefits	412,173	765,047	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409	1,064,409
benefits +10%	453,391	841,552	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850	1,170,850
benefits +20%	494,608	918,056	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291	1,277,291
benefits -10%	370,956	688,542	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968	957,968
benefits -20%	329,739	612,038	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527	851,527
benefits -50%	206,087	382,524	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204	532,204
Project costs	2,197,000	1,201,000	1,252,000	856,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000	364,000
costs +10%	2,416,700	1,321,100	1,377,200	941,600	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400	400,400
costs +20%	2,636,400	1,441,200	1,502,400	1,027,200	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800	436,800
costs +50%	3,295,500	1,801,500	1,878,000	1,284,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000	546,000
Net cash flow																				
base scenario	-1,784,827	-435,953	-187,591	208,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409
costs +10%	-2,004,527	-556,053	-312,791	122,809	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009	664,009
costs +20%	-2,224,227	-676,153	-437,991	37,209	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609	627,609
costs +50%	-2,883,327	-1,036,453	-813,591	-219,591	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409	518,409
benefits +10%	-1,743,609	-359,448	-81,150	314,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850	806,850
benefits +20%	-1,702,392	-282,944	25,291	421,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291	913,291
benefits -10%	-1,826,044	-512,458	-294,032	101,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968	593,968
benefits -20%	-1,867,261	-588,962	-400,473	-4,473	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527	487,527
benefits -50%	-1,990,913	-818,476	-719,796	-323,796	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204	168,204
benefits postipated 1 yr	-2,197,000	-788,827	-486,953	208,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409
benefits postipated 2 yrs	-2,197,000	-1,201,000	-839,827	-90,953	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409	700,409

4.

Appendix 11: Draft Project Implementation Manual

The draft of the PIM is in the process of preparation and will be ready before the start of implementation but the outline is described below.

1. The Project Implementation Manual (PIM) describes the modalities and procedures to be used for implementation of the Agricultural Recovery Project (ARP). The Manual provides a checklist of procedures and tasks to be executed during routine loan administration and project implementation activities. In particular, the PIM clarifies procedures and requirements regarding, project implementation, loan administration and flow of funds, reporting, accounting and participatory implementation procedures. The PIM aims to provide the project management and implementing partners with procedural guidance to implement the Project. The PIM is intended to be a functional document to be adapted and amended as necessary to incorporate the lessons learned from implementation experience.
2. The PIM presents a general description of the project planning design, project costs, benefits and sustainability, its implementing partners, organisational arrangement, staffing, and their responsibilities. The PIM will cover the implementation guidelines and procedures for implementation of each project component and preparation of annual work plan & budget and procurement planning, reporting, monitoring and evaluation and supervision.
3. Preparation and submittal of the draft Project Implementation Manual (PIM) for IFAD review and “No Objection” is a key condition for the project to enter-into-force. While the Project Coordination Committee (PCC) will adopt the PIM substantially in the form approved by IFAD, it does not replace the definitive Project Documents. Where there are inconsistencies with any provision of the Financing Agreement, the provision of the Agreement shall govern.

TABLE OF CONTENTS⁶³

ABBREVIATIONS AND ACRONYMS

I. INTRODUCTION

- A. Purpose and Contents the PIM
- B. Overall Approach to Project Implementation
- C. ARP Summary
- D. Country and rural development context

II. PROJECT DESCRIPTION

- A. Project area and Target group
- B. Development objective and impact indicators
- C. Project Outcomes and Components
- D. Lessons learned and adherence to IFAD policies and the SECAP

III. PROJECT COSTS, FINANCING, BENEFITS AND SUSTAINABILITY

- A. Project costs
- B. Project financing
- C. Summary benefits and economic analysis
- D. Sustainability

IV. IMPLEMENTATION AND INSTITUTIONAL ARRANGEMENTS

(PLANNING, MONITORING & EVALUATION AND KNOWLEDGE MANAGEMENT)

- A. Background
- B. Planning, Monitoring and Evaluation
- C. Annual Work Planning and Budgeting
- D. Knowledge Management
- E. Supervision

⁶³Draft PIM will be prepared and included as a separate document.

- F. Risk identification and mitigation

V. FINANCIAL MANAGEMENT AND ACCOUNTING MODULE

- A. Purpose of Financial Management Manual
- B. Roles and responsibilities of key actors in financial management of ARP
- C. General Institutional Set-Up and Governing Regulations
- D. Types of Accounts, Special Account and Project Accounts
- E. IFAD Disbursement Procedures
- F. Check List for Withdrawal Applications
- G. Annual Financial Statements
- H. Designated Account Reconciliation Statement
- I. Project Completion
- J. Financial management team responsibilities in procurement
- K. Treasury management
- L. Accounting software and chart of accounts
- M. Financial reporting and management accounting
- N. Audit arrangements (Internal and External)
- O. Funds flow – including management of withdrawal applications
- P. Other internal controls

VI. PROCUREMENT MANAGEMENT

- A. Purpose of Procurement Management Manual
- B. General Conditions of Procurement
- C. Procurement Procedures
- D. Procurement Committees
- E. Procurement Methods
- F. Review of Procurement Decisions
- G. Guidelines for Evaluation of Bids
- H. Bid Evaluation Summary Checklist
- I. Procurement Method: Goods and Work
- J. Procurement Method: Services
- K. Procurement through community
- L. Review of Procurement Decisions
- M. Grievance/complaint redressal system

VII. MANAGEMENT INFORMATION SYSTEMS...

- A. Introduction
- B. Approach
- C. Measuring results
- D. ARP Monitoring Indicators
- E. Learning
- F. Impact Measurement
- G. Assessing RIMS Indicators
- H. ARP Management Information System
- I. Logical Framework Planning
- J. Establishing Participatory MIS
- K. Indicative List of Baseline Data for Scheme
- L. ARP Logical Framework

VIII. RESULT-ORIENTED ANNUAL WORK PLAN & BUDGET

- A. Introduction
- B. Model Format for AWP&B
- C. Pointers for Preparation of AWP&B
- D. AWP&B
- E. Result-oriented AWP&B
- F. Procurement Plan
- G. Training Schedule
- H. Staff Deployment

Appendix 12: Social, Environmental and Climate Assessment Procedures Review Note

1. **Major landscape characteristics and Issues** – The Agricultural Recovery Project (ARP) will intervene in the southern provinces of Cunene and Huila; two of the provinces most affected by recurrent droughts during the recent El-Niño event. Although the El Nino Southern Oscillation (ENSO) is a natural cycle, climate change and the mismanagement of natural resources, is progressively causing the impacts of the oscillation to intensify and to increase in frequency. Each iteration exacerbates Southern Africa's vulnerability to future disasters and depletes both the environment and the social systems that depend on it (Response Plan for the El Niño-Induced Drought in Southern Africa, 2016). The affected agro-ecological zones in southern Angola are mainly arid, semi-arid and sub-humid (see Figure1).

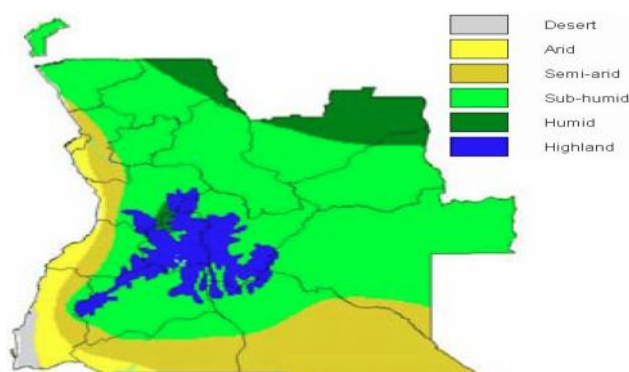


Figure 1: Agro-ecological zones of Angola, Source: FAO

livelihoods are centred on agricultural systems including livestock, maize, sorghum, millet and cassava (see Figure 2).

2. Angola's climate is tropical, hot and humid, with a longer hot and wet season (September to April) and a shorter cool and dry season (May to August). Short dry spells, usually lasting about two weeks, are common during the hot and wet season. The mean temperature in Angola is between 25°C and 33°C in the rainy season and between 18°C and 22°C during the dry season. The project target zone is located in the lower rainfall southern region where the main

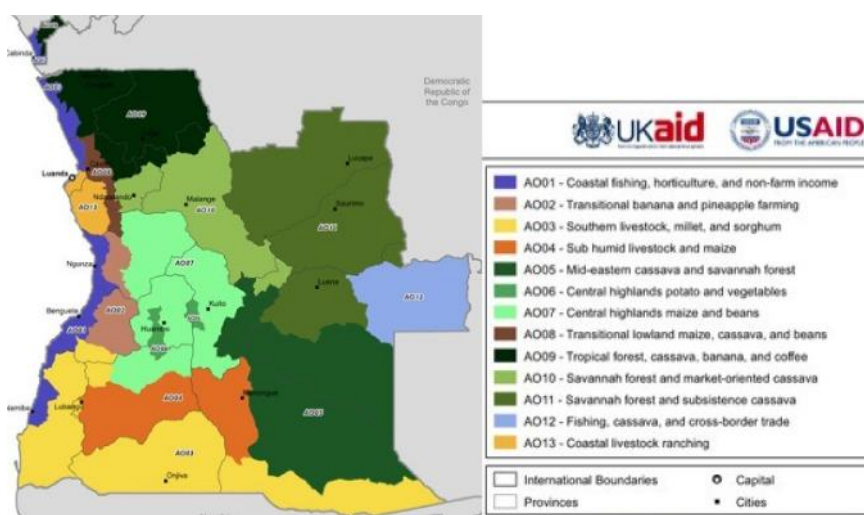


Figure 2. Livelihood zones of Angola, Source: FEWSNET

3. Recurrent cycles of droughts and floods have affected the southern provinces of Angola over the last decade. Consecutive drought years have stretched household coping mechanisms to their limits. Most rural communities have lost their seeds and food stocks and as a result their vulnerability, to climate shocks has increased. The most recent El Niño drought (2015-2016) led to harvest failures with anticipated crop losses of up to 40% in parts of the south. Approximately 1.25 million people are currently food insecure most of these are located in southern provinces of Benguela, Cuando Cubango, Cunene, Huila, Kwanza Sul, and Namibe. Malnutrition has been exacerbated by the poor harvest with increasing number of children below the age of five in need of treatment for severe and acute malnutrition. An increasing number of infants and children under age five are exposed to

preventable diseases and common childhood illnesses such as malaria, diarrhoea, cholera and pneumonia. The drought and resultant waterborne diseases have caused the death of an estimated 500,000 livestock. In Cunene province an outbreak of foot-and-mouth disease restricted cattle sales for over a year (Response Plan for the El Niño-Induced Drought in Southern Africa, 2016).

4. The contingency planning (preparedness and response) led by the inter-sectorial National Civil Protection Commission with technical support from the UN have identified the key drivers of vulnerability that include inequality, poor nutrition diversification, high illiteracy rates in rural areas, poor quality of basic services, salinization of ground water and limited fresh water resources, desertification and deforestation, monoculture, agro-pastoralist production systems with heavy environmental effects on the natural resources, low purchasing power, illegal occupation of land in the risk zones, weak implementation of land occupation policies, weak implementation of disaster prevention, contingency and preparedness policies/directives and weak research, data collection and analysis and predictions of disasters and risks.

5. The current La Niña event is compounding the adverse impacts of the El Niño; areas most effected by rainfall deficits during the El Niño are faced with a large surplus in La Niña years. Average rainfall enhancement from February to April representing the peak deviation from the neutral average, highlight that the south of Angola is at greatest risk from La Niña related climate shock (see Figure 3). As with the drought, Cunene, is the most affected province with flooding along the riverine areas. This coincides with crops coming towards the main harvest period, grain development enhances the risk of lodging (crops falling over). Soil saturation and flooding can induce this affect and increase toxicity, resulting in the loss of crops. Additionally, heavy rain washes away feeder roads interrupts market access and reduces dispersal; results in reduced profitability and food security (Angola, ENSO Profile, IFAD/WFP, 2016).

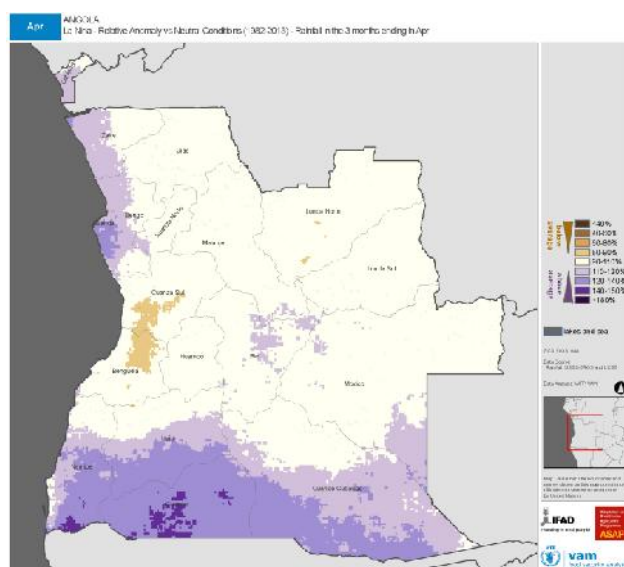


Figure 3. Average rainfall enhancement from February to April

6. **Potential project's social, environmental and climate change impacts and risks** – The ARP is primarily focused on assistance to rural populations affected by recurrent droughts and prolonged dry spells for the recovery of livelihoods and thus reduce their vulnerability, increase resilience as well as productive and food insecurity risk management capacity. The project design has been informed by recent assessments undertaken by a joint UN mission. The project components focus on restoration of the productive assets at household and community levels and building back better the livelihoods of the affected communities and thus improving their climate risk management capacity. The recovery activities are likely to have environmental and social impacts. While climate change is already having an impact on reaching the objectives of sustainable livelihoods due to the exposure and sensitivity to climatic events. Therefore resilience to climatic shocks needs to be strengthened. The potential positive impacts of the ARP include improved livelihoods following the recovery input packages and capacity building to strengthen the knowledge base, improve productivity and resource use efficiency.

7. One of the key social issues to be addressed is the selection of beneficiaries, which are estimated at 7,000 households and the criteria that will guide the process. The number of people in need exceeds one million, which requires significant resources. Initial estimates were USD 22.5 m based on the Response Plan, of which approx. USD1.3 m has been raised, leaving a gap of over USD 21m. However the Post Disaster Needs Assessment (PDNA) undertaken in 2016 estimated USD189 million was required for the agriculture-livestock-fisheries sector to cater for short, medium and long term needs. These figures do not take into account the needs following the floods resulting from the La-Nina event. The ARP will undoubtedly contribute to filling the resource gap. Ensuring that the most vulnerable can be identified and targeted will be critical including avoiding duplication of efforts. The selection will have to be informed by more detailed assessment of needs within target communities.

8. The ARP is one of several interventions for the significantly affected southern region. Multiple interventions are likely to lead to diverse approaches and stretched capacity of the Extension services to support the smallholders and provide timely advice and support. Coordination of the different actors supporting the recovery efforts will be essential to enable information flow and consistent key messages for the communities. Where necessary the existing strategy of recruiting community facilitators and creating partnerships with registered NGOs operating in target areas can fill some human resource gaps in the short term to enable implementation to be expedited. Information flow is part of the early warning system that needs to be put in place or strengthened where it exists particularly in Cunene where droughts have been followed by floods. The occurrence of El Niño and La Nina events requires timely and informed preparedness and response systems and structures at community level to drier and wetter years, respectively.

9. The diversified income sources through poultry rearing, apiculture and aquaculture exist in some communities in southern Angola. However, new technologies (improved bee hives), techniques (soil and water conservation) and provision of inputs (seeds, cuttings, fertiliser etc.) will require capacity building to ensure improved agricultural practices, effective waste management, good hygiene, pest management and safe handling of any agro-chemicals are part of the routine. The capacity building will minimise adverse impacts on community health and the environment and also ensure communities are provided with timely support for their productive activities.

10. The timing of the ARP interventions based on the farming season in the context of livelihood recovery is likely to result in further strain to the input supply system and lead to poor quality varieties being provided. The sourcing of inputs such as certified drought tolerant varieties, cassava cuttings and sweet potato planting material to be included in the recovery packages for the targeted communities has to be done in a timely manner. The systems for the supply of inputs in a sustainable manner including fertiliser to ensure farmers have access to quality products will entail establishment of linkages with relevant agencies and private sector organizations.

11. **Environmental and social category** – The environmental and social category for the ARP is B as some of the activities such as construction and maintenance of water sources, use of improved inputs, aquaculture and provision of small livestock may result in localised negative impacts that can be managed at the farm level. The agricultural activities will be on previously cultivated land and grazing areas. The introduction of cassava and sweet potato will be limited to areas that are agro-ecologically suitable. The water supply points and other infrastructure installed for livestock will need capacity building in appropriate site management. The activities to minimise the adverse impacts include good waste management practices, safe handling of agro-chemicals, improved pest management, improved storage and improved soil and water conservation measures. The capacity building activities will be delivered through Farmer and Agro-Pastoral Field Schools.

12. **Climate risk category** – The climate risk classification for ARP is high. The southern region has already been affected by the recurrent droughts and the La Nina event for 2016/2017 has resulted in floods in some parts of the region. As the project objective is to support the recovery of the local communities, potential flood prone areas could be mapped to identify alternative areas to be cultivated where feasible. In addition mapping of ground water resources can also inform the development of sites particularly for the animal watering points and pastures. Early maturing varieties that are more tolerant to water stress have already been identified for the cereals and root tubers that will be disseminated. The Post-Disaster Needs Assessment includes a thorough analysis of

vulnerability to droughts and the VAM Unit of WFP is providing support in further vulnerability analyses.

13. **Recommended features of project design and implementation** – Though this is a recovery phase project, a resilience building perspective should be maintained to improve the targeted community livelihoods and encourage the sustainable use and management of ecosystems. This approach is also advocated for by the Regional Inter-Agency Standing Committee (RIASCO) that drafted the Action Plan for the El-Nino Response. One of the identified gaps of the committee is that food security and livelihood support, basic services and small infrastructure development should be up-scaled with significantly increased investment. The resilience building will be achieved through better land- and water-use planning to reduce risk and vulnerabilities based on the key drivers identified under section 1. This translates into integrated environmental and natural resource management approaches that incorporate disaster risk reduction such as integrated flood management and appropriate management of fragile ecosystems.

14. Climate sensitive technologies such as drought tolerant varieties, water harvesting and diversified livelihoods will contribute to building the resilience of communities. The ARP can ensure that good quality drought tolerant varieties are included in the packages to be provided to the smallholders. Experience from other regional relief programmes have shown that availability of stocks from better than average farmers, from surrounding areas, from grain markets and from the retail market and seed fairs can be made use of in sourcing quality seeds. In addition, purchase of well-labelled seed of known varieties of reliable origin should be encouraged. A key lesson has been that seed distribution programs should not be used to distribute new varieties of uncertain adaptation and acceptance. Farmers' choice should inform the inputs to be provided in order to increase chances of recovery from the climate related shocks (Guidelines for Agriculture Relief Programmes in Zimbabwe, 2004). The input supply systems will need to be developed and can be incorporated in the seed production activities to promote community multiplication areas of selected varieties or commercial multiplication.

15. Poultry rearing, aquaculture, horticulture and apiculture activities are part of the livelihoods diversification and will require capacity building activities to enable the target communities attain the benefits of the technologies that will be promoted. The Farmer Field Schools will include application of fertiliser to early-planted and well-weeded crops as well as climate change adaptation measures. The capacity building should be extended to cover waste management and also explore the possibility of using some of the organic waste for manure and promoting integrated crops and livestock systems. The project design can ensure the capacity building that will accompany the distribution of packages can promote conservation agriculture and suitable water harvesting and management techniques for the future drier years. In addition for the horticulture activities that will be located along the riverine areas should take cognisance of the need to maintain the embankments. These activities are usually undertaken by women who cultivate sweet potatoes while men cultivate larger areas with cereals under rain-fed production systems.

16. The livestock activities focus on health and improved husbandry for the small ruminants. Consideration should be given to appropriate livestock breeds that are tolerant to heat and water stress conditions. In addition, efforts to promote improved husbandry should include reliable water and feed resources and limit reliance on exotic breeds. The cultural context is also important to consider as the agro-pastoral groups tend to value livestock as household wealth and therefore numbers matter more than the health status of the livestock.

17. As part of the strategy to mainstream environmental and climate risk management in specific agricultural sub-sectors, ecological centers have been constructed in Namibe, Cabinda, Cuando Cubango and Huambo Provinces. The center in Namibe can be used by the ARRP as a training base for the smallholders and technicians in environmental management and climate change adaptation options applying the concept of building back livelihoods better and thus using a more long-term perspective of building resilience of the local communities in the drought prone areas.

18. The criteria for the selection of the beneficiaries is yet to be fully defined. In this regard, lessons from similar interventions show it is crucial to involve the local community in the selection process as local transparency increases the chances of accurate targeting. In addition for the activities such as

poultry rearing and apiculture, experience in other regional interventions has shown that orphans, or youth from households that have lost adult decision makers can have improved livelihoods when provided with training in new income earning opportunities such as small-scale enterprises.

19. **Analysis of alternatives** – The alternatives considered in the design were in the approach to rebuild livelihoods and the related activities to be included that initially had a stronger focus on resilience building. Given the severity of the impact of the recurrent droughts the needs are multiple and resources limited. Focusing only on the provision of inputs without the required capacity building, monitoring and support was considered unsustainable though it could potentially reach more households. The prioritisation of the activities proposed was based on the livelihoods assessment following IFAD's guidelines for disaster early recovery, with a decision to streamline the intervention with a focus on recovery, build on existing interventions and not to introduce completely new crops or livelihood options in the areas.

20. Though resilience is not being emphasised, the ARP activities are aligned with priorities of strengthening resilience of agro-pastoralists and smallholders adversely affected by the recurrent droughts through strategic support to the diversification of food production, the provision of water and input supplies, improved veterinarian services and the institutional support to the operationalization of the early warning system and the Food Security Phase Classification (IPC) information system, involving agriculture, health, water and civil protection. The PDNA conducted with a focus on resilience building in southern region with support of the UN, the EU and the World Bank is resulting in the development of a medium to long term Resilience Building Framework and Programme focusing on these outlined priorities. The ARP will support the roll-out of the Framework to the targeted areas. The process to develop this Framework was launched in April 2017. It includes a proposal to establish a resilience fund that communities can access when required.

21. **Institutional analysis** – Most of the emergency and recovery related efforts are coordinated from the Provincial level with the Civil Protection Agency playing a central role. Pilot Provincial Strategies for Building Resilience of vulnerable communities and local institutions have been developed in the most affected provinces. These provincial government owned pilot strategies (2015-2017) aim to support inter-sectorial coordination mechanisms for planning, implementation, monitoring and evaluation as well as joint mapping of vulnerable groups, and analysis of risks (hazards, vulnerabilities, and capacities); improving the capacities of provincial government staff to guide the planning and implementation of integrated resilience building activities at municipal and community levels and; support enhanced information management. Various on-going initiatives providing support for income generation, sustainable land management, disaster risk management, animal health services and building climate resilience among vulnerable communities have also been mapped to indicate areas of reach and available resources.

22. The Ministry for Social Assistance and Reintegration undertakes some of the emergency interventions including distribution of food packages to vulnerable groups, particularly the aged. The system for the identification of vulnerable groups and provision of social assistance is currently under review with the aim of strengthening the social safety nets. The Ministry of Families and Promotion of Women's Affairs has a unit for combatting poverty that has recently established a monitoring and evaluation system that includes a database of families requiring assistance. The vulnerable families have already been identified in Cunene Province and the exercise is expected to be completed in other provinces over the next couple of years. Both Ministries make use of the Provincial teams and therefore coordination is ensured to a certain extent.

23. Regarding the disaster risk management, a National Disaster Loss Database, 'DesInventar', was launched by the CNPC in Angola in April 2016 to facilitate evidence-based policy decisions and reporting internationally against the targets set in the Sendai Framework on DRR 2015-2030 and the SDGs. The database was established with technical support of UNISDR facilitated by UNDP. DesInventar was installed in the UNISDR server in Geneva, facilitating data entry in a single server with maps, hazard list and indicators configured. DesInventar is expected to be validated and online before a Risk Profiling Regional Workshop among the Lusophone countries planned in 2017.

24. **Monitoring and Evaluation** – The implementation period for the project is four years with an assessment envisaged after year two. Given the relatively short implementation consideration should be given to monitoring primary impacts, e.g. whether the seed was planted, how much additional land

was planted and how much produce was harvested; or secondary impacts, such as farmers understanding varieties they received, the performance of the different varieties, whether seed was saved for the next planting season; the percentage of beneficiaries reporting satisfaction with quantity, quality and variety of seed received, suitability and effectiveness of distribution methods; the percentage of beneficiaries cultivating seeds and planting materials as intended; production levels and use of additional production derived from inputs package. For the income generating activities the levels of income being generated at household level can be monitored and use of the packages received for this purpose. In addition some tools can be adopted from other on-going initiatives such as the FAO implemented and Global Environment Facility financed rangeland project (RETESA) that restores pastures and also provides services for improved animal health. Project planning and tracking can benefit from the creation of a calendar of activities, which will need to be linked, ultimately, back to the farming calendar.

25. **Further information required to complete screening, if any** – No further information is required for screening as an in-depth assessment has already been undertaken by a multi-disciplinary team led by the Government and supported by other Development Partners. The assessment informed the design of the ARP.

26. **Budgetary resources and schedule** – No further budgetary requirements are envisaged given the short implementation duration of the project and the initial assessments that have been undertaken.

27. **Record of consultations with beneficiaries, civil society, general public etc.** – Most of the consultations with communities were undertaken during the post drought disaster needs assessment undertaken in August 2016. Further consultations were undertaken during the design mission in March/April 2017 involving potential beneficiaries, government agencies including at provincial and municipality levels. More in-depth consultations were also held with potential beneficiaries in the form of a needs assessment for profiling the households as part of the targeting approach and data collection towards the establishment of a baseline.

Appendix 13: Farming Systems in the Project Area

Agro-ecological conditions

The project covers three provinces – Benguela, Cunene and Huila. The provinces fall within the arid and semi-arid agro-ecological zone in Southern Angola. These provinces together with Namibe form part of Angola's Southern Livestock, Millet, and Sorghum Livelihood Zone⁶⁴. The provinces are largely characterized by savannah grass and woodlands with deserts in the adjoining province of Namibe. The production system is largely agro-pastoral with livestock a major source of livelihood. The zone has a unimodal rainfall pattern with an average precipitation of around 200-400 mm per annum. There are two seasons, a rainy season which lasts from mid-October to March and a dry season from April to early October. Average annual temperatures are variable but increasing from north to south. The topography of the area is generally flat and undulating. Generally, the region is subject to recurrent drought and flooding.

The region has two major river basins, the Cunene and Cuvelai and the basin of the rivers Curoca, Giraul and Lucira, in addition to many rivers and streams as well as intermittent rivers in Namibe which supports some horticulture. Fishing in these is seasonal and provides an additional source of food, nutrition and income. The area is sparsely populated with a population density at around five persons per square kilometre (National Population Census-2000). Many of the farming population can be regarded as marginal and vulnerable to the vagaries of the rainfall patterns. These conditions result in highly variable grain production. Droughts lead to a lack of pasture and surface water, which occasionally results in significant loss of livestock.

The rural areas depend entirely on the consumption of firewood and charcoal for energy and in Cunene only eleven percent of inhabitants have electricity whilst in Huila it is sixteen 16 percent, well below the national average. Boreholes are the chief means of water supply, but rivers are also an important source of water particularly for livestock. In Cunene only twenty three percent of the population has access to water.

Socio-economic background

Benguela has a population of around 2.2 million people, 37% of which are located in the rural areas. The population of Cunene is around 965,000 people with the majority being rural. Finally, Huila has a population of around 2.5 million people with 69% residing in the rural areas. Agriculture, including livestock, plays a prominent role in the socio-economic livelihood of the population; the main source of income. However, agriculture is mainly rainfed, subsistence oriented with low levels of productivity. Some 80 percent of farmers are smallholders (planting an average of 1.5 ha per family). For the most part agriculture is not mechanized, and farmers do not use animal traction. Relatively low levels of improved inputs are used by farmers. Typical farms in the project area are largely subsistence, with low and declining productivity as a result of deteriorating soil fertility. As a result of risks of drought and floods, smallholders are risk averse and, without intensifying their production systems are not likely to increase production. Their focus is on producing enough food for their food-security needs whilst taking into account the risks of climate change. Even amongst those farm households that are food-secure a broad range of issues constrain productivity and their livelihoods - limited production and marketing experience, lack of household resources to buy seeds and inputs, and limited skills to engage in alternative off-farm occupations. In the absence of viable credit programmes and very few smallholders has the cash needed to purchase even small amounts of the required inputs.

There are two main factors, which determine the level of wealth among households. These are the number of livestock owned and land cultivated per household. All of the households depend on market purchases of staple foods during the months of December to May, supplemented by milk and meat especially during the rainy season⁶⁵. Many areas in Cunene are maize and bean deficit and their

⁶⁴ FEWSNET, Angola Livelihood Zones and Descriptions, November 2013

⁶⁵ 2016, PDNA Post Disaster Needs Assessment 2012-2016

markets are supplied by Huila Province (maize and beans) as well as Namibia (maize) across the border.

Commercial and traditional milk production is vital for the local communities as a source of nutrition and income. Livestock sales are the most important source of cash income for both the vulnerable and better-off categories of farm holdings. The former group obtains income from the sale of goats and pigs, and is also engaged in the sale of charcoal and firewood. Cattle are rarely sold unless a household is under duress or the cattle are in extremely poor condition. The consumption pattern among this group shows a reliance on staple market purchases rather than subsistence farming. Better-off farmers produce slightly more food and obtain income from the sale of milk and milk products. All households depend on market purchases of staple foods during the months of December to May, supplemented by milk and meat especially during the rainy season. Most of the livestock products consumed by the more vulnerable households are obtained through in-kind payment of labour for herding the livestock of better-off farm households. The sale of livestock, livestock products and local labor (herding) is possible because of the high demand amongst the rural population and their access to key strategic markets (Virei, Ondjiva, Xangongo, Cuangar amongst others) and across the border into Namibia. Physical access to these markets is relatively good due to a fairly well distributed road network.

The main staple foods purchased by the poor from October to April are millet and sorghum. They also rely on other types of food such as milk, meat and vegetables. The more vulnerable smallholders barter livestock (goats and sheep) for grain (millet and sorghum) during the period December to May, and this is the period before the next harvest. Wild foods especially fruits are available in the months of March to April and August to September.

Agricultural background

Despite very favourable climatic and soil conditions in Benguela, the agricultural sector is poorly developed and needs much further technological development to increase production and productivity. Agriculture is traditional and output is for household consumption needs. Some occasional surplus gets sold at local markets. The same applies to cattle raising as veterinarian support and knowledge of pasture optimization are scarce. All these factors have kept productivity low. In Cunene productivity is also low and the resultant harvests are small. Cereals are the main crop, with a predominance of species that are more tolerant to drought or irregular rainfall, namely millet (massango) and sorghum (massambala); these are more prominent in areas with lesser rainfall. Maize and bean production are more viable in areas with higher rainfall or where irrigation systems exist. The produce is primarily for home consumption; any production surplus, if at all, is sold on the informal markets to supplement family income. Like all the provinces in the zone, low productivity is exacerbated by the recurring droughts. The rains extend over the period mid-October and early November up to the end of March. The dry season begins in April and extends up to early October. Land preparation for the staple cereal crops extends over the period June to August followed by planting.

Crop production:

Dry farming is almost a marginal activity, confined to limiting the small plots that surround dwellings and is based on the cultivation of drought tolerant cereals, such as millet and sorghum. Maize is kept for the heaviest lands (CESO, 2015). The Zone has been characterised as millet and sorghum, but within the proposed project areas of Cunene and southern Huila, maize and millet are mainly grown. Sorghum is the preferred crop in Namibe with a more severe desert like agro-ecology. In general the use of purchased inputs is limited and yields are, consequently, low. Maize and vegetables are produced for household consumption with the latter cultivated along the main rivers and valleys. Normally local production of maize and millet provides staple food for up to half of the year, while in the second half of the year consumption needs are met through food purchases. Seasonal river fishing is also carried out by the local population to supplement their diet.

Livestock production:

In general, livestock rearing is one of the main activities and sources of income with cattle and small ruminants (goats and sheep) accounting for more than half of the Province's total production; cattle represents 44% of livestock production. However, pigs and poultry production is significant and cannot be disregarded, especially at a household level, in terms of production for self-consumption. More importantly, pigs and poultry are mainly owned by women, hence investing in them can be a gender improvement strategy.

Livestock production is based on natural pastures and although grassland capacity varies from one region to another (depending on the level of rainfall, type of soil and vegetation). Cattle is the most important livelihood asset but goats, sheep, pigs and poultry also play an important part in the household economy. Small stock, such as goats, pigs and chickens are kept mainly by small-holders for their subsistence farming. The sparse population combined with the arid conditions and sandy soils make it more suitable for livestock than crop production. Given the high rainfall variability, transhumance pastoralism and the seasonal migration of livestock is commonly found with herds of livestock moving between the lowlands and adjacent mountain areas. The gentle relief of the project area facilitates transhumant livestock movement following seasonally flooded areas such as the lower parts of Cunene river. A succession of shallow lakes and ponds provides pasture for cattle in the dry season. The permanent Tchimpopo ponds in Kuvelai also play an important role in the household economy by providing fishing opportunities and reserve pasture during critical periods.

The main constraints and difficulties encountered by the small-scale livestock producers are water supply, the absence of veterinary services, adequate pasture management and difficulties in commercializing livestock.

Poultry and pig production is the responsibility of women. In the case of poultry women look after the birds, and the earnings from the sale of eggs and chickens are often their only source of cash income. The poultry production systems are characterized by small flocks, with nil or minimal inputs, low outputs and periodic devastation of the flocks by disease. Birds are owned by individual households and are maintained under a scavenging system, with little or no inputs for housing, feeding or health care. Typically the flocks are small in number with each flock containing birds from each age group, with an average of 7-10 mature birds per household, consisting of 2-4 adult hens, a male bird and a number of growers of various ages. Although the system of production is basic and low cost, it can be economically efficient with minimal additions of inputs, access to water and improved management.

Scavenging pig production is also found in the project area. The pigs are owned by subsistence farmers and very few are sold in local markets. The traditional system of pig rearing involves free range scavenging with few arrangements to provide the pigs with shelter. Some pigs receive supplementary feed when available but this is generally of low nutritional quality such as maize stalks, crop bi-products and kitchen waste. The local breeds are indigenous, adapted to the local environment. They are relatively small in size and their high mobility renders them best able to cope with the local conditions. The sows breed irregularly, piglet mortality is high, and the growth rate is low. In general there is no attempt to improve production by selective breeding or any other means. In a few cases, however, piglets are purchased and are fattened when food is plentiful, for sale at a later date. In some cases the pigs are kept in a kraal overnight or are tethered. In most cases the pigs are not kept to provide meat for the household, nor as a source of cash income. The scavenging pigs are viewed more as a savings account or insurance policy, and are sold only when extra cash is needed.

Goats are also of high importance in the project area because of the many functions they provide: serving as a reserve source of wealth whilst providing meat. Goats are not used for milk production. They are more resilient than cattle to the dryland conditions of the area. Most farm households in the area own a number of goats. Access to water and feed is vital for sustainable production. Although the animals obtain some water from the natural moisture in their food, this is inadequate, especially during the dry season when feed sources are dry. If goats don't have access to sufficient water, they will eat less food and production will drop.

Three feeding systems can be found in the project area, depending on local conditions, the season, the types of foodstuff available, the possibility for growing and storing fodder, and the resources available for buying in feed.

1) Goats are left to scavenge to find their own food. This is done by browsing, grazing, or tethering the animals. The quantity and quality of the feed sources available depend on rainfall and the condition of the rangelands. Protein quality of the rangeland can be improved by introducing nutritious grasses or legumes and leguminous fodder trees with protein rich leaves are a good source of feed.

2) Goats are free-range but additional food is provided. The goats forage free-range for part of the time but are brought in and fed the main part of their food ration. Browsing supplies some of the goats' needs, but this is supplemented by manual feeding through a cut and carry system. This was observed in parts of Huila Province. Feed supplements can be met by growing cassava or sweet potatoes with the leaves of the plants used as feed. Sweet potato vines are very nutritious. Crop cuttings (maize, sorghum etc.) can also be used as feed as well as weeds.

3) Goats are completely fed manually: The goats are kept enclosed, and are fed a complete ration in the enclosure. This system is not widely found in the southern provinces but is being practiced among better off farm households. The system involves cutting and carrying hay and straw supplemented with concentrates.

Impact of drought and floods

As noted above, the main hazards are related to drought and flooding from the seasonal rivers. This in turn results in the risk of high incidence of livestock disease, low food prices, coupled with drought and dry spells during and after the main harvest around April. The common coping strategies among the most vulnerable group of households include increased sale of labour and collection of wild foods, increased sale of livestock and diversification of self-employment options. The better-off category of households tend to increase livestock sales and relocate to higher grounds in case of excessive floods especially along the Angola and Namibia border.

As a result of the drought conditions of the 2011-2012 season, crop production losses were particularly high. An assessment conducted in 2012 by the Angolan Ministry of Agriculture, Rural Development and Fisheries estimated that 1.8 million people in the affected provinces in the south of the country were exposed to food insecurity due to the drought. The sector's contribution to national GDP also fell from 9.3 percent in 2011 to 7.2 percent in 2012. The livestock sub-sector was particularly affected by the drought resulting in a lack of adequate pasture and reduced availability of water affected the health conditions of livestock making them more vulnerable to disease. Transhumance livestock migrations are starting earlier and lasting longer as a result of drought in order to provide adequate feed and water for livestock. The extended migration patterns prevented transhumants from ensuring their livestock from being part of the national vaccination campaigns of 2012 and 2013, increasing the risk of exposure to disease.

In Huila, total damage and losses amounted to US\$195 million with around 54 percent of the loss from the livestock sub-sector. Some 150,000 livestock deaths and losses in milk production were reported over the drought period. Overall, cereal and other crop losses in the Province were also substantial (nearly \$88.2 million), the highest cereal losses among the southern provinces. The northern part of Huila is a key area supplying cereal surpluses in the country. In the province of Cunene, the crop production figures indicate that production did not decrease although the province has been significantly affected by the drought. Overall damage and losses have been valued at \$268 million, the highest among the southern provinces. This is partly made up from the number of livestock deaths of around 240,000 (mainly cattle) as well as milk and meat production. A large portion of food aid was directed to affected people in Cunene.

Four consecutive years of drought has deteriorated the livelihoods of agropastoral communities in Cunene, Huila and Namibe. Since the reduced rainfall of the 2011-12 agricultural season, access to water for human and livestock consumption has depleted, both in terms of surface and underground water sources. As a result of scarce water and poor pasture conditions throughout drought affected areas, transhumance or the long migration northwards of livestock has been starting months earlier than is customary, between 1 to 6 months depending on the area and severity of drought, and has involved longer distances. One assessment found that as early as 2013 cattle were walking nearly 80 km between pasture and water every two days, compared to 30 km in a typical year for the same season.

The lack of adequate pasture and reduced water availability has worsened the body conditions of livestock and eroded the ability of local pastoralists to produce milk which is a basic staple among agro-pastoralists.

With respect to cropping, in 2015, yield losses were estimated at 75 percent and production losses at 52 million tons in the 3 provinces. The recent crop losses add to 3 - 4 years of production losses in the region, eroding the ability of pastoralists to produce cereals and sustain their livelihoods. Since many households sow crops for consumption, they have had to rely more on markets for cereal purchases, bartering, and livestock sales several months earlier than usual. The drought and low crop production in Huila has had a negative impact on the volume of staple food supplies that flow to Namibe and Cunene.

The prolonged drought has been progressively eroding the capacity of agro- pastoralist communities to cope as they face cyclical hardships and environmental degradation. The water table is steadily declining and the short and irregular rains have not sufficiently recharged the water table. The quantity and quality of water continues to decrease, pastures and rangeland are unable to regenerate sufficiently, livestock health conditions diminish and mortality rates are on the increase, and the capacity to cultivate crops is lost due to the lack of seeds and to the increasing degradation of soils.

Farm types

Two farm systems models can be found in the project area. In Cunene a typical holding is around 1.5 hectare and comprises maize, millet and beans. In Huila and Benguela, the area under maize is higher given the better resource endowment. The farm type models represent two scenarios: dry and normal year scenarios in the without project situation..

Farm type 1 - subsistence in drier areas	WoP						Total
	Unit	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	
Farmland area	ha	1.0					1.0
Livestock size	herd				0.5		0.5
Farm Income	AOA	25,868			5,193		31,060.7

Farm type 2 - smallholder in wetter areas	WoP						Total
	Unit	Maize	Cassava	Beans	Goat keeping	Free range poultry keeping	
Farmland area	ha	0.9	0.3	0.3			1.5
Livestock size	herd				0.5		0.5
Farm Income	AOA	23,281	20,022	29,103	5,193		77,599.4

A standard crop based technical package was designed for the with-project scenario with the following assumptions.

Farm Type/ location	Crops	Area (ha)	Input requirements (kg. or cuttings per ha)	Cost per unit (\$)	Cost/ha (\$)	T. Cost/ hh
	Maize/ millet	1.0	25	2	50	50
	Beans	0.2	60	3	180	36
	Cassava	0.2	10,000	0.012	120	24
	Sweet potato	0.1	20,000	0.006	120	12
		1.5				
	Fertiliser (NPK)		25	50		50
	Tools					10
<i>Total</i>						182

The intention is to give a small package of free agricultural inputs – fertiliser and seed – to around 5,000 small farm households with an average holding of 1.5 ha. The package is conceived as an emergency one shot increase in food production. Under the above model, the pack comprises 25 kg of NPK sufficient for 0.25 ha with 25 kg of maize or millet, 12 kg beans, 2,000 cassava and 1,000 sweet potato cuttings per farm household. The package is based on open pollinated varieties (OPV) which can be saved by farmers for further use without the need for annual free distribution or purchase of seed. This was conceived as a low cost, safety net option. The package is intended to ensure that farmers obtain the production potential of improved seeds on a sustainable basis, while benefitting from the fertiliser response. It has been estimated that in a normal rainfall year, this technology package would yield around 550 kg of maize per ha. Thus beneficiary farmers would produce an extra 100 kg maize on average. The yield of beans is expected to increase from 230 kg/ha to over 320 kg/ha as a result of the package.

The package recognises the importance for all farmers of maximising the use of locally available fertility sources. This means promoting through the FFS and other extension approaches the cultivation of leguminous crops such as beans in combination with maize or millet as well as using farm manures as composts, as these provide organic sources of nitrogen, enhance soil structure and reduce soil erosion. Implementing nitrogen rich rotations not only reduces the need for expensive commercial fertiliser but also improves diets by adding protein and energy-rich foods such as beans. .

Intercropping of maize and beans is being promoted through the FFS. However, the soil fertility benefits of these intercrops is limited. Only small amounts of nitrogen are to the soil by intercropped legumes. If planted at low populations and suffer from competition from the maize crop, little biomass can be produced. Consequently, artificial fertiliser is necessary supplemented by the increased use of composts and manures. However, the potential of the latter is likely to be limited in the dry conditions of the project area.

The focus will consequently be placed on the following complementary and potentially adoptable options:

- Increasing access to improved cereal seed and fertiliser technology; and
- Diversifying the cropping system through the adoption of locally suitable combinations with grain legumes, as rotations as well as compost and manure.
- Complementing the programme is the FFS based extension programme, and efforts to expand savings and credit as a longer term strategy to effect changes in the farming system.

The package has been costed at around \$180 per household. The input requirements and sources of supply are summarised below. The volume of inputs required by the project for the target level of 5,000 hh are available through local suppliers.

Crop	Unit	Quantity	Supply source
Maize	Kilo	125,000	- Central Angola seed farms - Purchased from Namibia

Beans	Kilo	300,000	- Central Angola seed farms - Purchased from Namibia
Cassava	Cuttings	10.0 million	- IIA Nambe (Agronomic Research Institute) IMA Tchivinguiro (Middle Agrarian Institute)
Sweet potato	Cuttings	5.0 million	IIA Nambe (Agronomic Research Institute) IMA Tchivinguiro (Middle Agrarian Institute)

Appendix 14: Drought Vulnerability Analysis

1. This appendix presents a summary of the drought vulnerability analysis undertaken during the Post Disaster Needs Assessment (PDNA, 2016) in the three most affected drought provinces; the El-Niño report for Angola produced by IFAD/WFP and the climate risk analysis for the Smallholder Agriculture Development and Commercialisation Project that will be implemented in five provinces. The PDNA analysis was led by the World Food Program, while the Climate Risk vulnerability analysis was undertaken by the Africa Climate and Development Initiative at the University of Cape Town.

2. **Drought occurrence and impacts 2012-2016** – El Niño–Southern Oscillation (ENSO) cycles occurs every three to five years with 10 events in 35 years having a duration of events of 9-12 months. La Niña cycles occur every two to seven years with seven events in 35 years lasting from 8 months - 2.5 yrs. The figure below (Fig. 1) illustrates the 35 year precipitation averages for months in ENSO and neutral years in Southern Angola (ENSO Profile). Evidently the El-Niño results in below average rainfall leading to droughts while the La-Niña results in above average rainfall leading to localised flooding.

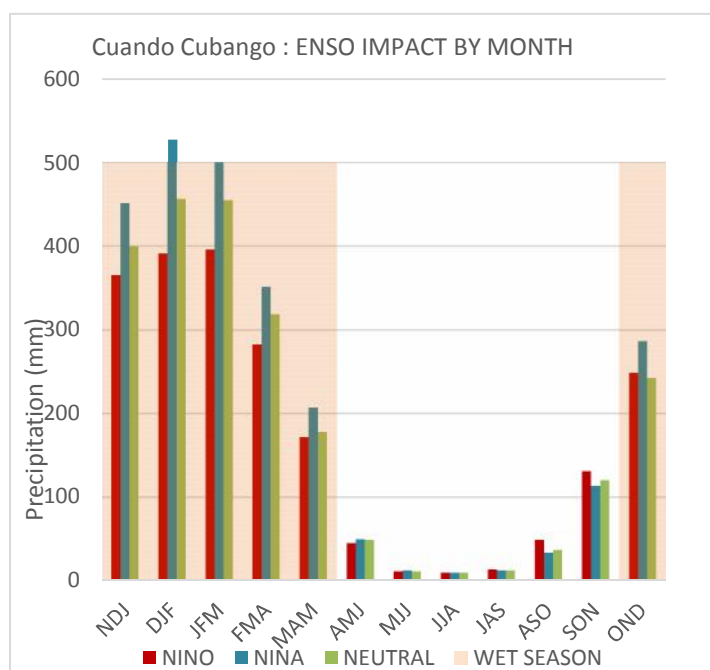


Figure 1: 35-year precipitation averages in Southern Angola

3. The largest threat to agriculture production systems in Angola comes from prolonged water stress during extended drought periods. El Niño related droughts can compound already stressed conditions in southern Angola. The variable seasonal spatial distribution of dryness experienced during the last El-Niño events affected livelihood zones differently. The 2011/12 agricultural calendar season had a rainfall deficit of more than 60% compared to normal years (MINAGRI) especially affecting the provinces of Bengo, Kwanza-Sul, Benguela, Huila, Namibe, Cunene, Moxico, Bie, Huambo and Zaire. In 2012/13 drought conditions were experienced mainly in the central and northern provinces. In 2013/14 rainfall deficits were experienced with hotspots reaching 80-100% below average in the most affected southern provinces of Cunene, Huila and Namibe. However, the severity was less than the previous year and Cunene reported some floods along the Cuvelai basin. Severe and more widespread rainfall deficits continued in 2014/15 especially in the first phase of the season and remained until end of April 2015. As a result the start of the agricultural season was delayed leading to particularly unfavourable conditions for crop development. The Southern provinces experienced another drought in 2015/16 albeit with a slight improvement compared to the previous season (PDNA).

4. The stresses on the natural resource base caused by the recurrent droughts is evident from the Normalized Difference Vegetation Index (NDVI), which measures the greenness of ground cover and is used as a proxy to indicate the density and health of vegetation. The figures below (Figs 2-5) show the changes in NDVI over the period of the droughts (PDNA). Based on the analysis provided the reduction in the NDVI was more pronounced during the 2012, which marked the start of the El-Niño compared to the subsequent years. However, the prolonged period of droughts led to a continued degradation of the vegetation cover as the period for re-establishment was shortened. The further strain in subsequent years is illustrated by the continued decrease in the vegetation cover and very limited areas with visible increases. The changes in the NDVI are consistent with the severity of the rainfall deficits summarised above.

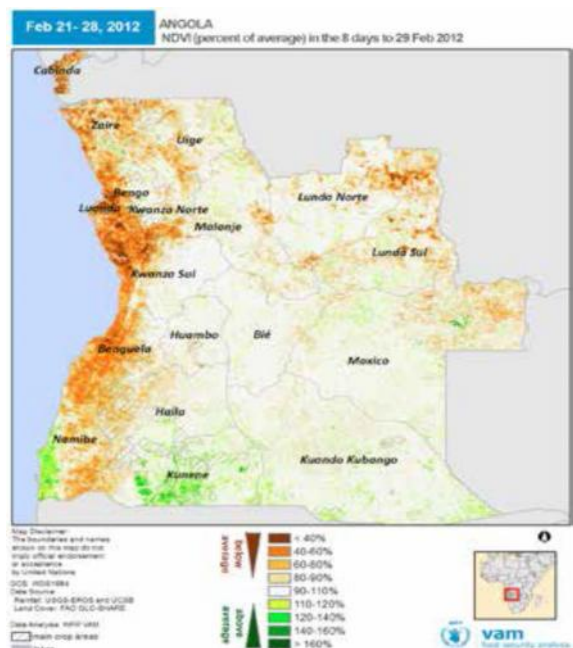


Figure 2 NDVI 2012

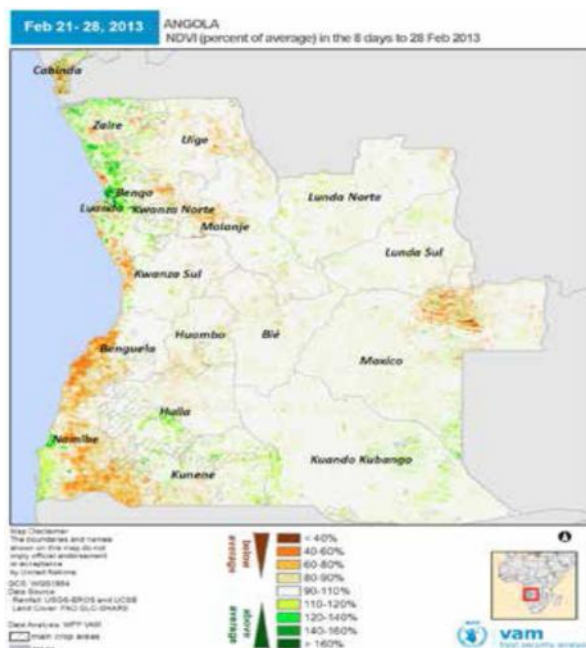


Figure 3 NDVI 2013

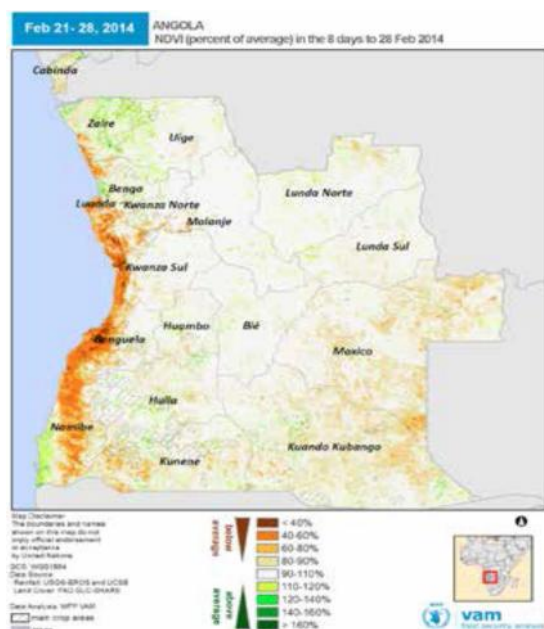


Figure 4 NDVI 2014

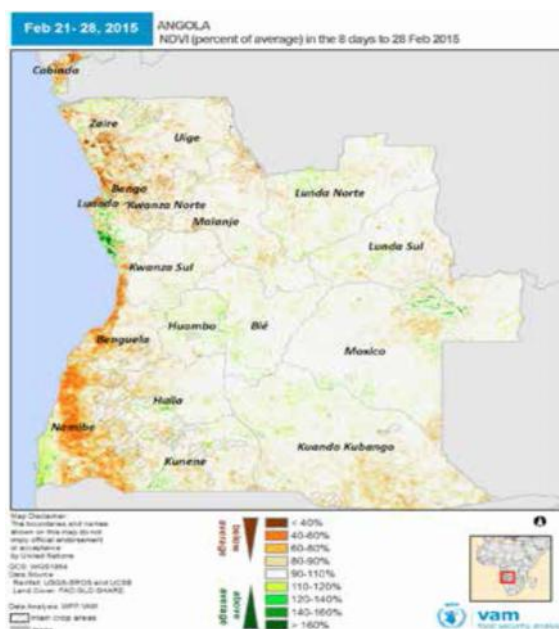


Figure 5 NDVI 2015

5. **Future climate projections and potential impacts** – Though the ARP is a short to medium term intervention, the productivity of smallholders in the longer term needs to be taken into consideration in the context of building back better and supporting sustainable livelihoods particularly as ENSO cycles will continue to impact the livelihoods of the agriculture dependent populations.

Global climate models predict Angola will experience higher temperatures (1.2 to 3.2°C by the 2060s), more extreme weather events such as droughts and floods, an expansion of arid and semi-arid regions, seasonal shifts in rainfall, increased wildfires, sea level rise, increased rainfall in the northern parts of the country, changes in river flows and changes in sea and lake temperatures (NAPA, 2011). It is anticipated that climate change will increase the severity of existing vulnerabilities.

6. For the ARP target areas, the province of Huíla is predicted to experience an increase of ~1 °C in mean temperature (Tmean) from 'Baseline' to 'Near Term (NT) 2030' including an increase of ~1°C for the summer months of December (~22 to ~23 °C), January (~21.5 to ~22.5 °C), and February (~21.5 to ~22.5 °C); see figures 6 and 7 (Angola Climate Risk Analysis, ACDI, 2017).

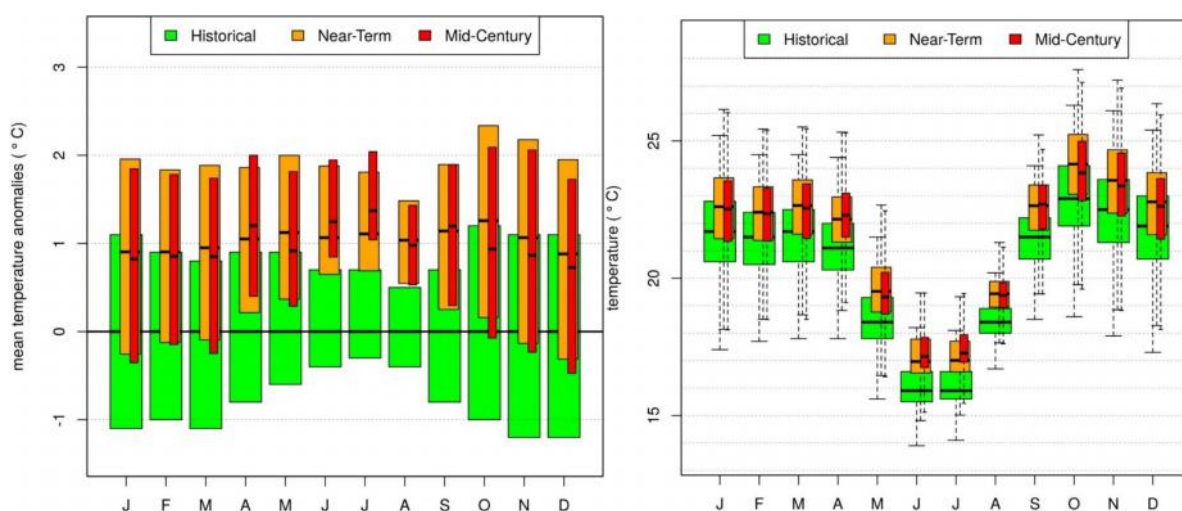


Figure 6. Average monthly anomalies in Tmean Figure 7 Average monthly Tmean

7. The rainy season in Huíla begins in October and ends in April, peaking in March. Monthly cumulative precipitation predict slight decreases in rain fall (by ~15 mm) from Historical (885 mm) to NT 2030 (870 mm) time points and then increase to 930 mm by the year 2050 (see figures 8 and 9).

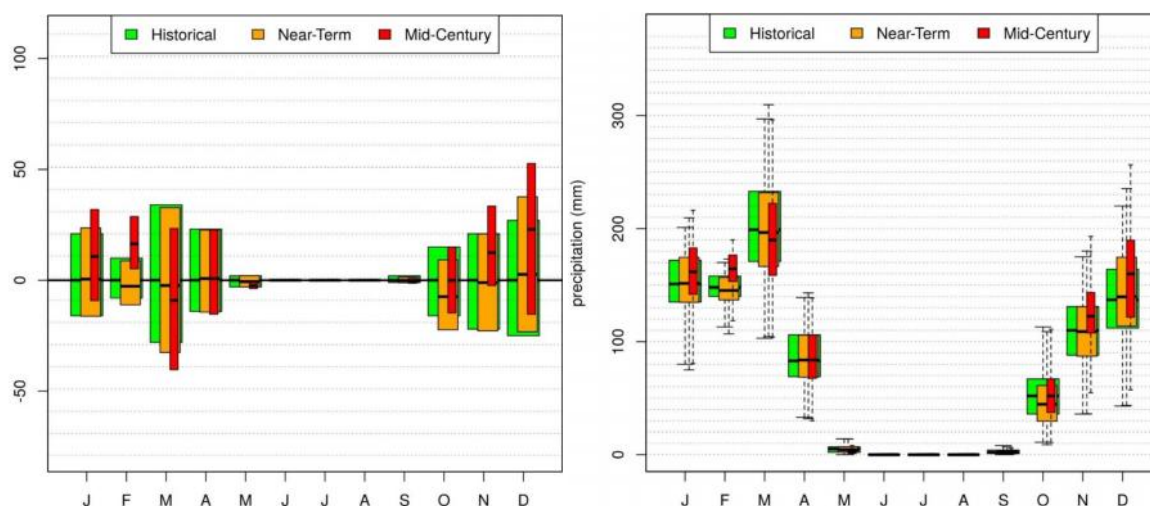


Figure 8. Anomalies in Mean Monthly Precipitation Figure 9. Average Mean Monthly Precipitation

8. The temperature changes and more importantly precipitation changes will have an impact on the productivity of the main crops in the ARP target area and those included in the recovery packages for the potential beneficiaries (maize, millet, sorghum, cassava and sweet potato). Crop suitability mapping was undertaken for the main crops including modelling for future climate scenarios. Huila province was included in the study as one of the provinces where the Smallholder Agriculture Development and Commercialisation Project that will be implemented with IFAD financing. The results of the analysis are presented below. These results can potentially be extrapolated to the other ARP

target areas for the analysis applicable to the southern part of the Huila, which is the drought prone area.

9. The province of Huila and others in the south are broadly unsuitable for cassava production, even with the effect of climate change. However, cassava is promoted as a more drought tolerant crop and varieties also exist that are less affected by prolonged water stress periods. In the case of sweet potato, the climate change main effect is to increase the suitability apart from the arid areas, which may experience a small reduction in suitable area. With regards to maize, climate change is expected to result in minor but widespread decreases in crop suitability, particularly at the onset of the rainy season around October. In the semi-arid and arid areas, the absolute spatial extent of areas which are suitable for maize production are predicted to decrease considerably as a result of climate change. These areas will become poorly suited to the crop by the mid-century 2050 timepoint due increased temperatures during the growing season, as well as delayed onset of rainfall in the early growing months of September and October. In addition, a secondary effect of climate change on maize production may include an effective delay or shortening of growing season, where rainfall anomalies suggest that the onset of rainfall is likely to occur later in the year than in the baseline scenario. Climate change is anticipated to increase the spatial range as well as the average crop suitability index score for millet particularly in the months of September to January. This increase in suitability is most likely attributable to increased average Tmean and Tmin during the months of the active growing season relative to the 'baseline' scenario. The main effect of climate change in the case of low-altitude sorghum varieties, is to increase the spatial range as well as the average crop suitability index score in certain areas, while simultaneously reducing the overall spatial extent of suitable areas, during the period from 'baseline' to 'MC 2050' timepoints.

10. With the high drought risk in Angola, investments into activities such as, irrigation, soil and water conservation, water harvesting, agroforestry and reforestation are highly recommended areas for development. Interventions such as these result in increasing the financial and ecological sustainability of agricultural systems in the long term (ENSO Profile). A summary of potential measures to help farmers cope with the increasing climate variability and the climatic events already being faced is presented in the table below drawn from the Climate Risk Vulnerability Analysis Study.

Province	Huila
Summarised climate change effects	<ul style="list-style-type: none"> - Increased mean temperature, throughout the year. - Increased average 'minimum temperature', throughout the year, particularly in the period ~May to August. - Reduced average 'monthly precipitation' throughout the rainy season in the period ~September to April. - Effective growing season will become increasingly delayed as a result of delayed onset of summer rainfall season. - Negative impacts on virtually all crops as a result of increased temperatures and reduced precipitation, particularly in the low-lying southern and western extents of the province.

Crop	Predicted changes in crop suitability (from Baseline to Mid-Century, 2050)	Effect and scale of impact	Opportunities	Adaptation options
Cassava	<p>Baseline: Mostly poor, except for some marginal areas in the north-west.</p> <p>Future: Negligible change in total suitable area and crop suitability index scores.</p>	Huila remains largely unsuitable for cassava, except for the northernmost extent of the interior highlands.	<p>Cassava is predicted to be tolerant to increased temperatures and reduced precipitation in a small area of Huila.</p> <p>Can be harvested at any time to meet short-term food security needs.</p>	<p>Promotion of sweet potato as a perennial starch-rich alternative.</p> <p>In the low-lying and arid southern areas, promotion of increased crop diversification, including sweet potato in combination with cassava and drought-tolerant cereals (millet or sorghum)</p>
Sweet potato	<p>Baseline: High to excellent in the northern and western uplands, unsuitable in the arid lowlands and south.</p> <p>Future: Negative change in total suitable area; Negative change in crop suitability index scores.</p>	The net effect is a small decrease in sweet potato production potential and total production area. Sweet potato will remain an important staple crop, however the suitable range is reduced by increasing temperatures and reduced rainfall in the southern and western extents.	Promote as a climate-resilient, easily grown perennial crop in the northern and western interior (particularly as an alternative or complement to cassava).	<p>Promotion of improved post-harvest storage and processing.</p> <p>In the low-lying and arid southern areas, promotion of increased crop diversification, including sweet potato in combination with cassava and drought-tolerant cereals (millet or sorghum)</p>

Maize	<p>Baseline: Isolated areas of high to excellent suitability for all varieties of maize in the northern and western uplands, moderate to marginal suitability in the centre. Planting season is limited to October – November.</p> <p>Future: Negative change in total suitable area; Negative change in crop suitability index scores.</p>	The net effect of climate change is a reduction in production potential and total production area for all varieties of maize.	N/A	<p>Promotion of improved drought-tolerant varieties. Increase access to weather forecasts and early warnings. Promotion of sorghum, millet as climate-resilient alternatives to maize.</p>
Millet and Sorghum	<p>Baseline: Extensive areas of good to high suitability in northern and western interior. Marginally suitable in the arid southern region.</p> <p>Future: Negative change in total suitable area; Positive change in crop suitability index scores.</p>	Climate change results in a small positive change in production potential, and a simultaneous negative change in total production area, for all varieties of millet and sorghum.	Large potential area of good suitability, noted as a climate-resilient alternative to maize.	

Appendix 15: Contents of the Project Life File

A. PRIOR DOCUMENTS

- Country Strategic Note;
- ARP Concept Note;
- ARP Design Mission Aide Memoire;
- Smallholder Agriculture Development and Commercialisation Project in Cuanza Sul and Huila Provinces (SADCP-C&H);
- IFAD Guidelines for Disaster Early Recovery;
- Livestock Emergency Guidelines and Standards; Second Edition;
- Emergency Livestock Interventions in Crisis and Post-Crisis Situations.

B. ARP PDR Appendices (as prepared by the Design Mission)

Appendix 1:	Country and Rural Context Background
Appendix 2:	Poverty, Targeting and Gender
Appendix 3:	Country Performance and Lessons Learned
Appendix 4:	Detailed Project Description
Appendix 5:	Institutional Aspects and Implementation Arrangements
Appendix 6:	Planning, M&E and Learning and Knowledge Management
Appendix 7:	Financial Management and Disbursement Arrangements
Appendix 8:	Procurement
Appendix 9:	ARP Costs and Financing
Appendix 10:	Economic and Financial Analysis
Appendix 11:	Draft Project Implementation Manual
Appendix 12:	Social, Environmental and Climate Assessment Procedures Review Note
Appendix 13:	Farming Systems in the Project Area
Appendix 14:	Drought Vulnerability Analysis

C. REFERENCE DOCUMENTS

- Angola: Drought Office of the UN Resident Coordinator Situation Report No. 8 (as of 15 November 2016)
- Droughts in Angola 2012–2016- Post Disaster Needs Assessment
- Regional Humanitarian Appeal, June 2016, Southern African Development Community
- Angola: Inquérito de Indicadores Múltiplos e de Saúde (IIMS) 2015-2016
- Intended Nationally Determined Contribution (INDC) of the Republic of Angola, November 2015
- PLANO NACIONAL DIRECTOR DE IRRIGAÇÃO DE ANGOLA. Uma síntese dos estudos
- PROJECCÕES DA POPULAÇÃO DE ANGOLA 2015 – 2050, INSTITUTO NACIONAL DE ESTATÍSTICA, Dezembro de 2016