Document of

The International Fund for Agricultural Development

For Official Use Only

The International Fund for Agricultural Development

REPUBLIC OF YEMEN

ECONOMIC OPPORTUNITIES PROGRAMME

Programme Final Design Report

Volume I: Main report and Annexes

Near East and North Africa Division
Project Management Department

CONFIDENTIAL
REPORT No. 2230-YE
January 2010

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without the authorisation of the International Fund for Agricultural Development (IFAD).

REPUBLIC OF YEMEN

ECONOMIC OPPORTUNITIES PROGRAMME

PROGRAMME FINAL DESIGN REPORT

MAIN REPORT

Table of Contents

TABLES

FIGURES

ANNEXES

WORKING PAPERS

Currency equivalents

Monetary Unit	=	Yemeni Rial (YER)
1 USD	=	203.00 YER
1 YER	=	0.005 USD

Weights and measures

1 kilogram (kg)	=	2.204 pounds
1 000 kg	=	1 metric ton (t)
1 kilometre (km)	=	0.62 miles
1 meter (m)	=	1.09 yards
1 square meter (m^2)	=	10.76 square feet
1 acre (ac)	=	0.405 hectares (ha)
1 hectare (ha)	=	2.47 acres
1 gallon (gl)	=	3.785 litres (l)

Abbreviations and acronyms

ACTL	Agriculture Corporation Tissue Laboratory
AFD	Agence Francaise de Développement
AGFUND	Arab Gulf Fund for United Nations Development Organizations
AMB	Al-Amal Microfinance Bank
AOAD	Arab Organisation for Agricultural Development
AWPB	Annual Work Plan and Budget
CACB	Cooperative and Agriculture Credit Bank
CBY	Central Bank of Yemen
CEO	Chief Executive Officer
CGAP	Consultative Group to Assist the Poor
COSOP	Country Strategic Opportunities Paper
DPPR	Development Plan for Poverty Reduction
DED	German Development Service
EA	Exporters' Association
EOF	Economic Opportunities Fund
EOP	Economic Opportunities Programme
EU	European Union
FAO	Food and Agriculture Organisation
GGAP	Global Good Agricultural Practices
GDP	Gross Domestic Product
GNI	Gross National Income
GOY	Government of Yemen
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HACCP	Hazard Analysis and Critical Control Point
HH	Household
HVAC	High Value Agricultural Commodities
ICARDA	International Centre for Agricultural Research in the Dry Areas
ICIPE	International Centre of Insect Physiology and Ecology
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IMF	International Monetary Fund
IDB	Islamic Development Bank
ISO	International Standards Organisation
JICA	Japanese International Cooperation Agency

Abbreviations and acronyms (con't.)

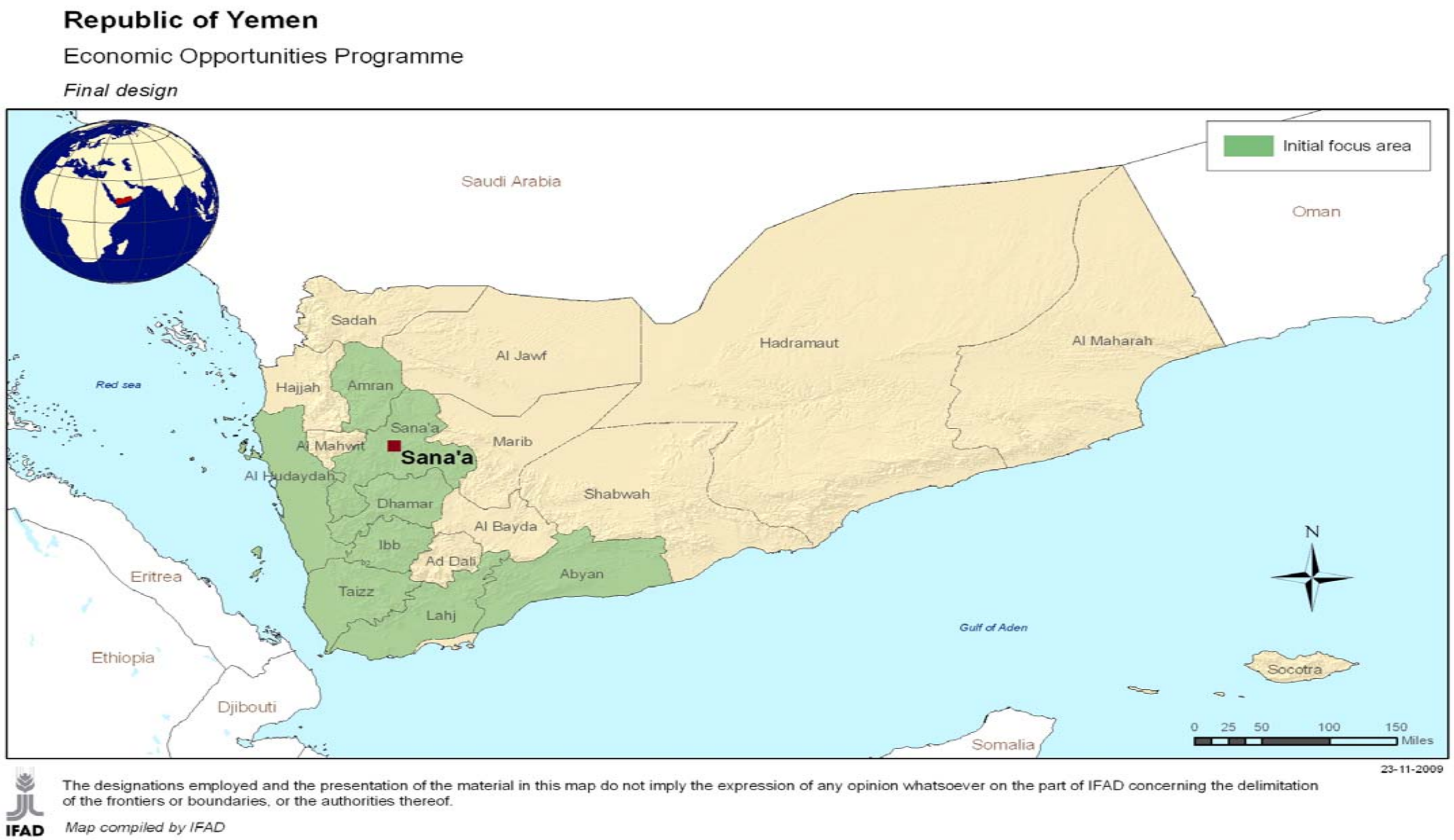
KfW	Kreditanstalt für Wiederaufbau
LIBOR	London Interbank Offered Rate
MAI	Ministry of Agriculture and Irrigation
MIS	Management Information System
MIX	Microfinance Information Exchange
MFI	Microfinance Institution
M&E	Monitoring and Evaluation
MOF	Ministry of Finance
MOPIC	Ministry of Planning and International Cooperation
MSE	Micro and Small Enterprise
MTI	Ministry of Trade and Industry
NAPA	National Adaptation Programme of Action
NENA	Near East and North Africa
NGO	Non-governmental Organisation
O&M	Operation and Maintenance
PA	Producers' Association
PDR	Programme Design Report
PFI	Participating Financial Institution
PGISU	Plant Genetic Institute of Sana'a University
RIMS	Results and Impact Management System
ROY	Republic of Yemen
SCM	Supply Chain Manager
SEDF	Small Enterprise Development Fund
SME	Small and Medium Enterprise
SMEPS	Small Micro Enterprise Promotion Service
SFD	Social Fund for Development
SO	Strategic Objective
TA	Technical Assistance
TB	Treasure Bill
TFR	Total Fertility Rate
TIS	Trade Information Service
TMI	Tadhamon Microfinance Institution
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
USAID	United States Agency for International Development
USD	United States Dollar
VCC	Value Chain Consolidator
WB	World Bank
WSSP	Water Sector Support Project
WTO	World Trade Organisation
YBRD	Yemen Bank for Reconstruction and Development
YCA	Yemen Coffee Association
YER	Yemeni Riyal
YHA	Yemen Honey Association
YHEA	Yemen Horticulture Export Association
YSMO	Yemen Standardisation, Metrology and Quality Control Organization

GOVERNMENT OF YEMEN

Fiscal Year

1st January – 31st December

Country Map



Note: The EOP is a national programme with initial focus in eight Governorates as highlighted above (Abyan, Amran, Al Hudaydah, Dhamar, Lahj, Taiz, Ibb and Sana'a).

REPUBLIC OF YEMEN

ECONOMIC OPPORTUNITIES PROGRAMME

PROGRAMME FINAL DESIGN DOCUMENT

MAIN REPORT

INTRODUCTION

1. In November 2008, the Government of Yemen (GOY) requested IFAD to finance a national agricultural value chain development programme linking small producers with markets wherever economic opportunities exist. An IFAD mission visited Yemen in February-March 2009 to identify potential economic opportunities in agricultural value chains and to develop a concept note for the programme. Following Government concurrence and IFAD approval of the programme concept, an IFAD detailed design mission[1] visited Yemen in May-June 2009 to initiate the design process and prepare the detailed design document. The design mission worked closely with key Government authorities, particularly the Ministry of Planning and International Cooperation (MOPIC), the Ministry of Agriculture and Irrigation (MAI) and the Ministry of Finance (MOF).

2. An IFAD final design mission[2] visited Yemen from 28 October to 18 November 2009 to complete the design process and produce the final design document, in close coordination with the representatives of the proposed cofinanciers (Islamic Development Bank and European Union)[3] and other partners[4]. The mission met with a wide range of Government institutions, multilateral and bilateral financiers, financial institutions, non-governmental and civil society organisations, and private sector entities including processors and exporters. Field visits were undertaken to some of the governorates selected for implementation, where the mission met with public institutions, private companies, community organisations, and individual women and men farmers. The final programme design was fully endorsed at a Wrap Up meeting in Sana'a on 16 November 2009, which was chaired by the Deputy Prime Minister and Minister, MOPIC, and attended by the Deputy Minister, MAI. Both MOPIC and MAI expressed their strong support for the programme.

3. In support of the final design process, the IFAD country team organised a programme workshop on 15 November 2009 under the patronage of the Deputy Prime Minister and Minister, MOPIC, with the keynote participation of the Deputy Minister, MAI. The purpose of the workshop was to finalise with key stakeholders and partners the programme design and the way forward towards implementation. About sixty officials from public institutions, multilateral and bilateral agencies, non-governmental and civil society organisations, the private sector, and the media participated in the event. The workshop concluded with an endorsement of programme design and methodology, and a confirmation of the Government's and the IFAD country team's emerging focus towards a commercial, private sector led approach to value chain development in support of poverty reduction and rural development.

[1] The detailed design mission consisted of Mr Thierry Mahieux (mission leader & microfinance specialist), Mr Jens Kristensen (agribusiness specialist), Ms Helen Lackner (sociologist), Mr Michele Pirazzoli (environmental engineer), Mr Sirelkhatim Mohamed (financial analyst) and Mr Abdulhafiz Karhash (agriculture specialist).

[2] The final design mission consisted of Mr. Thierry Mahieux (mission leader & microfinance specialist), Mr. Jens Kristensen (agribusiness specialist) and Mr. Taoufik Jaballah (economist). Ms Mylène Kherallah, Regional Economist, IFAD, also participated in the mission and provided strategic support. Mr Omer Zafar, Country Programme Manager, IFAD, and Dr Fathia Bahran, Country Programme Officer, IFAD, managed the overall programme design process and participated in the mission for part of its duration. Ms Nicole Hervieu, Programme Assistant, IFAD, administered the programme design process.

[3] The Islamic Development Bank officials consisted of Mr Salem Sassi (Senior Agricultural Economist), Mr Ahmed Elsadig (Country Manager, Yemen) and Mr Rabih Mattar (Senior Microfinance Specialist). The European Union officials consisted of Mr Philippe Jacques (Counsellor) and Mr Damien Buchon (Programme Manager).

[4] The design process benefited from continuous interaction with the Agence Francaise de Développement, particularly Mr Claude Torre (AFD Representative, Rome), Ms Sarah Morsi (Project Officer in Sana'a), Mr Simon Goutner (former Project Officer in Sana'a), and Mr Herve Gallepe (Thematic Referent in Paris).

I. STRATEGIC CONTEXT AND RATIONALE FOR IFAD INVOLVEMENT, COMMITMENT AND PARTNERSHIP (KSF 1)

A. Rural Development Context

4. Yemen is a low-income country with a population of about 22.2 million. GNI amounts to USD 19.4 billion and per capita GNI averages USD 870 in nominal terms (2007). Yemen has a human development index of 0.575 and ranks 140th out of 182 countries rated in 2009, while the gender development index is 0.538, reflecting gender disparities in human development. About 40% of the population lives below the poverty line, and 80% of the poor reside in rural areas; another large population segment lives marginally above the poverty line and is vulnerable to economic and natural shocks. Almost half of the rural population is classified as poor.

5. Population pressure is a major challenge which makes the fight against poverty increasingly difficult. Although the annual population growth rate has dropped from 3.7% to 3.0%, Yemen still has one of the highest growth rates in the world. The proportion of those below 15 years of age is 45%, and over 62% of the population is under 25. It is projected that population will double over the next 20 years. Official unemployment rose from 12.0% in 2000 to 16.8% in 2005, compared with the target of 9.5% articulated in the second Five Year Development Plan. Women are increasingly joining the labour force to counteract declining real household incomes; female labour represents, however, only 8.8% of total employment.

6. **Agriculture.**[5] Yemen has four main agro-ecological zones: (i) the highland zone (covering 44% of cultivated land and holding 60% of farms); (ii) the eastern plateau (26% of cultivated land and 19% of farms); (iii) the Tihama zone (26% of cultivated land and 10% of farms); and, (iv) the coastal zone (4% of cultivated land and 10% of farms). Arable land is estimated at 1.45 million hectares, while the land under cultivation varies annually due to rainfall fluctuations. About 51% of cultivated land is rainfed, 30% is irrigated using groundwater pumped from wells, 10% is under spate irrigation, 6% is irrigated from dams, and 3% is irrigated by other sources. In 2008, about 94% of arable land was cultivated (1.37 million hectares), of which cereals accounted for 55%, fruits and vegetables 13%, fodder crops 11%, *qat* 11%, other cash crops (coffee, cotton, sesame, tobacco) 6% and legumes 3%. Grazing land is estimated to extend over 20 million hectares.

7. From 2000 to 2005, agriculture was the main source of income for 74% of the population, constituted 21% of GDP, employed 31% of the labour force, and accounted for 57% of non-oil exports.[6] However, the share of agriculture in GDP has been declining steadily, from 30% in the early 1990s to 20% in 2006. Agriculture consumes about 90% of the country's water resources.

8. The area cultivated with *qat* has increased from 7,000 ha in 1970 to about 147,000 ha in 2008, representing 22% of irrigated land and 60% of annual water usage. Controlling the expansion of land brought under *qat* cultivation is a major challenge. The *qat* value chain provides employment to about half a million people, contributes almost one-third of value added in the agriculture sector, and rewards producers with high incomes; however, it creates serious social setbacks, as 72% of men and 33% of women chew *qat* for up to 6 hours per day. *Qat* absorbs 10% of average household income, and over 28% for low income groups. *Qat* production, trade and consumption account for 10% of GDP.

9. Agricultural production is constrained by the weak technological base of the sector, resulting in modest growth of less than 4% p.a. between 2003 and 2007. The productivity of Yemeni agriculture (particularly crop and livestock sub-sectors) is at least 50% lower than in other Middle Eastern countries with comparable environments[7]. Post-harvest losses due to poor handling, packaging and transport are estimated to affect about 20% of crop output. Irrigation systems are inefficient, resulting in significant waste of water, estimated to be in the range of 50% to 65%.

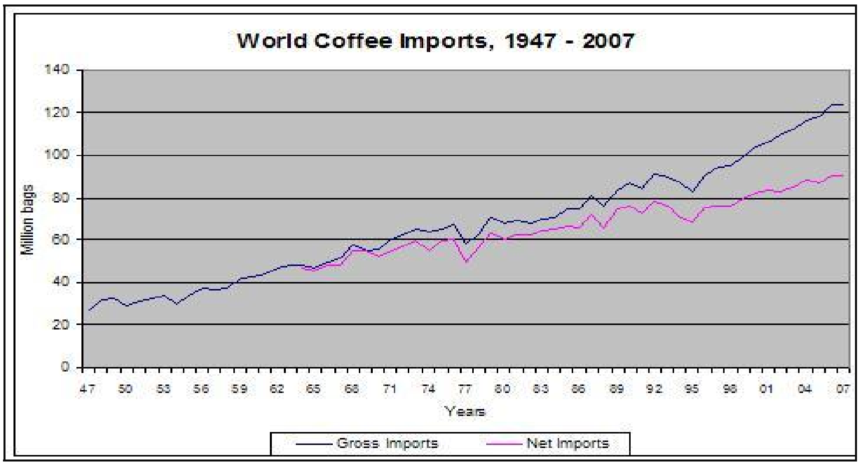
10. **Agricultural exports**. Coffee constitutes a major exported cash crop, accounting for 10% of the value of all agricultural commodity exports in 2008. Other important exported cash crops include honey (6%) and vegetables (5%).

[5] *Yemen, Agricultural Statistics Yearbook,* Ministry of Agriculture and Irrigation, 2008.
[6] *Yemen's Development Plan for Poverty Reduction, 2006-2010.*
[7] *A World Bank Country Study: Economic Growth in the Republic of Yemen*, World Bank, 2002, p.23.

11. **Coffee**. Yemeni coffee is renowned worldwide for its excellent quality (second only to Jamaica Blue Mountain), is highly priced compared to coffee from other producing countries (about twice the price of quality coffee from Costa Rica, Guatemala and Kenya), and has a highly lucrative market niche. Around 11 countries import green coffee beans from Yemen on a regular basis. Present Yemeni coffee exports vary from 4 000 to 6 000 MT/year and are valued at about USD 20 million, down from 12 000 MT/year in the 1950's. About 100 000 rural smallholders are engaged in coffee production, representing 9% of all farming households.

12. The decline in coffee production and export may be attributed to: (i) irregular water supply and/or drought to which coffee trees are highly sensitive; (ii) inadequate strategic focus and investment across the value chain; (iii) limited research and extension for coffee farmers; (iv) absence of transparent marketing systems; (v) breakdown of the standardisation system; and, (vi) lack of branding. These problems combined have resulted in low productivity and reduced revenues. However, international demand remains high and can absorb significantly increased quantities, provided that quality is increased and consistently maintained. International market trends for coffee imports/exports are illustrated in Figure 1.

Figure 1: World Coffee Imports/Exports



Source: International Coffee Organisation (ICO)

13. The international market prices for coffee of selected origin over the past four years are indicated in Table 1. As mentioned earlier, Yemeni coffee has suffered from a lack of branding and maintenance of quality standards. However, market signals including the perceptions of coffee exporters indicate that international market prices for certified high quality coffee of Yemeni origin may be far higher than current prices and may reduce the gap with Jamaican coffee, resulting in higher revenues for all stakeholders across the value chain.

Table 1: Coffee Export Prices, Selected Countries

Year	Coffee Export Prices, Selected Countries, USD/MT				
	Jamaica	Yemen	Kenya	Guatemala	Brazil
2003	10,333	3,328	1,426	1,198	951
2004	21,140	4,319	1,804	1,573	1,240
2005	20,975	4,454	2,554	2,299	1,861
2006	18,841	4,224	2,772	2,278	1,985
Average	17,822	4,081	2,139	1,837	1,509

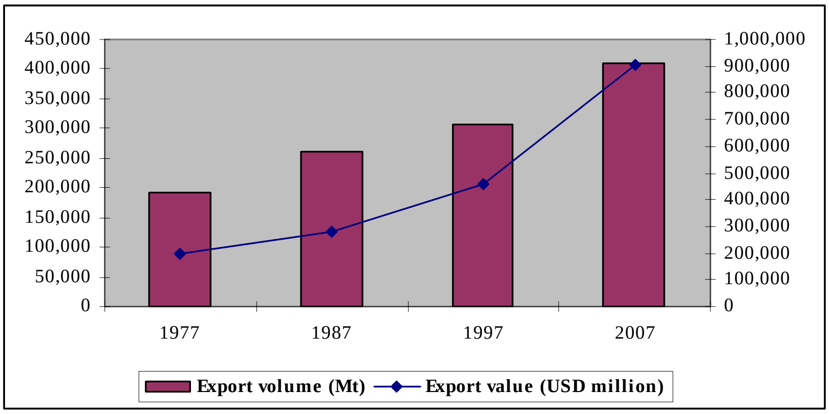
Source: FAOSTAT

14. **Honey**. There are over 40 000 beekeepers in the country working on an estimated 1.21 million traditional beehives. Like coffee, Yemeni honey is highly priced on the international market and attracts lucrative prices. The export value of Yemeni honey has risen by an average of 26% per annum over the past five years, reaching USD 8.4 million in 2005.[8] Organic certification can further increase returns on investment and generate additional market demand. The growth of

[8] *International Trade Statistics, 2005.*

international trade in honey is presented in Figure 2; the significant growth trend over time implies that international demand for honey (including Yemeni honey) will continue to expand.

Figure 2: International Trade in Honey, Selected Years



15. The price of Yemeni honey is among the highest in the world (Table 2). Between 2001 and 2007, the average price of Yemeni honey was between three and five times the average price of the world's twenty largest honey exporters. Furthermore, the average price of Yemeni honey was significantly higher than the highest price among the world's 20 largest exporters (that of New Zealand) for all years except 2007.

Table 2: Honey Export Prices

Indicator	2001	2002	2003	2004	2005	2006	2007
World's 20 Largest Exporters (W20)							
Average Export Price (USD/kg)	1.5	2.0	2.9	3.0	2.5	2.4	2.2
Highest Export Price (USD/kg)	2.5	3.5	5.1	6.7	7.0	6.5	8.2
Yemeni Honey Exports							
Average Price (USD/kg)	5.0	10.7	10.7	9.0	10.2	8.9	7.6
Price Comparisons							
Yemeni Avg. vs W20 Avg. (%)	333%	535%	369%	300%	408%	371%	345%
Yemeni Avg. vs W20 Highest (%)	200%	306%	210%	134%	146%	137%	93%

Source: FAOSTAT

16. **Horticulture**. The Yemeni export of horticultural products grew by 40% annually between 2004 and 2007, driven primarily by bananas, mangoes and onions. Although this expansion is encouraging, it constitutes a limited increase compared with the projected export potential. It does not outweigh the annual import of fresh and preserved fruit and vegetables which has been growing annually by an average of 6% between 2001 and 2005, and has reached a value of USD 77 million in 2005[9]. The improvement of post-harvest handling to reduce losses, estimated to amount to 200 MT/year valued at USD 265 million, also offers significant potential for increasing the incomes of the over 150,000 smallholders engaged in producing horticultural products.

17. The value of vegetables traded on the international market has increased from USD 278 million in 1977 to USD 2,494 million in 2007 (Table 3), representing an average increase of 29% per annum over the period, with a greater rate of increase over the last decade. The volume of exports has increased from 1.0 million MT in 1977 to 2.7 million MT in 2007, representing an average increase of 9% per annum over the period, again with a greater rate of increase over the last decade. These trends offer significant potential for increasing Yemeni export of vegetables (or substituting for imports). Yemen's diverse agro-climatic zones provide a unique opportunity to target windows of high demand during the 'off season' of other countries. Yemeni exporters are gradually starting to exploit this opportunity; the growth in the value of vegetable exports has been increasing by about 17% per annum in recent years, reaching USD 42 million in 2007. The organic certification of vegetables can further increase demand in domestic and export markets.

[9] *International Trade Statistics, 2005.*

Table 3: International Vegetable Exports

Indicator	1977	1987	1997	2007
Export Volume (MT million)	1.0	1.3	1.7	2.7
Export Value (USD million)	278	724	939	2,494

Source: FAOSTAT

18. **Financial services.** The commercial banking sector consists of fifteen active commercial banks, of which four are fully foreign-owned, three are publicly-owned, and eight are domestic privately-owned of which four are Islamic banks. Commercial banks are over-liquid as indicated by their average credit to deposit ratio of 30% and their average investment in Treasury Bills (around 60%). The outreach of the commercial banking sector is concentrated in the main cities and rural urban areas. Commercial bank loans are associated with relatively high interest rates and sizable collateral requirements. Annual interest rates can run as high as 60% and banks can request collateral (preferably houses or land) for amounts of up to 400% of loan size. Banks regard SME lending as a strategic future goal, but do not yet have plans to address this market due to the relative high return to Treasury Bills with low risk.

19. Microfinance institutions (MFIs) which are actively involved in the provision of micro financial services include eleven NGOs/foundations, the Tadhamon Microfinance Institution (TMI) and the Small Enterprise Development Fund (SEDF). Except for Tadhamon, the other MFIs were created by the Government's Social Fund for Development (SFD). These MFIs have an aggregate outreach of about 35 000 clients, a combined loan portfolio of USD 11.6 million, and an average loan size of USD 97. The MFI with the largest outreach covers nine governorates, while others cover from one to four governorates each. MFIs are not allowed to collect savings for on-lending or investments.

20. In October 2008, Al-Amal Microfinance Bank (AMB) was allowed to open under Al-Amal Bank Law 23 of 2002, under Central Bank supervision. The AMB is owned by SFD (45%), the Arab Gulf Program for UN Development (AGFUND, 35%), and 13 private entities (20%). Trial period results (fourth quarter 2008) and outcomes to date are in line with projections, and indicate that the bank will break-even in 2010; however, it will need additional financial resources to implement its five-year plan. Another micro-finance bank was to be created by KfW, USAID, and a strategic investor; due to the withdrawal of the investor in late 2008, this idea has been temporarily abandoned.

21. In March 2009, the new microfinance bank law was adopted by Parliament. It states that licensed microfinance banks are allowed to collect savings and deposits and use them for lending, and are subject to Central Bank supervision, to which they have to submit audited financial statements. The Central Bank is developing a set of prudential rules/regulations to be attached to the law, supported by international TA. To date Al-Amal Bank has been licensed by the Central Bank, while Tadhamon Microfinance Institution has obtained the license through its mother company. Due to their current structure and lack of compliance with microfinance best practices issued by CGAP, it is unlikely that the microfinance programmes set up by SFD will be licensed.

22. Licensed microfinance banks/institutions currently have very small rural networks. For these institutions to have an impact on rural activities and rural households, geographical expansion through microfinance service points (to be defined based on sustainability potential) is required. Alternative financial products better suited to the specific requirements and cash-flow cycles of rural households and micro-businesses should also be developed and offered.

23. **Micro and small enterprises (MSEs).** Based on the findings of an IFC credit demand survey[10], it is conservatively estimated that there are 400,000 MSEs in Yemen (excluding the agriculture sector). While about 53% of MSEs are interested in obtaining loans, currently only 6% of this market is served by existing financial institutions. Typical loan sizes for MSEs range from USD 1 000 to USD 25 000, with an average of USD 2 500 implying an estimated financing demand of some USD 530 million for the MSE sector (excluding agriculture). When operating in rural areas, licensed microfinance banks/institutions can take the lead in financing MSEs, as commercial banks are moving away from rural areas and agriculture. The development of a network of sustainable microfinance banks/institutions, offering adapted and diversified financial products, is necessary for the development of the MSE sector in rural areas.

[10] *Assessment of MSE Financial Needs in Yemen*, International Finance Corp., Dec. 2007.

B. Policy, Governance and Institutional Issues, Political and Economic Issues

24. The Republic of Yemen was formed in 1990 through the unification of the Arab Republic of Yemen and People's Democratic Republic of Yemen. Unification was followed by an economic crisis caused by the expulsion of almost a million Yemeni migrant workers from the Gulf States in the aftermath of the Gulf crisis in 1990; this led to loss of remittances combined with a major drop in foreign aid from the Gulf States, Western nations and multilateral financiers. The early years of Republic of Yemen were also characterised by droughts which significantly reduced agricultural output, and by the short civil war in 1994 which caused considerable destruction. In 1994 the fiscal deficit was 15% of GDP, the rate of inflation 71% and the current account deficit about 19%.

25. From 1995 to 2000 Yemen implemented the Economic, Financial and Administrative Reform Programme proposed by IMF and World Bank. The reform programme was fairly successful and resulted in robust annual GDP growth averaging 5.2% per annum during the period 1995-2000. Since 2000, however, economic growth has decelerated to levels below population growth due to internal security concerns, a slowdown in economic reforms, reduced private sector investment, and declining oil production; between 2004 and 2008 the average annual growth rate dropped to 3.7%. Oil and gas represented 66% of total Government revenue in 2002, rising to 72% in 2004 and an estimated 76% in 2005. The budget deficit is being maintained at around 2% largely due to the significant increases in oil prices since 2004. Between 2001 and 2005, inflation ranged between 11.8% and 12.2%, rising to around 16% at end-2008.

26. Yemen has developed a Poverty Reduction Strategy Paper and five-year development plans since 2000. The current Development Plan for Poverty Reduction (DPPR) covers the period 2006-2010. It indicates that poverty reduction depends on four key elements: economic growth through private sector development, improved infrastructure, human resource development, and social protection. In particular, economic growth led by the private sector is seen as the major poverty reduction instrument. The three key DPPR objectives are as follows:

- *DPPR 1*: enhance partnership with the private sector, civil society, and external financiers to reduce poverty.
- *DPPR 2*: (i) promote SMEs for sustainable income generation, particularly in food processing, export-oriented agriculture, fisheries, tourism and related services; and, (ii) promote microfinance services for the poor, particularly for women in rural areas.
- *DPPR 3*: (i) increase efficiencies in the agriculture sector; (ii) enhance household food security; (iii) ensure optimal and sustainable use of fishery resources.

27. In order to facilitate economic growth and reduce poverty, Government has in recent years taken significant measures to improve the business regulatory environment and investment climate, in cooperation with the International Finance Corporation (IFC) and other partners. As a result, Yemen's composite ranking in the IFC/WB *Doing Business* report improved from 123rd place in 2008 to 98th place in 2009; in terms of 'starting a business' Yemen jumped from 175th place in 2008 to 50th place in 2009 (the top reformer in the world for this indicator). The reforms include streamlining business licensing and registration, and enhancing the protection of investors. Government is fully committed to institute a private sector approach to economic growth and poverty reduction, and has communicated this to IFAD on several occasions.

C. IFAD Country Programme

28. IFAD has supported nineteen development projects in Yemen valued at USD 603 million, of which USD 194 million financed by IFAD and the rest covered by external financiers and domestic resources. Five projects with IFAD investment of USD 71 million are currently under execution, focusing on area based participatory rural development, rainfed agriculture, and rural roads. They consist of the Al Mahara Rural Development Project, the Dhamar Participatory Rural Development Project, the Pilot Community Based Rural Infrastructure Project, the Al Dhala Community Resource Management Project, and the Rainfed Agriculture and Livestock Project. The Al Mahara project will be completed shortly, while the Al Dhala and Rainfed projects have become operational recently.

29. The December 2007 RB-COSOP indicates that IFAD's response to rural poverty challenges will focus on three strategic objectives (SO):

- *SO 1*: empower rural communities; linked to DPPR 1.

- *SO 2*: promote sustainable rural financial services & pro-poor SMEs; linked to DPPR 2.
- *SO 3*: enhance rural household food security; linked to DPPR 3.

30. Government and IFAD are in continuous discussion regarding the programme portfolio and the pipeline. There is consensus regarding the need to: (i) focus on the creation of sustainable pro-poor investments aligned with Government's economic growth and poverty reduction policies and IFAD's strategic objectives; (ii) introduce a private sector-led approach as the key tool in this respect; (iii) institute a public-private partnership to effectively, efficiently and transparently manage development resources and create synergies; (iv) diversify the IFAD portfolio in Yemen.

31. The tentative IFAD programme for Yemen for the 2010-2012 resource allocation cycle, which is defined jointly with Government, envisages three investments: the Economic Opportunities Programme focusing on pro-poor agricultural value chain development, the Fisheries Investment Programme focusing on sustainable fisheries resource management and value chain development; and the Rural Employment Programme focusing on the creation of sustainable rural employment opportunities through venture capital investments and other financial services (integrated with management advise, technical assistance, and market linkages) for rural businesses with growth potential. These investments will be managed on the basis of public-private partnership by the Economic Opportunities Fund (EOF) to be created under the Economic Opportunities Programme. Government and IFAD have jointly mobilised domestic and external cofinancing for the first of these investments, and are in discussion with partners and potential cofinanciers for the other two.

II. POVERTY, SOCIAL CAPITAL AND TARGETING (KSF 2)

A. Rural Poverty, Information and Analysis

Table 4: Rural Poverty by Governorate, 2005

Governorate	Total Population (number)	Rural Households (number)	Rural Population (number)	Rural Poor (number)	Rural Poor (%)
Abyan	434,819	43,430	322,300	161,150	50%
Al Baidha	577,369	53,933	469,316	281,590	60%
Al Dhala	470,564	51,562	408,318	187,826	46%
Al Hodeida	2,157,552	236,549	1,396,495	502,738	36%
Al Jawf	443,797	51,008	385,735	204,440	53%
Al Maharah	88,594	8,125	51,347	3,081	6%
Al Mahweet	494,557	64,464	458,534	142,146	31%
Amran	877,786	87,359	728,310	517,100	71%
Dhamar	1,330,108	162,763	1,144,162	286,041	25%
Hadramaut	1,028,556	65,022	552,701	215,553	39%
Hajja	1,479,568	177,134	1,339,990	669,995	50%
Ibb	2,132,861	253,183	1,757,028	579,819	33%
Lahej	722,694	95,699	660,665	323,726	49%
Mareb	238,522	24,141	206,665	103,333	50%
Raymah	394,448	55,744	390,618	136,716	35%
Sa'adah	695,033	71,455	588,015	94,082	16%
Sana'a	919,215	113,948	893,796	250,263	28%
Shabwa	470,440	44,244	396,283	225,881	57%
Taiz	2,303,425	286,077	1,857,445	780,127	42%
Total	17,259,908	1,945,840	14,007,723	5,665,607	40%

Source: based on 2004 census data and WB analysis of 2005 household budget survey.

32. The most recent analysis of poverty in Yemen, dated 2005, indicates that rural poverty is widespread (Table 4). Government estimates that there has been a modest reduction in rural poverty between 1998 and 2005 (from 42% to 40%); however, World Bank figures indicate that the total number of the rural poor is 1.75 million higher than Government data, due to population increase and worsening conditions in some areas. These estimates are considered as conservative by most agencies and institutions addressing poverty. There is little doubt that that the situation

has deteriorated since mid-2007 as a result of the global food price crisis and increasing frequency and severity of drought years.

33. Yemen is an overwhelmingly rural country with 81% of the population living in rural areas. The inability of agriculture to provide sufficient incomes, and the absence of MSEs in rural areas, imply that the majority of rural households are largely dependent on the incomes obtained by their younger males through casual labour in urban areas. Insufficient agricultural income is increasing the importance of urban casual labour in household income; this is becoming the primary source of income for increasing numbers of rural households. While male casual labour is usually a first step in rural-urban migration of the whole household, cultural factors as well as the costs of living and housing conditions in urban areas are slowing down the process of urbanisation in Yemen.

34. About 60% of all rural households have some land, although 44% have less than 1 ha; the average landholding size in coffee growing areas is only 0.3 ha. About 40% of rural households are landless, of which 16% are landless livestock owners, 10% are fishermen, and 5% are either Government employees or have some form of off-farm income generating activity. This implies that approximately 1.26 million people are without obvious means of support; if the latest population figures are factored into the calculation, this number increases significantly.

35. The deteriorating poverty situation in rural areas is confirmed by the mission's field visits (meetings with household members, supplemented by independent observation and verification, confirmed that their standards of living are declining). Respondents also indicated that the development efforts of Government and financiers have not reached the majority of the rural poor and have not addressed their needs for jobs, market opportunities, and technical information.

36. The characteristics of rural poverty in Yemen are presented in Figure 3.

Figure 3: Rural Poverty in Yemen - Characteristics

Who are the rural poor?

- landowners owning < 2 ha of rainfed or spate irrigated cultivable land;
- smallholders with very small holdings or without access to irrigation water;
- sharecroppers or tenants and their households;
- landless households dependent on livestock activities and/or casual labour;
- large farming households (usually consisting of extended families);
- households with high dependency ratios (e.g. adult unable to work or disabled);
- women-headed households;
- young women and men living in extended households.

Where are the rural poor?

- the rural poor are to be found throughout rural areas;
- located in areas of high population density and very small holdings;
- concentrated in dispersed settlements with inadequate access to services;
- found in remote inhospitable mountainous areas with steep watersheds;
- often dependent on seasonal or long-term migration to urban areas.

Why are they poor?

- subsistence focus;
- periodic drought and chronic water scarcity; inefficient use of irrigation water;
- inadequate access to knowledge and technology;
- poor/inconsistent quality and limited/unscientific application of inputs;
- inadequate access to financial services;
- difficult access to markets;
- weakness of local organisations, constraining collective action/negotiation;
- unfavourable tenure arrangements for sharecroppers and tenants;
- other social and non-economic aspects.

What are their coping strategies?

- out-migration (overseas; in-country);
- dependence on casual wage labour;
- borrowing from relatives and local traders;
- charity (e.g. Social Welfare Fund), further fuelling dependency;
- decapitalization.

37. The typologies of rural households are characterised in Figure 4.

Figure 4: Rural Households in Yemen - Characteristics

Poorest households:
- extremely high dependency ratio;
- landless (eventually with some form of tenure);
- lack of livestock; possibly owns one or two beehives;
- unable to finance education and medical expenses;
- destitute; depend on charity.

Very poor households:
- high dependency ratio;
- sharecropping on land < 0.20 ha, purchasing irrigation water;
- lack of livestock; typically owns two to three beehives;
- able to finance education for one child, but not medical expenses;
- charity is still important to improve nutrition.

Poor households (below poverty line):
- reasonable dependency ratio;
- owns up to 0.30 ha of coffee or other crops;
- typically owns one cow, five goats and four beehives;
- able to finance education; covers medical costs through borrowing;
- not dependent on charity.

Households just above the poverty line:
- low dependency ratio;
- owns up to 0.50 ha of coffee, tree crops and *qat*;
- owns a well and sells water to neighbouring farms;
- typically owns one or two cows, five to ten goats and four beehives;
- able to finance education for all children, as well as medical expenses;
- provides charity to poorest households within the community.

38. **Water**. The scarcity of water resources has been acknowledged and discussed as a major constraint to Yemen's development for over 20 years. The increasing shortage of water was foreseen long before global warming became widely recognized as a major international concern, at a time when drought frequency had not yet become critical, as has been the case over the past decade. Yemen has relied on rainfall and rainfed surface aquifers for centuries; over the past generation the mining of deep aquifers has been a major contributor to worsening the situation. Renewable water availability was assessed at 4 km^3 earlier in this decade and current per capita freshwater availability is 135 m^3/capita/year, one of the lowest rates in the world. Annual withdrawal is currently estimated at 6.6 km^3, i.e. 165% of renewable resources.[11] Yemen has a per capita water availability of barely 13% of the 'water poverty line'.

39. Over the past decades, the state's response to this acute water crisis has been inadequate and largely unsuccessful. Agriculture is by far the largest user of water; the rapid increase in unregulated shallow and deep well irrigation since the 1980s has led to the current situation where large numbers of rural people have no water, where women queue up at wells for hours at a time for domestic water supply, and where major cities such as Taiz infrequently receive public water supply (sometimes only one day in thirty). It is estimated that agriculture consumes about 90% of the total water supply and, despite shortages, farmers still overwhelmingly use flood irrigation techniques. While spate irrigation of field and other crops may be rational, it is certainly an inefficient and wasteful use of scarce retained water resources (in wells and dams/ reservoirs). This is worsened by *qat* cultivation which covers 22% of irrigated area, accounts for 60% of water use (3.4 billion m^3), and consumes 85% of annual rechargeable volumes (2.5 billion m^3).

40. The resulting situation is one in which the rural poor have inadequate access to water supply for domestic and agricultural purposes. Crops suffer from poor irrigation, fail due to drought, or are destroyed by serious floods which occur when spate irrigation systems have deteriorated or are damaged by a particularly violent downpour. Worsening water supply has obvious adverse effects on domestic water consumption, agricultural water utilisation, and business development.

[11] Data from World Bank Water Sector Support Program & GTZ (Fragile States, no date, est. 2006).

41. **Drought and rural poverty**. The country has been suffering from drought with increasing intensity (programme areas have reportedly had insufficient rainfall for at least three of the past five years). This reduces the ability of rural households to satisfy their basic needs, at a time when the prices of imported grains have increased significantly. The coping strategy of poor rural households is to send young adult men to work as casual labourers in urban areas; however, employment opportunities have remained static, and nominal wages have not kept pace with food price increases. The result is increasing rural poverty and inability of many households to feed themselves adequately, let alone cover other basic expenses such as health and education costs.

42. About 83% of the poorest households and 87% of those below the poverty line are found in rural areas. Poverty also occurs in varying degrees of concentration in various governorates and, within these governorates, in different districts; the coffee growing areas in Sana'a, Lahej, Taiz, Amran and Abyan have poverty rates ranging from 40% to 71% of the population. The living conditions in some of these areas have become desperate, with farmers requesting emergency interventions to save their agriculture. Field visits confirmed a high ratio of dead coffee trees, the absence of field crops, and the inability of farmers to purchase water to keep their trees alive.

B. The Target Group, Including Gender Issues

43. The Economic Opportunities Programme will focus on strengthening coffee, honey and horticulture value chains, given their potential to generate sustainable incomes for the rural poor, their high value in domestic and export markets, and their expanding market opportunities. Investments will target poor settlements in mountain valleys where existing water sources (springs/wells) are available for irrigation, and where coffee covers at least 50% of the irrigated cultivated area. Poverty criteria will be important in the selection of settlements.

44. A typical mountain settlement in coffee producing zones consists of about 75 households, of which 50 are landholders, 9 are landless sharecroppers, and 16 are landless livestock keepers and/or labourers. The distribution of farm sizes and cropping is illustrated in Table 5.

Table 5: Typical Mountain Settlement in Coffee Producing Area
Indicative Crop Composition by Farm Size

Indicator	Unit	Large Farmer	Medium Farmer	Small Farmer	Total
Farms	#	5	9	36	50
Farms	%	10%	18%	72%	100%
Coffee, irrigated	ha	0.32	0.20	0.11	7.36
Qat, irrigated	ha	0.23	0.14	0.09	5.72
Other, irrigated	ha	0.16	0.10	0.01	1.92
Various, rainfed	ha	0.55	0.35	0.25	14.90
Total, one farm	ha	1.26	0.79	0.46	-
Total, all farms	ha	6.30	7.11	16.49	29.90

Source: mission estimates based on field visits.

45. An indicative breakdown of incomes by type of household in mountain settlements of coffee producing zones is provided in Table 6. It is noted that the average daily per capita income of landless, sharecropper, small farmer, and medium farmer households is substantially below the standard 'USD 1 per day' (YER 200 per day) poverty benchmark.

Table 6: Typical Mountain Settlement in Coffee Producing Area
Indicative Household Income Breakdown
(all figures in YER)

Farmer Category	Source of Income							Total HH Income	Daily income/ HH mem.
	Coffee	*Qat*	Other	Rainfed	Livestock	Wage Earners	Non Tradable		
Large	103 174	149 928	64 000	31 680	70 000	-	120 000	538 782	227
Medium	64 484	91 261	40 000	20 160	45 000	-	120 000	380 905	161
Small	35 466	59 971	24 000	14 400	70 000	95 000	-	298 837	126
Sharecropper	-	-	-	51 840	120 000	165 000	-	336 840	142
Landless	-	-	-	-	130 000	100 500	89 000	319 500	135

Source: mission's financial analysis

46. **Target groups**. The target groups in the selected coffee mountain settlements will include: (i) small coffee producers with terraced holdings averaging 0.33 ha; (ii) small farmers, share-croppers and landless households interested to develop protected horticulture on plots of up to 400 m^2; (iii) poor landless households interested to develop mobile honey production; (iv) poor landless households investing in rural micro-businesses. Poor women would constitute the primary target group for micro-businesses to be financed by MFIs, which mainly lend to women's groups.

47. More specifically, the programme's direct target groups will consist of several socio-economic groups, differentiated by type of programme intervention:

- Smallholders / cultivating coffee. The majority are below the poverty line and unable to sustain their households. Their average landholding size is 0.33 ha, of which 0.24 ha allocated for coffee production; average annual income from coffee ranges from USD 590 to USD 770. They will be supported to improve coffee productivity, form producers' associations, and enhance market access.
- Smallholders / interested in horticulture. With an average landholding of 0.33 ha, the majority are below the poverty line and unable to sustain their households. They will be assisted to develop protected horticulture production in high tunnels, establish producers' associations, and enhance market access.
- Poor landless households / interested in apiculture (and horticulture). Interested poor landless households will be supported to invest in mobile honey producing units, develop producers'/marketing associations, and enhance market access. Poor landless households will also be assisted to develop horticulture production in high tunnels on rented or sharecropped land, as (ii) above.
- Poor landless households / interested in micro-businesses. Interested poor landless households, particularly with unemployed young women and men, will be supported to establish viable rural micro-businesses responding to market demand (e.g. food processing, rural services, livestock production, and off-farm activities).

48. With respect to the typologies of rural households referenced in Figure 4, the programme will target the poorest, the very poor, and poor households for horticulture and apiculture, and poor households for coffee production. The objective will be to assist these households to generate sustainable income streams that enable them to move above the poverty line.

49. **Gender issues.** Less than 1% of agricultural landholders in Yemen are female. However, women execute a major role in agriculture, often bearing the main responsibility for field crops, irrigated fodder, and horticulture. Women are also the main handlers of livestock within the home compound, and in the highlands they are mainly responsible for care of cattle. Women officially constitute 39% of household labour on farms and 10% of wage labour, but their share of both may be higher. Women undertake most agricultural functions (providing 60% of labour in cropping and 90% in livestock production), including coffee cultivation and on-farm bee-keeping. However, as marketing is predominantly undertaken by men, women's access to the financial rewards of their labour and control over the management of the household budget are often inadequate.

50. Yemeni women, particularly in rural areas, have heavy workloads and are largely deprived of the benefits of modern society. In addition to child care and house maintenance, they are responsible for cooking and for collecting water, fuelwood and animal fodder. Despite their critical role in the economic life of household and society, women are faced with serious constraints that hinder improvement to their living conditions, such as inadequate access to assets, exclusion from marketing activities, restrictions on leaving the village, limited control over fertility, and limited access to decision-making at household and public levels. Apart from the recently-established microfinance institutions, women generally lack access to financing for micro-enterprises.

51. Women continue to marry at a young age and have a high fertility rate. Although the total fertility rate has dropped, it still remains relatively high at 6.2. Life expectancy improved by 3 years between 1994 and 2004. However, women's illiteracy levels (77%) remain exceptionally high by international standards. As only 63% of school age girls are enrolled in primary school and the drop-out rate is high, it is clear that adult female illiteracy is not about to be eradicated.

52. While only 8% of households are officially women-headed, a further 10% can be considered de-facto women-headed as the male head is away for over six months per year. The incidence of poverty does not seem to be significantly different between women-headed households and other

households, according to World Bank and FAO statistics; however, the household budget survey shows that resources are better allocated in women-headed households, which spend more on education and food than on tobacco and *qat.*

53. The programme will support women to increase their incomes through value-addition in coffee production, horticulture, and micro-businesses, particularly in activities which they dominate (food processing, livestock production, hairdressing, tailoring, etc). The programme will also contribute to a long-term improvement in Yemen's gender situation by ensuring that women are included in the various organisations which it supports; women will become members of the management boards of producers' associations and will be offered specific management training (in group organization, basic book-keeping, marketing, etc.) for their micro-businesses.

C. Targeting Strategy and Gender Mainstreaming

54. Within the framework of IFAD's pro-poor targeting policy, the EOP's targeting strategy would be guided by the needs and requirements of the coffee value chain. The programme will focus on settlements in mountain valleys where coffee is produced. It will support current coffee-producing smallholders through investments and services to improve yields, production and quality of coffee beans; it will not substantially increase the coffee production area nor include new coffee farmers into the value chain. In the selected settlements (ref. geographical coverage section), the programme will support all coffee producers, irrespective of plot sizes, as all producers will benefit from infrastructure investments, will be encouraged to adopt drip irrigation to improve yields and reduce water consumption, will be eligible to become members of producers' associations, and will be able to participate in contractual arrangements with processors/exporters.

55. Households in selected settlements which are not producing coffee will be offered support for establishing economically-viable protected horticulture, mobile bee-keeping, and micro-businesses. Beneficiaries will be selected through a participatory approach which aims to identify vulnerable households willing to engage in these activities. Priority will be given to poor women and youth for micro-business development, and to young men for mobile honey production (in light of travel restrictions faced by rural women). In some cases the programme may allow the same household to benefit from two activities, one for coffee and the other for horticulture, bee-keeping or micro-businesses, depending on the funding availability of participating microfinance banks/institutions.

56. Based on export demand for branded quality coffee, it is likely that processors/exporters will increase the number of settlements from which they directly purchase coffee. This form of post-programme expansion in new areas would have to be financed by processors/exporters from their own resources, applying the same development pattern promoted by the EOP.

57. **Gender mainstreaming.** The programme will implement positive discrimination or affirmative action measures to increase women's participation in the planning and execution of activities, and to play an influencing role towards a better gender balance in its areas of operation. Several measures will be introduced: (i) ensuring the maximum participation of women in micro-business training; (ii) supporting women's activities in coffee and horticulture production, ensuring that women are directly served by advisory services; (iii) supporting women's access to financial services, individually or in groups, to develop micro-businesses inclusive of sedentary traditional bee-keeping activities; (iv) ensuring women's participation in water management, and considering their domestic water supply needs when designing irrigation infrastructure; (v) including women in the management boards of producers' associations, and ensuring their access to training activities.

58. To ensure that gender aspects are properly addressed, all programme staff and long-term consultants will participate in gender mainstreaming training in the programme's early stages (with refresher training in subsequent years). EOP mobilisation teams will include female and male mobilizers trained to appreciate and address gender aspects throughout their work.

59. **Selection of processors/exporters.** Processors/exporters will be selected based on a 'call for proposals' issued and managed by the EOF. A maximum of eight processors/exporters will be selected by the EOF for each value chain. The selection criteria will include: (i) within the targeted governorates, the location, poverty status and availability of water in the settlements from which they purchase commodities directly from producers; (ii) the proportion of smallholders and poor households within these settlements; (iii) transparency in their purchase prices and transaction procedures; (iv) their willingness to enter into contracts with producers' associations, and to transfer to the associations a substantial portion of incremental value resulting from the improved quality of produce received; (v) their willingness to recruit and pay for supply chain managers

(initially cost-shared by the programme). It should be noted that the first two criteria apply only to the coffee value chain.

60. **Selection of settlements**. The general principles for selection of participating settlements are: (i) the selection process is driven by coffee production, water availability, and poverty; (ii) the settlements should be in mountainous regions (typically above 1,000 m), where household farm sizes average 0.4 ha and annual household incomes average USD 770 equivalent, qualifying them as poor under any circumstances; (iii) individual farmers should be willing to adopt and install on-farm drip irrigation, in order to justify programme investment in off-farm irrigation infrastructure. While all households residing in the selected settlements, regardless of their poverty status, will benefit from water infrastructure development, the programme will focus on primary producers for coffee activities and on women and youth for investments in mobile honey production, protected horticulture and rural businesses.

61. The actual settlement selection processes will differ slightly for the programme's first year and subsequent years. These two processes are outlined in Figures 5 and 6.

Figure 5: Settlement Selection Process – Programme Year 1

Step 1	**Short-listing**
Methodology	(a) long-list of settlements provided by selected processors/exporters (b) field visits to long-listed settlements (c) verification of eligibility criteria
Eligibility Criteria	- mountain settlement; altitude between 1,000 and 1,900 m - number of households < 80 - existing water source for irrigation - area under coffee production > 50% of cultivated area - avg. household plot size < 0.4 ha; avg. coffee plot size < 0.3 ha - social cohesion: willingness to form producers' association - adoption capacity: willingness to adopt contract farming & drip irrigation
Responsibility	EOF producers' associations mobiliser
Outcome	list of 25 eligible settlements
Step 2	**Final listing**
Methodology	(a) execution of technical pre-feasibility study (b) for settlements passing (a), execution of environmental study (c) for settlements passing (b), execution of financial viability study
Responsibility	EOF lead design engineer, with PA mobiliser & value chain manager
Outcome	list of 16 settlements included in PY1 AWPB (any additional eligible settlements transferred to AWBP for PY2)

Figure 6: Settlement Selection Process – Programme Years 2-4

Step 1	**Short-listing**
Methodology	(a) field visits to settlements adjacent to previously selected settlements (b) verification of eligibility criteria
Eligibility Criteria	same eligibility criteria as in Figure 5 Step 1
Responsibility	EOF mobilisation teams led by PA mobiliser; assisted by processors/exporters
Outcome	list of eligible settlements (61 for PY2; 67 for PY3; 45 for PY4)
Step 2	**Final listing**
Methodology	(a) execution of technical pre-feasibility study (b) for settlements passing (a), execution of environmental study (c) for settlements passing (b), execution of financial viability study
Responsibility	EOF lead design engineer, with mobilisation teams & value chain manager
Outcome	list of 42 settlements included in PY2 AWPB; 45 in PY3 AWPB; 30 in PY4 AWPB (any additional eligible settlements transferred to next AWBP)

62. Once the required number of settlements has been selected annually, they will be proposed to the EOF Management Board for integration into the next AWPB, which will then be submitted to the EOF Board of Directors for final approval. Any settlements rejected in Step 2 of the process will still be eligible for mobile honey production and the development of rural businesses.

D. Geographical Coverage of the Programme

63. The programme is national in scope, and its geographical coverage is driven by the coffee value chain. It will initially cover mountain settlements where business relationships already exist between poor coffee farmers and processors. It will subsequently expand to adjacent mountain settlements where it will support the creation of contractual arrangements between poor coffee producers and the market. In all these settlements, there is also potential for pro-poor sustainable improvement of horticulture, honey production and micro-businesses. In order to consolidate investments and maximise economies of scale, the programme will initially focus on a limited number of coffee-producing districts within eight governorates (Abyan, Amran, Dhamar, Hodeidah, Ibb, Lahej, Taiz, Sana'a); however, it will have the flexibility to cover other governorates based on the value chain, the business case, and market demand (such as honey production in districts of Hadhramout and Shabwa governorates). Selected demographic and poverty data for these eight governorates of initial focus is indicated in Table 7.

Table 7: Programme Area – Rural Population and Poverty

Governorate	Total Population (#)	Rural Households (#)	Rural Population (#)	Rural Poor (%)	Rural Poor (#)
Abyan	434,819	43,430	322,300	50%	161,150
Amran	877,786	87,359	728,310	71%	517,100
Dhamar	1,330,108	162,763	1,144,162	25%	286,041
Hodeidah	2,157,552	236,549	1,396,495	36%	502,738
Lahej	722,694	95,699	660,665	49%	323,726
Ibb	2,132,861	253,183	1,757,028	33%	579,819
Taiz	2,303,425	286,077	1,857,445	42%	780,127
Sana'a	919,215	113,948	893,796	28%	250,263
Total Programme Area	10,878,460	1,279,008	8,760,201	39%	3,400,964
Total Yemen	17,259,908	1,945,840	14,007,723	40%	5,665,607
% Programme/Yemen	63%	66%	63%		60%

Source: based on 2004 census data and WB analysis of 2005 household budget survey.

64. Selected landholding and land size indicators for the programme governorates (Table 8) show that the vast majority of landholding households have less than one hectare of land.

Table 8: Programme Area – Landholding Patterns

Governorate	Rural Households (#)	Landholding Households (#)	Landholding Households (%)	Landholders < 1 ha (%)
Abyan	43,430	28,112	65%	49%
Amran	87,359	68,572	78%	55%
Dhamar	162,763	110,641	68%	79%
Hodeidah	236,549	86,449	37%	33%
Ibb	253,183	113,932	45%	68%
Lahej	95,699	54,910	57%	88%
Taiz	286,077	174,507	61%	73%
Sana'a	113,948	87,851	77%	57%
Total Project Area	1,279,008	724,974	57%	64%
Total Yemen	1,945,840	1,180,105	61%	73%

Source: based on 2004 census data and 2002 agricultural census data.

65. In each of the eight selected governorates, only a few districts will effectively constitute the initial programme area. These districts share several characteristics: (i) coffee production as the major source of income of the population; (ii) mountainous terrain, often remote and inaccessible, in some cases with investment in roads; (iii) problematic water supply due to drought and lack of rainwater harvesting structures and/or other water infrastructure; (iv) limited population density with inadequate access to social and economic services (markets, health, education, etc.) and the consequent need to travel long distances for such services. These characteristics are common for the agro-ecological zones where coffee is typically cultivated.

66. Mountain settlements selected for coffee development will also serve as locations for protected horticulture, mobile bee-keeping and rural micro-businesses. However, as honey production and micro-businesses are not dependent on investments in infrastructure, households from adjacent settlements will also benefit from programme activities.

III. PROGRAMME DESCRIPTION (KSF 3)

A. The Knowledge Base: Lessons from Previous/Ongoing Projects

67. The operational experiences of Government and financiers including IFAD in Yemen have generated some lessons which should be considered in programme design and execution. The key lessons of relevance for the EOP which are incorporated into design process are outlined below:

- *Institutional arrangements.* Existing projects are hampered by institutional constraints, ineffective inter-agency coordination, inadequate implementation capacity and poor communication. It is important to create efficient and effective institutional arrangements for implementation in order to avoid the prevailing complex and lengthy bureaucratic procedures; in this context, establishment of a public-private partnership is considered a viable option.
- *Economic opportunities.* The development of viable economic opportunities for the rural poor is fundamental for sustained increases in household incomes and creation of employment opportunities. Community development approaches should be combined with creation of economic opportunities in order to sustainably reduce rural poverty. The empowerment of rural communities (the main focus of recent IFAD operations in Yemen) is important but is not sufficient to lift the rural poor out of poverty.
- *Water use efficiency.* It is imperative to invest in sustainable and efficient irrigation systems, such as rainwater harvesting systems and on-farm drip or sprinkler systems. Yemen's scarce water resources are seriously over-exploited, mainly due to improper practices such as flood irrigation.
- *Financial services.* Access to appropriate financial services by the rural poor is essential for the adoption of improved technologies that enhance productivity and incomes, and for the establishment of new rural micro-businesses. The current urban focus of the banking sector and prior sub-optimal cooperation with CACB, constrains the delivery of rural financial services. Other modalities should be explored, such as cooperation with new microfinance institutions, to provide financial services to the rural poor.
- *Targeting.* When working with rural communities in Yemen, it is essential to include the larger producers who are typically the first to adopt new technologies (e.g. drip irrigation) and who play a leading role in influencing the decisions and participation of the smaller farmers in project activities. Larger farmers are often linked with smaller farmers through sharecropping, sharing of water resources, or marketing of farm produce; it is difficult to exclude them from infrastructure and other investments. Attempts to exclude the leading members of communities can lead to undesirable social tensions and be counterproductive to programme success. The focus should be on inclusion of the poorest rather than the exclusion of the slightly better off.
- *Marketing.* When developing pro-poor value chains (such as those under the EOP), it is fundamental to apply a market-driven, private sector-led approach. Only when market trends have been analyzed, market opportunities identified, and market linkages forged, can the programme implement its activities from exporters to processors to producers, thereby guaranteeing markets for producers when production meets market demand in terms of quality, quantity and timeliness.
- *Producers' associations.* The formation and/or strengthening of local institutions such as producers' associations is critical in enabling small producers to exploit economies of scale and to increase their leverage with the market and the authorities. These associations can also serve as a good conduit to channel investment resources and services to the rural communities, and to manage common infrastructure systems.

B. Opportunities for Rural Development and Poverty Reduction

68. The EOP's rationale is anchored in IFAD's mandate of poverty reduction and Government's policy to reduce economic and social disparities in rural areas. The choice to invest in improving and promoting the export of high value agricultural commodities addresses IFAD and Government concerns. The proposed investment in high value commodities has significant strategic poverty reduction and economic growth potential as it offers opportunities for import substitution, export expansion, improved water use efficiency, and creation of rural jobs, particularly for women. The

programme will also support micro-entrepreneurs to establish or expand rural micro-businesses to meet demand for diversified goods and services from rural households.

69. The programme will initially focus on three value chains (coffee, honey, horticulture) with significant potential for export growth and/or import substitution. With respect to horticulture, the programme will initially promote tomato, cucumber, pepper and green beans. In future years, on the basis of the experiences generated, the programme will explore the possibility of including additional value chains (e.g. floriculture, neglected/underutilised species, high value commodities consuming relatively less water) as well as additional cultivars within the horticulture value chain (e.g. strawberries, medicinal herbs, pomegranate, almonds).

70. Coffee, honey and horticulture products have been selected for programme investment due to: (i) demonstrated market demand in domestic and export markets; (ii) involvement of large numbers of smallholder and landless households; (iii) existing commodity production knowledge and availability of simple improved technologies; (iv) possibility to improve market relationship governance through vertical integration among producers, processors and exporters; (v) potential to promote water use efficiency through the adoption of drip irrigation; (vi) after value chain upgrading, potentially higher financial returns than *qat*; (vii) possibility of developing a systematic value chain approach for replication elsewhere. Published analysis and the mission's findings confirm that coffee, honey and horticulture under upgraded conditions can out-perform *qat* (Table 9) and can generate sustained income streams for poor rural households.

Table 9: Financial Returns to Selected Agricultural Commodities

Commodity	Returns with Upgrading (YER)	Operating Cost (YER)	Net Returns (YER)	Water Use (m3)	Net Returns per m3 Water (YR)
Qat (per ha)	2,491,747	886,991	1,604,756	5,570	288
Coffee (per ha)	2,019,048	234,564	1,784,484	6,000	297
Tomatoes (per ha)	6,958,333	2,460,625	4,497,708	4,200	1,071
Honey (per 100 hives)	2,477,300	803,300	1,674,000	-	-

Source: Qat Production in Yemen, FAO, 09/2008. Other commodities - mission analysis.

71. Recent initiatives and IFAD-financed activities (under the Dhamar PRDP) demonstrate that, should available techniques of improved coffee husbandry be applied, productivity will increase from 395 kg/ha of dry cherries to 700 kg/ha under supplementary irrigation (and may exceed 1 400 kg/year under full irrigation). An investment of USD 3,000 for 20 beehives can generate sufficient income to maintain a good living standard for a rural household, and constitutes a potential business activity for landless and unemployed poor people. Effective beekeeping requires moving beehives over long distances to exploit seasonal forage resources. As culture prohibits women from travelling alone, their participation in mobile honey production is necessarily limited. The potential for increasing the productivity of the estimated 1.21 million traditional beehives in the country is also significant. Annual honey production per beehive is estimated to average 2 kg, and can be increased to 6-10 kg with improved beehives; this offers good potential for the more than 40 000 beekeepers in the country.

72. There is growing interest among poor rural households to become involved in commercial agriculture, and among existing or potential entrepreneurs to invest in the processing and/or export of high value agricultural commodities and in a range of rural micro-businesses. In this context, several areas require attention: access to investment and working capital to facilitate business start up and growth; the proper classification of coffee and honey; increased access to business services; improved husbandry practices; improved access to quality technical advisory services; improved access to inputs and equipment for conventional and organic production; improved transparency in marketing systems; upgraded food safety and standards certification (e.g. GGAP, HACCP, ISO, pesticide/antibacterial residue certification) to international levels.

73. These factors, if addressed properly, can contribute to increasing the competitiveness, quality and production of high value agricultural commodities. An integrated response will also enhance the exchange of information and knowledge among value chain actors. In this context, the programme will support the development of value chain clusters, enabling actors to plan their investments in a concerted manner, and the formation or strengthening of producers' associations, together with their linkages with processors/exporters through win-win contractual arrangements. In light of the incidence of rural unemployment, the programme will also offer business advice and financial services for micro-business investments outside the selected value chains.

74. To generate improvements in the selected value chains, it is necessary to invest in water infrastructure. The programme will finance economic infrastructure, mainly rainwater harvesting structures, piped-conveyance systems to field edge, and water storage tanks. These investments will enable increased yields and more efficient water use. Combined with drip irrigation systems at farm level, these investments will generate positive income impact for poor households.

75. **Water.** The sustainable use of limited water resources is a critical issue in Yemen. Besides spate flows which are mainly used for field crops, the sources of irrigation for horticultural crops in the highlands are wells, boreholes and springs, supplemented by rainwater harvesting structures and diversions across upper *wadi* reaches. Despite the scarcity of water resources and the continued lowering of the groundwater table in the plains, irrigation schemes have low efficiencies (35-50%) due to the lack of engineered systems, losses in earth canals and poor water application methods. Improved (piped) conveyance systems can play a major role in reducing water losses, as emphasised in the updated National Water Sector Strategy and Investment Plan 2009-2015 and addressed in the recent Water Sector Support Programme (WSSP). However, the lack of resources to upgrade on-farm distribution systems and poor irrigation scheduling are key problems that persist after the installation of the main off-farm conveyance network.

76. Selected investments in modern irrigation infrastructure for production of high value crops which target smallholders can contribute to the objective of increasing water use efficiency as well as farmers' incomes. Field data shows that the application and proper operation of complete drip irrigation systems for high value crops can generate water savings of 50-60% and yield increases of up to 60%. However, proper farming practices and investments in infrastructure alone will not necessarily produce sustainable benefits and increase incomes for producers. Targeted support throughout value chains is required to remove bottlenecks and ensure market access; investments across value chain clusters are mutually supportive. Within an identified value chain cluster, there is scope for investment in small irrigation systems in coffee producing areas to enhance production and minimise the pressure on natural resources (water and energy).

77. **Climate change**. Yemen's National Adaptation Programme of Action (NAPA) was endorsed by Government in April 2009. It reports on the vulnerability of the country's social and biophysical environment from climate variability and climate change, and lists the major impacts of climate change which may be summarised as follows: increased water scarcity and reduced water quality; increased drought frequency, increased temperatures, and changes in precipitation patterns; deterioration of habitats and biodiversity; reduced agricultural productivity; increased sea levels; increased climatic variability; and, impacts on coastal zones.

78. With respect to water and agriculture, the NAPA lists six priority adaptation measures which are confirmed by developmental partners[12]. Three of these measures will be implemented under the Economic Opportunities Programme: (i) rainwater harvesting for conservation and sustainable use of water resources; (ii) water conservation and water use efficiency; (iii) rehabilitation and maintenance of mountainous terraces to combat land degradation. The programme will respond to these priority adaptation requirements by investing in rainwater harvesting infrastructure, by promoting the use of drip irrigation and related modern techniques, and by supporting farmers to invest in proper management and maintenance of agricultural terraces. The programme will also consider the introduction of several micro-insurance measures (such as weather index-based insurance) to further protect the target groups and transfer climate-related risks to third parties.

C. Programme Goal and Objectives

79. The programme's **goal** is to improve the economic status of poor rural women and men. Its **objective** is to create sustainable economic opportunities for poor women and men in the programme areas. Its **outputs** are to stimulate growth and technological improvement of selected value chains and rural business activities; promote linkages between producers' organizations and markets through contractual arrangements; promote compliance with national and international food quality and safety standards; develop public economic infrastructure in support of selected value chains; and, expand the rural outreach of financial institutions and enhance access to sustainable rural financial services.

[12] e.g. Yemen, *Pilot Programme for Climate Resilience*, Scoping Mission, World Bank, Jul. 2009; Yemen, *Coping with Climate Change Impacts, Development of Options*, GEF, Sept. 2009; Yemen, *Community Resilience to Climate Change*, *Aide Memoire*, World Bank, Jun. 2009.

80. The programme's supportive activities include: increasing the output and quality of selected value chains; linking producers to processors or exporters through contract farming arrangements; empowering and building capacities of producers' associations; optimising export competitiveness through compliance with standards; developing off-farm micro-businesses; providing infrastructure for efficient water management; adapting financial services for investment in value chains and micro-businesses; extending the rural networks and building the capacities of financial institutions; and creating a public/private partnership in a sustainable Fund aimed at poverty reduction.

D. Alignment with Country Rural Development Policies and IFAD Strategies

81. The programme concept has been developed jointly by IFAD and Government (MOPIC, MAI). It is closely aligned with the Government's *Development Plan for Poverty Reduction* and IFAD's COSOP Strategic Objectives for Yemen (Figure 7). It is consistent with *IFAD's Strategic Framework 2007-2010* and its *Principles of Engagement* which focus on the creation of economic opportunities for the rural poor. The programme is complementary to WB, UNDP, USAID and GTZ agricultural programmes, as confirmed by these institutions themselves. It is also complementary to public agriculture programmes; MOPIC may consider diverting existing public sector agriculture support funds to the programme's Economic Opportunities Fund in future phases.

Figure 7: Government, IFAD, and EOF Strategic Consistency

National Strategy (NS) DPPR 2006-2010	IFAD COSOP Strategic Objective (SO)	Economic Opportunities Fund (EOF)
NS 1: enhance partnership with private sector, civil society, donors to reduce poverty	SO1: empower rural communities	the EOF constitutes a sustainable public-private partnership serving rural areas; it will buy equity shares in pro-poor financial institution(s)
NS2(a): promote SMEs for sustainable incomes; in food processing and export-oriented agriculture & fisheries NS2(b): promote micro finance services for the poor, especially for women in rural areas	SO2: promote sustainable rural financial services and pro-poor SMEs	the EOF will support all value chain actors and promote financial services for import substitution & export growth the EOF will support microfinance services that focus on lending to women; and will support new financial products
NS3(a): increase efficiencies for agriculture sector NS3(b): enhance household food security NS3(c): ensure optimal and sustain-able use of fishery resources	SO3: improve rural household food security	the EOF will enhance efficiencies in selected agricultural value chains the EOF will stimulate increased sustainable household incomes next IFAD investment through EOF is likely to focus on fisheries value chains

E. Programme Components

82. The programme consists of three investment components (value chain development, economic infrastructure, and rural finance) and one institutional component (EOF).

Component 1: Value Chain Development
(Base cost: USD 5.99 million, 17% of total)

83. The objective of this component is to improve the incomes of participating coffee producers and of landless households engaging in commercial horticulture and honey production in selected mountain settlements. This will be achieved through support for value chain processes and actors, improved market relationship governance, and enhanced access to economically viable investment opportunities. It consists of three sub-components: (i) cluster development through the creation or strengthening of producers' associations, strengthening of value chain linkages, and capacity building for value chain actors; (ii) export promotion consisting of improved access to markets, development of classification and certification services, and introduction of quality and food safety standards; (iii) off-farm micro-and small enterprise development consisting of advisory services and adapted training for micro-entrepreneurs (mainly women and young people).

84. **Sub-component 1: Cluster Development (USD 3.73 million).** The programme will support the development of value chain clusters in selected settlements, consisting of producers organised in associations contractually linked with processors or exporters. The associations will be strengthened through capacity building and technical training.

85. Social mobilisation. Mobilization teams, consisting of one male and one female mobilizer each, will execute a range of functions: (i) undertaking poverty assessment and ranking of coffee producing settlements in specific districts of programme governorates, to be used for the selection of settlements and of beneficiary households for vegetable and honey activities and rural micro-businesses; (ii) creating awareness regarding the programme's activities, economic opportunities, and benefits in the selected settlements; (iii) supporting the creation or strengthening of PAs in each settlement inclusive of all farmers, forming mobile honey producers' associations, and assisting associations to comply with legal and administrative regulations; (iv) assisting PAs to reach consensus on water use efficiency targets and pricing options (volumetric or area/crop-based); (v) training PAs in organisational aspects, group management, conflict resolution, water infrastructure management, water pricing and good environmental practices; (vi) supervising PA management and operations.

86. The programme will organise six mobilization teams to support the 133 selected settlements. Each team will be contracted for a thirty-month period on a performance-based contract requiring annual evaluation (by the EOF and beneficiaries). About twenty candidates (with equal women's participation) will be trained for three weeks, at programme start up, in community mobilization, group formation, poverty assessment, gender equity, and water management. The twelve best candidates (six women and six men) will be contracted at the end of the training period. Equal women's participation in mobilization teams is important to ensure effective women's participation in programme activities.

87. Each mobilization team will support 20 to 30 settlements during its contractual period, and will be equipped with a vehicle, a notebook computer, and two sets of training equipment and materials. Tentatively, one team will be responsible for Lahej and Abyan, one team for Ibb and Taiz, two teams for Sana'a and Hodeidah, one team for Dhamar, and one team for Amran. To maximize the local impact of mobilization teams, they will reside in their assigned districts.

88. Producers' Associations (PAs). In selected settlements, the programme will strengthen existing PAs or assist farmers to establish new ones (one per settlement). It will also assist PAs to obtain legal registration (most likely as 'cooperatives' in light of the prevailing legal framework). Measures will be taken to ensure equitable women's membership in these associations. Distinct sections may be formed within PAs based on cultivation (e.g. coffee, vegetables, fruit).

89. PAs, or their sections, will have a range of functions. They will be responsible for managing the irrigation system in an equitable manner and resolving conflicts, and ensuring that members are trained to operate, maintain and repair the system and to collect sufficient water charges from members to cover costs. They will ensure that coffee and vegetable producing members have access to training and extension services to ensure high quality production, and will develop win-win contractual arrangements with processors/exporters to collectively market output. If and when appropriate, they will assist members to collectively develop processing activities. They will support members to access adapted financial products and services for investments and working capital. They will also support the application of environmental impact mitigation measures (e.g. land use limitations, groundwater use control, water use efficiency) by all members.

90. PAs will create their own governing Boards, supported by the EOF's producers' association manager and mobilization teams. These Boards will be responsible primarily for the management and maintenance of water infrastructure, the pricing of water services, and the negotiation and follow-up of contractual arrangements with processors/exporters. Training will be provided to Board members by the EOF's mobilisation teams and engineers. Measures will be introduced to ensure the equitable representation of women within PA Boards.

91. The programme will also support beekeepers from selected and adjacent settlements to establish mobile honey producers' associations responsible for organising member training in improved honey quality and group processing activities, assisting members to access financial services and veterinary services, and developing contractual arrangements with traders/exporters.

92. Value chain strengthening. The programme aims to strengthen value chains by fostering the creation of win-win contractual relationships between producers and processors/exporters, and by providing producers with appropriate training and access to improved technologies to increase crop productivity and quality. The following sequence of activities will be implemented: (i) selection of processors/exporters; (ii) selection of settlements; (iii) recruitment of supply chain managers; (iv) formation of producers' associations and honey producers' groups in the settlements; (v) provision

of training to association members; (vi) development of contractual arrangements between producers' associations and processors/exporters.

93. The programme will assist participating processors/exporters to recruit and contract supply chain managers who will constitute their interface with producers. These supply chain managers will assume a range of important functions. They will analyse the strengths and weaknesses of each value chain (focusing on relationships between the processor/exporter and direct suppliers). Jointly with each PA, they will prepare a detailed business plan for each potential investment by producers (for coffee production – orchard expansion, drying equipment and drip irrigation; for protected horticulture – purchase of tunnels equipped with drip-fertigation; for honey production – purchase of improved beehives with shared husbandry and extraction equipment on group basis). Supply chain managers will also provide technical advisory services on continuing basis to PAs, will supervise PAs to ensure compliance with the technical production parameters, and will train one or two producers in each value chain in the selected settlements, enabling them to provide simple advisory services to other members. Finally, they will assist PAs to adopt new technologies and varieties to improve efficiency and raise the productivity of selected value chain commodities.

94. The recruitment of supply chain managers will take place during the first three years of the programme. It is expected that each selected processor/exporter will recruit one supply chain manager, with the cost shared by the programme and the processor/exporter on a declining basis (the programme covering 80%, 60%, 40%, 20% and 0% of the costs over five years). The performance of the supply chain managers will be evaluated annually using focus groups including processors/exporters, EOF staff, and beneficiaries. Continued programme cost-sharing will be subject to a positive evaluation of supply chain managers.

95. Contractual arrangements. PAs will be assisted to link with selected processors/exporters through contractual arrangements (forward contract or contract farming mechanism). Under such contract, a processor/exporter (or agent) will typically purchase and deliver production inputs to farmers who will in return supply the agreed produce. Contracts may stipulate a minimum (reserve) price depending on the quality of output produced. Supply chain managers will promote such relationships between farmers and processors/exporters and assist the parties to negotiate a contract. This will provide farmers with security for the sale of output as well as a minimum price that may increase based on market prices; it will provide processors/exporters with security of supply and quality as a result of supervision of producers (e.g. technology applied, drip irrigation process, timely input application).

96. When the financing of a PA is required (for the investments or working capital of members), the forward contract may be transformed into a tripartite contract involving the association, the processor/exporter and a financial institution (microfinance bank/institution or commercial bank). Under such contract, the bank may lend either directly to farmers or to the processor/exporter who will then purchase the inputs for the producers. Loan repayment will be guaranteed by the tripartite contract which requires that output will be sold by producers to the processor/exporter. Supply chain managers will ensure that farmers apply the proper technical processes and that contract terms are respected. In cases where farmers are loan signatories, the processor/exporter will transfer to the bank, on behalf of farmers, part of the purchase price of the output received.

97. As post-harvest conditions are currently poor and lead to financial losses across value chains, the programme will offer technical assistance to processors/exporters to upgrade post-harvest handling of selected commodities. The EOF's value chain manager will provide advisory services to processors/exporters on managing post-harvest handling and reducing losses. The purchase of new equipment or upgrading of existing equipment will be financed by processors or exporters through a commercial bank (with the borrower's own collateral). Technical assistance will also be offered to investors interested to establish commercial nurseries linked with producers. Such nurseries will be financed by commercial banks based on business plans and financial provisions supported by the programme.

98. Beneficiaries. A typical programme settlement consists of 75 households (488 people), of which about 67% (50 households or 325 people) are engaged in agriculture and 33% are landless or sharecroppers. Through its activities, the programme will reach the entire population in all 133 selected settlements, covering some 65,000 beneficiaries. In addition, settlements adjacent to those selected for coffee will be covered by mobile honey production and rural micro-business activities. Coffee value chain investments will cover around 50 households per settlement (i.e. about 43,000 beneficiaries) while horticulture and honey value chain investments will reach an

estimated 22,000 beneficiaries. About 24 processors/exporters will participate and will recruit 24 supply chain managers (eight for each of the three value chains).

99. **Sub-component 2: Export Promotion (USD 1.28 million).** To improve the revenue of small farmers and processors/exporters in the selected value chains, the programme will support the Yemen Standardisation, Metrology and Quality Control Organisation (YSMO) under the Ministry of Trade and Industry (MTI) to optimise Yemen's export competitiveness. The programme will assist the YMSO to: (i) obtain ISO 9000 and ISO 17025 accreditation, together with necessary training; (ii) test and issue export residue certification for agricultural output prior to shipment; (iii) upgrade its accreditation menu to include GGAP, HACCP, ISO 22000 and organic certification, and finalise the development of coffee and honey standards. The programme will contract international experts to build YSMO capacities and upgrade its staff capabilities to required international standards. YSMO already has state-of-the-art equipment and does not need further capital investment at this stage, but instead requires the development of capabilities and systems which the programme will help to develop.

100. The Exporters' Association (EA) indicates that some irresponsible exporters operate without consideration for food safety and quality and are blocked at the border, thereby ruining the reputation of Yemeni agricultural produce. The need to systematically enhance the safety and quality of food exports is clear to all partners. The programme will assist the EA to establish sanitary and phytosanitary control measures meeting WTO requirements, and will provide technical assistance and training to enforce control measures among its members. It will also assist the EA to organise a series of workshops involving all stakeholders (producers, processors, exporters, public institutions, private sector) aiming to promote a policy environment conducive to the export of coffee, honey and horticulture products.

101. The programme will consider supporting the creation of an inter-professional organisation of the coffee sector which brings together all value chain stakeholders. It will also develop a computerised Trade Information Service (TIS) to provide online information on markets and develop an exporters' catalogue to international industry standards for high value agricultural commodities. PAs and processors/exporters will receive support to participate in international trade missions and trade fairs combined with visits to retail outlets to study market requirements in recipient countries. Processors/exporters will also be supported to ship strategic trial shipments to new export markets. The costs of these export promotion activities will be cost-shared by the programme and processors/exporters.

102. Export promotion activities, especially those associated with accreditation, standards and registration will not only benefit the programme's value chain stakeholders but also all producers, processors and exporters in the agricultural sector. With the implementation of strict rules and regulations related to export, food safety and security as well as the accreditation process for all certification, the programme will restore and boost Yemen competitiveness on export markets for exported agricultural commodities.

103. **Sub-component 3: Micro- and small enterprises development (USD 0.99 million).** The programme will address the pressing need for income diversification in rural areas through the provision of advisory services and training for off-farm activities. This initiative will primarily target interested and entrepreneurial women and young people, who will be identified and selected through a participatory process at community level, led by the EOF's mobilization teams. These activities will be executed in the 133 settlements selected for coffee and horticulture development as well as in neighbouring and adjacent settlements that have not passed the eligibility criteria for economic infrastructure. It is envisaged that about 67 additional settlements will be covered, bringing the total to 200 settlements benefiting from programme activities.

104. The EOF's business advisors will identify market opportunities in domestic or international markets that apply Fair Trade rules and procedures, and will aim to link the micro-entrepreneurs with appropriate buyers.

105. The programme will provide the selected micro-entrepreneurs with two training and advisory services: (i) general training modules in accounting, financial management, marketing, and commercialisation, in each settlement; organised in three training sessions of five days each, for two hours per day (in light of women's workloads); (ii) skills training adapted to the requirements of each entrepreneur; training modules will be organised for two hours per day for five days. It is envisaged that each settlement will benefit on average from three different skills training courses.

106. The EOF will establish links with projects or institutions focusing on rural micro and small enterprise development such as the Small Micro Enterprise Promotion Service (SMEPS) of the Social Fund for Development and the GTZ-funded Private Sector Development Project. To the extent feasible, the EOF will collaborate with these institutions for provision of advisory services and training to the target groups. The mobilization teams will also identify small and medium entrepreneurs who would be willing to provide technical training under an apprenticeship scheme.

107. Once both sets of training modules have been provided to micro- and small entrepreneurs, mobilization teams will assist them to develop business plans and loan applications to access financial resources from micro-finance institutions and/or commercial banks (depending on amount of financing required). Subsequent to loan disbursement, the mobilization teams will ensure that financing has been used by the micro-entrepreneurs in accordance with the business plan and will undertake field visits to follow up on the development of the activity. They will also liaise with the Business Advisors to ensure the realisation of identified market opportunities.

108. The development of micro- and small enterprises will be driven by the value chain concept and the market. Market opportunities (either domestic or international) are fundamental for the establishment of a micro- or small enterprise. Several activities, such as carpentry and metal-working (for agricultural implements and tunnel arches), already have established local markets; while others, such as food processing, require local marketing promotion efforts. Some activities, such as textiles or sedentary honey production, will be promoted only if a contractual arrangement based on Fair Trade principles has been established for a secured market. Participating financial institutions will also participate in training sessions to promote their financial products (loans, leasing, lease-back, savings, etc). The EOF will try to ensure that trained entrepreneurs have access to adapted financial resources to finance their investments and working capital.

Component 2: Economic Infrastructure
(Base cost: USD 13.29 million, 38% of total)

109. The specific objective of the economic infrastructure component is to support infrastructure investments that are critical for production and marketability of the selected high value agricultural commodities. This component will be implemented in selected coffee-producing settlements where basic business relationships already exist between coffee farmers and processors/exporters, where the programme will provide value chain support, and where poor irrigation practices constitute the main cause of low productivity and depletion of water resources. The benefits of this component will also flow to the programme's protected horticulture activities, as these will be implemented within the same mountain settlements.

110. The infrastructure investments to be financed will consist of off-farm structures (up to field edge) aimed at increasing the reliability of supply, as required for localised irrigation, by reducing water losses and harvesting flood flows. Each infrastructure investment will be tailored to current existing water sources and the specificities of each selected settlement. These investments will establish the pre-conditions for the development of comprehensive irrigation systems in selected settlements, particularly the installation of drip irrigation systems on farmers' fields to be financed by participating financial institutions. As such, programme investment in economic infrastructure will trigger improved irrigation efficiency throughout the selected programme areas.

111. The types of water storage structures eligible for programme support will typically comprise rainwater harvesting stone masonry or concrete fill micro dams across the upper reaches of *wadis*, as well as tanks fed by existing springs or wells, completed with silt traps and a piped distribution network with check valves in each individual plot within the command area. Where tanks, springs, reservoirs or pumped wells are available but the distribution system is through open canals, the programme will upgrade the main conveyance system to a pressurized network. This may also require providing additional water storage tanks for easier and efficient operation of a complete dripper system. Water measuring structures/water metres will be included in the scheme design, depending on the water pricing option agreed by the prospective users in the specific settlement. Gravity-fed, low-pressure distribution systems will be the preferred option, while medium head systems supplied by a shared booster pump will be considered only if required by the topographic conditions. For all pumping applications, the opportunity of supporting renewable energy sources would be thoroughly evaluated. The programme will not support new shallow wells/boreholes nor any infrastructure that would benefit only a limited share of the settlement population. It will promote the introduction of improved technologies such as micro-emitters and fertigation, and of quality assurance systems for design and construction.

112. Potential infrastructure investments will be identified through a participatory screening process with PAs in selected settlements, based on the technical feasibility and economic viability of the value chain. An environmental study will be carried out (even when not specifically required by national laws) as part of the feasibility study of: (i) all proposed micro-dams; (ii) all settlements that would continue relying on existing groundwater sources for irrigation. For the case of micro-dams, the environmental study will assess the impact on downstream users and on the site due to access of heavy duty equipment, quarrying and disposal of debris; in case of continued reliance on existing wells or boreholes, the reliability of the source and the risk of additional withdrawals in connection with potential shifts in land use will be assessed. The findings of the environmental study will constitute an integral part of the investment technical feasibility report; investments showing non-negligible impacts on natural resources or failing to address the environmental issues with adequate mitigation measures will be rejected. In future phases of EOF operations (i.e. in subsequent programmes), depending on the availability of additional financing, support may be allocated to finance feeder roads or *wadi* bank protection linked to value chain activities.

113. The responsibility for implementation of the economic infrastructure component will rest with the EOF, operating through service providers on performance-based contracts. A design engineer and construction engineer will be responsible for overall coordination and quality assurance of the design and construction works respectively. The quality assurance system will ensure compliance with good engineering practices and in-built environmental enhancement features. Service providers will be contracted to carry out feasibility studies. Technically feasible and financially viable investment proposals will be selected based on eligibility criteria and submitted to the EOF for inclusion in subsequent annual work plans and budgets. Where applicable, design contracts and civil works contracts will be bulked into sizable bid packages as appropriate to attract qualified bidders and achieve economies of scale. Both design and construction works will be procured by the EOF in accordance with the modalities of the respective financiers.

114. Following the start of mobilization activities in selected settlements, designers will illustrate and discuss the proposed system layout with PAs. This will ensure that the design reflects the selected pricing structure (area/crop based *vs* volumetric charging) and meets the requirements of all users, including women, particularly when the same source is used for irrigation and domestic supply. Moreover, designers will be responsible for obtaining the required authorisations for the execution of works, as well as for the preparation of simple instructions for system operation and maintenance. With specific reference to micro-dams, detailed design would include a hydrological study on the recharge regime, vulnerability to droughts and effects of climate change.

115. Three levels of supervision will be conducted during the construction of irrigation facilities: (i) the designers' supervision; (ii) daily on-site supervision; and, (iii) EOF construction engineer supervision. The daily supervisor will be contracted on short-term basis, assigned to a maximum of three contracts depending on proximity and site access, and responsible for certifying quantities and on-site progress by providing a daily activity report as per normal construction supervision procedures. At least three members of the concerned PA, identified during the PA training, will be involved in supervision and trained by the daily supervisor for system operation and maintenance. A temporary acceptance committee and a final acceptance committee will meet on-site following the completion of works and expiry of the defects liability period respectively. Following issuance of the final completion certificate, the programme will proceed with formal scheme hand-over to, and acceptance by, the PAs.

116. In light of the varying topographic and access conditions, and depending on the reliability of existing water sources, the cost of infrastructure investments will range from USD 25,000 to USD 200,000 each. The programme-financed irrigation systems will cover an aggregate command area of 2,000 ha of highly fragmented land in mountain settlements, directly benefiting a minimum of 6,650 landholding households (consisting of about 43,000 people) engaged in coffee and/or horticulture production. These irrigation investments will also directly benefit about 1,200 share-cropping households (about 7,800 people). In case of climatic extremes, floodwater harvesting structures in the upper reaches of the *wadis* would also: (i) allow emergency irrigation to prevent drying up and loss of the orchards in case of prolonged droughts; and, (ii) mitigate the risk of flash floods in case of short-duration high-intensity rainfall events. The cost of design, construction and supervision will be borne by the programme, while beneficiaries will provide in-kind contributions for the off-farm irrigation system, such as labour for terrace rehabilitation or, if required, water meters or check valves to be installed at individual outlets. These will be an effective means of increasing farmers' awareness on soil conservation, erosion protection and water use efficiency.

117. Supply chain managers will assist coffee producers to identify the best-suited technological option for the on-farm distribution system, based on topographic factors as well as the individual farmer's adoption plan and budget. The simplest and most flexible systems will consist of low-head modules (e.g. family-drip systems fed by a slightly elevated tank serving areas of about 0.05 ha) that may be progressively combined to cover the whole coffee area. These drip sets will lead the farmer to follow a gradual learning curve and keep investment cost and financial risk low. The same approach and technology will apply for drip irrigation in horticultural tunnels of various sizes. On-farm drip irrigation systems will be financed by beneficiaries through microfinance entities.

Component 3: Rural Finance
(Base cost: USD 10.18 million, 29% of total)

118. The objectives of the rural finance component are to: (i) develop sustainable access to adapted financial products and services to be provided by microfinance banks/institutions and commercial banks for producers and processors of coffee, honey and vegetables, and for micro-entrepreneurs operating micro-businesses; and (ii) increase the outreach and develop the capacity of microfinance banks/institutions in rural areas (specifically in programme settlements). The programme will develop partnerships with banks/institutions currently providing microfinance and with private and state-owned commercial banks. Partnerships between the programme and commercial banks will be created on the basis of a request for expressions of interest under which any bank may apply and participate. Eligibility criteria verified through due diligence will be established for selection of appropriate commercial banks. With respect to microfinance banks/ institutions, the programme will develop partnerships only with those (following due diligence) licensed by the Central Bank under the Microfinance Bank Law which apply microfinance best practices as defined by CGAP and which are registered on the MIX Market.

119. The rural finance component consists of two sub-components: (i) microfinance outreach; and (ii) rural PFI capacity building.

120. **Sub-component 1: Microfinance Outreach (USD 9.13 million)**. While CAC Bank and YBRD are currently operating in rural areas, they have limited outreach to the rural population and limited financing of agricultural activities and rural SMEs. The programme will assist microfinance banks/institutions to widen their outreach and activities by establishing a network of rural service points in programme areas. The nature of rural service points will be determined by the microfinance banks/institutions in line with their development plans and the potential for sustained operations in the envisaged locations. Service points may include village banking services, mobile banking services, new branches, and/or new offices as well as phone banking devices.

121. There are currently only two licensed microfinance service providers, namely Al-Amal Microfinance Bank and Tadhamon Microfinance Institution. Both have indicated their willingness to develop rural networks for the provision of financial products and services to the rural population. The Al-Amal Microfinance Bank will face a shortage of financial resources by mid-2010 to finance its five-year development plan; it is now seeking additional financial resources for rural network development and lending operations. The Tadhamon Microfinance Institution is facing a different situation, as it is a 100%-subsidiary of the Tadhamon International Islamic Bank which is over-liquid (like other commercial banks operating in Yemen). To finance the growth of its activity, this institution may benefit from advances or loans provided by its mother company, while additional financial resources may eventually be required for the extension of its rural network.

122. The programme will initially develop partnership with these two microfinance entities. Any new microfinance bank/institution which will be licensed by the Central Bank under the recent microfinance bank law, operating in line with microfinance best practices, will also be invited to partner with the programme and benefit from its financial instruments and advisory services.

123. The partnership between the EOP and microfinance banks/institutions for the development of their rural service point network will be implemented through several mechanisms that effectively link the programme with these pro-poor microfinance banks/institutions. The following financial instruments will be implemented by the Economic Opportunities Fund in this respect:

- Equity. Subject to due diligence, the EOF will invest in 10% equity participation in the share capital of pro-poor microfinance banks/institutions. This will be used to finance part of the costs of development of rural service points in programme areas. Through equity participation, the EOF will be represented (by its CEO) on the Board of the microfinance bank/institution, enabling its participation in pro-poor policy development and the provision of technical assistance as required.

- Shareholder's current account. For pro-poor microfinance bank(s)/institution(s) in which it has equity participation, EOF will provide a deposit in a shareholder's current account bearing interest at 3-month LIBOR plus 3.25 points[13]. The deposit will be used for the lending operations of the microfinance bank/institution. It will be processed in tranches in line with incremental needs, and based on performance indicators such as recovery rate, percentage of the portfolio reaching the programme beneficiaries, and amount of savings and deposits mobilised. The duration of the deposit will not be specified. Financial statements, audit reports and EOF strategic orientations will dictate the management of this deposit by the EOF. The deposit may be partially or entirely withdrawn from the microfinance bank/institution as soon as its financial resources are sufficient to finance lending operations. Interest will be paid to the EOF on semi-annual basis, while dividends on equity will be paid annually to the EOF.

- Financing for network development. Where equity participation is not appropriate or not feasible, part of the costs related to the development of the rural network of the participating microfinance bank/institution may be financed through an EOF loan, the terms and conditions of which will be negotiated on case-by-case basis (in principle the interest rate should be equal to the rate charged by the Central Bank to commercial institutions, minus 2.5 points[14]). This EOF loan would be offered *only on demand* from the microfinance bank/institution.

- Credit funds. Should a microfinance bank/institution, in which the EOF has no equity participation, request credit funds for lending activities as a result of its own liquidity problems, an EOF loan may be extended exclusively for on-lending purposes. Terms and conditions will be similar to the EOF financing for network development indicated above. Such EOF loans will be applicable only in verified extraordinary circumstances, and subject to a due diligence exercise.

124. The EOF will not provide loans to commercial banks, as their cash positions show over-liquidity and their loan to aggregated financial resources ratio is well below the normal banking standards (only 29% compared with the normal 60-65%). Participating commercial banks such as CACB or YBRD will finance programme beneficiaries (mainly processors, exporters and SMEs) from their own resources. They will also finance, through their own resources, any other mechanisms to increase the outreach of their rural branches.

125. Participating financial institutions will offer to the target groups investment and working capital loans using both Islamic and traditional financing products. In addition, to address the issue of lack of collateral, the PFIs will develop alternative products such as micro-leasing (again using Islamic and traditional products), joint-liability group lending, and forward contracting.

126. A Revolving Fund will be set up within each participating microfinance bank/institution with repayments from borrowers; this will be used for further on-lending to the target beneficiaries.

127. **Sub-component 2: PFI Capacity Building (USD 1.05 million)**. The programme will support institutional development and capacity building activities for participating microfinance banks/institutions and commercial banks. These will include:

- Capacity building. Training will be organised for the staff of new microfinance service points and of existing or new rural branches of commercial banks in programme areas. This will include: (i) mobilisation of savings and deposits; (ii) financing of agriculture and SMEs; (iii) development of rural outreach; and (iv) creation of new products and services. Training will be provided by appropriate international technical assistance contracted by the programme, and will also address issues of social and environmental relevance in lending operations. The training on agriculture and SME financing will be outsourced to a qualified and reputable service provider which will develop relevant customised modules that may also be utilised by other projects in Yemen.

[13] Considering that 3-month LIBOR is currently 0.75%, under current conditions the EOF deposit will bear interest at 4.00% p.a.
[14] The Central Bank currently charges 10% interest on loans to commercial banks; thus the interest rate to be applied on the EOF loan should be 7.5% p.a.

- Product development. Support will be offered to PFIs for development of new financial products, such as: (i) contract farming (or forward contracting) referring to a tripartite agreement among producers, processors and lenders regulating the flow of inputs and outputs as well as loan proceeds and repayments; and (ii) micro-leasing (or lease-back operations) for specific investments at producer and processor levels. PFIs will also be assisted to adapt and fine-tune their existing loan products (particularly group lending) in terms of repayment schedules and collateral requirements. In addition, PFIs will be assisted to develop savings products tailored to the needs and requirements of the target groups. This assistance will be provided by the EOF's rural finance manager and/or international or local experts.

128. The programme will also provide advisory services to microfinance banks/institutions for posting their financial statements in the MIX Market.

129. The programme will advocate the development of advisory services on incentives/credit for the application of green technologies (photovoltaic, thermal-solar, biomass). It will also consider the introduction of several new mechanisms related to micro-insurance which are innovative in the local context, subject to thorough studies to be undertaken in the early stages of implementation. Among other aspects, these studies will carefully assess the financial feasibility of the mechanisms proposed, particularly with respect to the premiums to be paid by beneficiaries in accessing them, and will identify private or public institutions which may partner with the programme in developing and financing these schemes, as programme funds and expertise would not be sufficient for their sound and efficient development. Two possible mechanisms to be considered are outlined below: (i) micro-insurance schemes; and (ii) a weather index-based micro-insurance.

- Micro-insurance schemes. Subject to the feasibility study mentioned above, two micro-insurance schemes may be introduced and embedded with PFI loan products, namely life insurance and credit insurance. These two schemes constitute excellent entry points for the future development of the insurance industry, particularly in rural areas. The Al-Amal Bank has already developed its in-house life insurance and micro-credit insurance schemes, which may be adapted and extended to the programme's target beneficiaries. Both schemes should be developed and introduced together with local insurance companies (and other development agencies); based on the feasibility study, the EOF may approach such partners to develop the most adequate products.
- Weather index-based micro-insurance. Subject to the feasibility study indicated above, a PFI micro-insurance scheme may be introduced and embedded with PFI loan products. Weather index-based insurance schemes for coffee production have already been successfully implemented elsewhere, and could be tested under the programme following adaptation and fine-tuning for local conditions. The targeted coffee producing areas have diverse micro-climates and, although the number of programme coffee producers would be relatively small (between 4,000 and 5,000), such a scheme may be highly relevant for all coffee producers and other stakeholders within the coffee value chain. The feasibility study would focus on the implementation of such a scheme (partnership with local insurance companies, technical equipment necessary to collect rainfall data, etc), the premiums to be paid by producers, and the required investment in a micro-insurance fund to cover the initial claims. Such a mechanism would not be implemented before PY3, once other schemes have been accepted by participating coffee farmers and successfully implemented.

130. The feasibility study will be financed by the programme. The EOF will contract specialized national or international agencies to undertake the feasibility study and, subject to its findings, to implement the proposed micro-insurance schemes. Prior to implementation, the EOF will identify technical partners (insurance companies and agencies) to manage the schemes and developmental agencies for additional resources.

131. In summary, the programme's target groups will benefit from a range of financial products, as outlined below:

- Coffee producers: Medium-term loans to finance drip irrigation and short-term loans to finance working capital (inputs). Loans will be extended by a microfinance institution to individual producers or to PAs under joint liability.
- Coffee processors/exporters: Medium-term leasing to finance equipment and short-term loans (if required) to finance the purchase of coffee from producers. Loans and leasing will

be extended by a microfinance institution or participating commercial bank, depending on the total amount of financing required.

- Coffee value chain: Microfinance institutions and/or commercial banks can finance the working capital requirements of producers and processors/exporters under tripartite contracting farming arrangements, whereby the forward contract constitutes collateral.
- Protected horticulture producers: Medium-term leasing to finance investment in high tunnels and short-term loans to finance working capital (inputs). Leasing and loans will be extended by a microfinance institution to individual producers.
- Mobile honey producers: Short- or medium-term leasing under joint liability to finance group investments in shared beehives and equipment and short-term loans for working capital (inputs). Leasing and loans will be extended by a microfinance institution.
- Honey and horticulture exporters: Medium-term loans to finance investments and short-term loans (if required) to finance working capital. Loans will be extended by a microfinance institution or commercial bank, depending on the amount of financing required. Loans will be extended to individuals who provide adequate collateral.
- Entrepreneurs: Depending on the activity, its cash flow and profitability, investments will be financed through a medium-term loan or leasing, and working capital through a short-term loan. Loans will be extended to individual entrepreneurs or joint-liability groups primarily for activities undertaken by women. Loans will be extended mainly by microfinance institutions or commercial banks in case of large investments.

IV. IMPLEMENTATION AND INSTITUTIONAL ARRANGEMENTS (KSF 4)

A. Institutional Development and Outcomes

132. The Economic Opportunities Fund will be responsible and accountable for the management and implementation of the Economic Opportunities Programme. It will be created by April 2010 at the latest, as a condition of IFAD disbursement. The EOF will subsequently also manage the next two investments of IFAD's 2010-2012 resource allocation cycle, namely the Fisheries Investment Programme and the Rural Employment Programme, and possibly the rural economic investments of other financiers (including public sector financing). Through its strategic investments, the EOF will influence policies and operations of pro-poor financial and eventually non-financial institutions. Strategic alliances may be considered with those institutions which share a similar private sector orientation towards rural development. Any incremental resources mobilised will be utilized to include additional value chains in the EOF's investments, or to expand the existing value chains to additional beneficiaries and/or locations.

133. Rationale. The EOF constitutes an institutional arrangement which will allow the application of the following core principles: (i) *cost recovery & sustainability*: the EOF will minimise recurrent costs, introduce cost recovery mechanisms, and aim to achieve medium-term sustainability; (ii) *multi-sectoral approach*: the IFAD programme for the 2010-2012 cycle is multi-sectoral; the EOF constitutes a multi-sectoral institutional arrangement; (iii) *private sector orientation*: the EOF will be managed and operated based on private sector principles and speed, with a clear commercial orientation; (iv) *equity participation*: the EOF will be legally capable of equity participation in licensed microfinance institution(s); its shareholding position will allow it to place a long-term deposit in a shareholder's current account, with the interest rate to be negotiated among shareholders; (v) *venture capital*: the EOF will be legally capable of venture capital investments in rural businesses which have growth potential and generate sustainable rural jobs.

134. Strategic framework. The EOF will be created by Government decree as a public-private partnership working to improve the economic status of poor women and men in rural areas. Its objective will be to create economic opportunities for poor women and men in rural areas. Its foundation will be the improvement of market relationship governance through improved linkages of producers' organisations with markets and services. Its structure will be based on three core pillars: (i) value chain development; (ii) economic infrastructure; (iii) rural financial services. EOF outcomes will focus on sustainable increases in household assets, employment and incomes, in support of rural poverty reduction. The EOF's strategic framework is presented in Figure 8.

Figure 8: EOF Strategic Framework

ECONOMIC OPPORTUNITIES FUND			
Vision: a sustainable public-private partnership serving rural areas			
Mission: to improve the economic status of poor women and men in rural areas			
Objective: to create economic opportunities for poor women and men in rural areas			
Foundation Process	***Pillar 1***	***Pillar 2***	***Pillar 3***
improved market relationship governance	value chain development	economic infrastructure	rural financial services
Action Priorities	***Outputs***	***Outputs***	***Outputs***
development of producers' associations creation of linkages with markets and services	upgraded productivity and production ensured compliance with quality standards enhanced market access	enhanced resource use efficiency increased value addition for value chain actors	equity participation in pro-poor licensed MFIs improved outreach and diversified products venture capital for rural businesses
Outcome: increased household assets, employment and incomes reducing rural poverty			

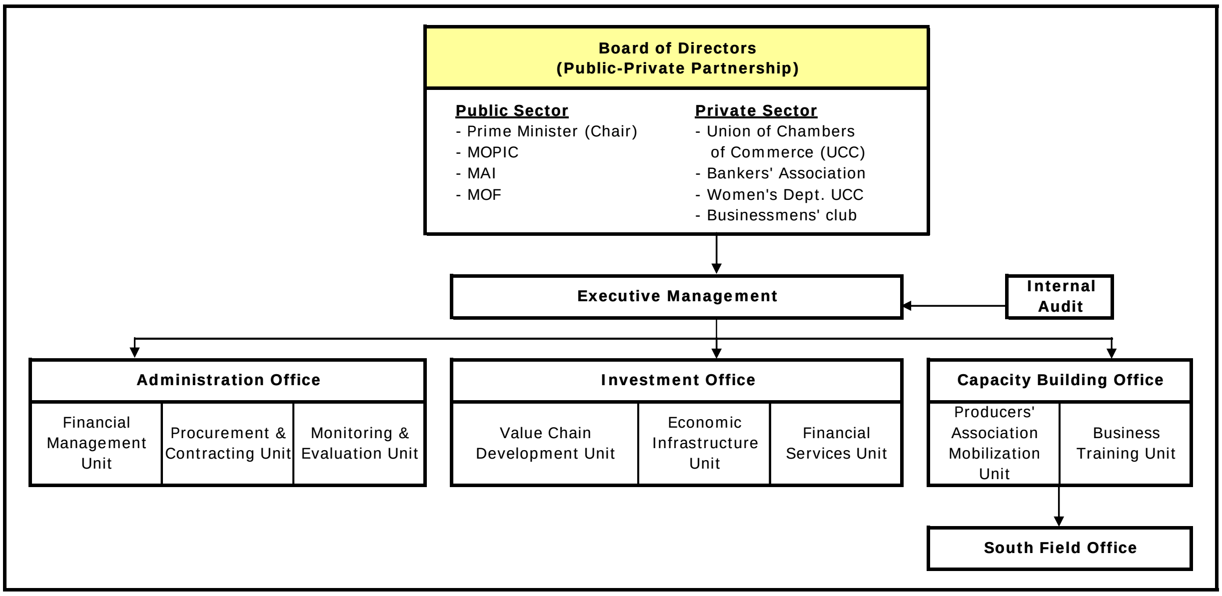
135. Governance. The EOF will be governed by a Board of Directors representing the public and private sectors. The public sector will initially be represented by MOPIC, MAI and MOF; the private sector by the union of chambers of commerce, the women's section of the union of chambers of commerce, the bankers' association and the businessmen's club. The Prime Minister will serve as the Chair of the Board of Directors, while a representative of the private sector will serve as Vice-Chair. Other members from the public and private sectors will be included in the Board as the EOF's operations expand. All external financiers will be invited to participate in Board meetings as observers. The Board of Directors will be responsible and accountable to Government and financiers for guiding EOF strategy and operations under the principles of good governance, transparency, equity, code of business ethics, efficiency and sustainability.

136. In order to safeguard the specific nature of the EOF, the distribution of membership between public and private sectors on the Board of Directors should not be modified; furthermore, the EOF should not be merged with any other institution which is not primarily focused on the creation of economic opportunities in rural areas. These safeguards will be stipulated in the legal agreement between IFAD and Government for the programme.

137. The EOF will be steered by a Management Board that will review investments and operations prior to approval by the Chief Executive Officer (CEO). It will consist of the CEO, chief financial officer, chief procurement officer, value chain manager, rural finance manager, lead design engineer and PAs mobilizer. The EOF's annual work plan and budget (AWPB) will be prepared by unit managers through a participatory approach with stakeholders, internally consolidated, and reviewed by the Management Board; the final decision will be vested with the CEO. The AWPB will subsequently be submitted to the Board of Directors for final approval, and then submitted to Government, IFAD and cofinanciers for concurrence. During implementation, the EOF will convene quarterly or semi-annual meetings with participating producers' associations to ensure that its strategic and operational agenda is driven by the concerns of the target groups.

138. Structure. The EOF will be located in Sana'a. Its management structure (Figure 9) will reflect programme components and requirements. It will be managed by a CEO whose nomination by the Board of Directors will be based on a competitive recruitment process and will be subject to IFAD approval. The EOF will consist of three offices: (i) the administration office responsible for financial management, procurement and contracting, monitoring and evaluation; (ii) the investment office, responsible for managing investments in value chain development, economic infrastructure and financial services; (iii) the capacity building office, responsible for mobilising producers' associations and organising business advisory services; this unit will include a small decentralised field office in the South. The EOF will have an internal audit unit reporting directly to the CEO; it will analyse/improve business processes, ensure financial control including internal checks and balances, verify the accuracy of financial reporting, and ensure compliance with laws, regulations, and Board decisions.

Figure 9: EOF Management Structure



139. Staffing. All staff members will be recruited on competitive basis in compliance with IFAD's procurement guidelines, and will receive highly competitive performance-based salary levels similar to those paid by commercial banks. All staff contracts will be for an initial probationary period, with the possibility of extension subject to satisfactory performance. As the quality of staff is of fundamental importance in determining the quality of EOF's performance, staff would be closely monitored by the Board of Directors during the initial programme years. Additional staff may be recruited as required, particularly when incremental resources are mobilised.

140. Cost recovery and sustainability: The EOF's legal framework and capabilities will allow it to buy equity participation in Al Amal Bank or other licensed microfinance institutions. This will enable the EOF to deposit credit funds (for on-lending) in an interest-bearing shareholders' current account in such institutions. In addition, the EOF will provide credit lines to other microfinance institutions. While the EOF's initial costs will be fully financed by the programme, it will gradually generate its own income stream from such equity participation (through dividends) and from the interest rate on its shareholder's current account and its credit lines. Such income, which will increase over time, will be used to partly cover its recurrent costs. The mobilisation of incremental funds for financial services, such as those to be channelled under future IFAD programmes, will increase the EOF's income stream and allow it to cover a greater proportion of its recurrent costs; paving the way for medium term sustainability.

141. The EOF's shareholders' current account will have an interest rate of LIBOR plus 3.25 percentage points, currently amounting to 4.00% per annum (this rate is harmonised with the proposed rates of other financiers). Its credit lines to other microfinance institutions in which it does not have equity participation will be charged at the Central Bank's refinancing rate minus 2.50 percentage points, currently 7.5% per annum (to encourage agricultural lending).

142. Venture Capital Window. Under the future Rural Employment Programme, the EOF will open a venture capital window which will invest in existing or start up rural enterprises which have market growth potential and which create sustainable employment opportunities for the rural unemployed or underemployed. This mechanism will provide an integrated package consisting of financial resources to expand production capacity, management advise and technical assistance to enhance development of the business, and improved market linkages to increase market access. It will also create the opportunity for the enterprises to access larger financial resources from commercial banks and microfinance institutions. Venture capital investments will also provide an income stream for the EOF enabling it to further cover its own recurrent costs. The EOF may consider piloting the venture capital investments under the Economic Opportunities Programme.

143. Financial Management. The EOF will open and maintain separate Special Accounts in hard currency and Operating Accounts in YER in commercial banks acceptable to the respective financiers. The EOF CEO and chief financial officer will be authorized to operate these accounts. Special accounts will be set at a sufficiently high level in light of expected pattern of expenditures,

withdrawal application processing timeframe and costs, and the need to ensure sufficient EOF liquidity and financial efficiency. Operating Accounts will be utilised to process YER payments for contractors, suppliers, and service providers, and for operating costs. Ceilings for respective Operating Accounts will be set at a sufficiently high level to enable EOF to operate rapidly and effectively. The full description of the EOF's financial management procedures are contained in working paper 2, and will be covered in appendices of the decree establishing the EOF.

Implementation Arrangements and Responsibilities

144. Programme activities will be managed by the EOF and implemented by contractual service providers on performance-based and results-oriented annual contracts. Contract renewal will be subject to positive evaluation of performance by an evaluation panel which includes the various stakeholders. Service providers will include pre-selected public institutions such as the Yemen Standardisation and Metrology Organisation (YSMO) and the Small Medium Enterprise Promotion Service (SMEPS) of the Social Fund for Development (SFD), and private sector entities such as producers' associations, processors, exporters, construction firms, microfinance institutions, and commercial banks. Private sector service providers will be procured on the basis of IFAD's (or cofinanciers') procurement guidelines. The applicable procurement procedures are outlined in the paragraphs below and detailed in the Programme Implementation Manual.

145. Exporters/processors selection. Eight exporters/processors will be selected for each of the three commodity value chains by the EOF Management Board. Selection will be based on public announcement for expressions of interest and an evaluation process to measure the degree of compliance with stipulated eligibility criteria. Transparency in pricing, willingness to adopt contract farming, location of existing business relationships with small producers, and potential to enhance the incomes of small producers will constitute key eligibility criteria.

146. Mountain settlements selection. The 16 settlements which will participate in PY1 will be selected on the basis of the process outlined in Figures 5 and 6. Selected exporters/ processors will provide a long-list of settlements, in the eight targeted governorates, from which they already purchase coffee. Final settlement selection will be undertaken by the EOF Management Board based on verified compliance with eligibility criteria and objective ranking. Eligibility criteria will include settlement poverty and social cohesion indicators. In subsequent years, settlements will be selected in areas adjacent to the PY1 settlements in order to create synergies and maximise economies of scale.

147. Supply chain managers. The programme will assist each selected exporter/processor to recruit a supply chain manager to guide and supervise small producers in the selected settlements from where they will purchase commodities. The recruitment process will be advertised and competitive. These managers will support producers with: advisory services; specific skills training; support to enter into contractual arrangements with exporters/producers; and, facilitation in accessing financial services from PFIs. They will also support processors/exporters to manage contracts with producers and/or their associations. The costs of supply chain managers will be shared between exporters/ processors and the programme (with a gradually declining programme share). They will operate under the guidance and supervision of the exporters/processors and EOF value chain manager, and their performance will be periodically assessed by stakeholders.

148. Producers' associations: The programme will support small producers to create a new producers' association, or will strengthen an existing producers' association, in each selected settlement. Capacity building support for association members will be carried out by mobilisation teams (6 teams of one woman and one man each) contracted by the EOF for up to 30 months; efforts will be made to recruit team members at an early stage of implementation. These mobilisation teams will be guided and supervised by the EOF's producers' associations mobilizer and trained by consultants as appropriate.

149. Export promotion. The programme will contract an international specialised institution to develop the capacity of the Yemen Standardization, Metrology and Quality Control Organisation (YSMO) to maximise export competitiveness. The 'quality based selection' procedure for consultancy services will be applied to procure the relevant institution.

150. Infrastructure: Yemen's construction and engineering consulting industry has attained a good level of development, professionalism and competitiveness in recent years. Official records indicate that 962 civil works contractors were active in 2007, while the long-list of design firms and individual consultants maintained by the Public Works project exceeds 1,800 entries.

151. All contracts for engineering design, supervision and civil works under the programme will be financed by the IDB and EU; it is not expected that any contract will exceed USD 225,000 (excluding taxes). Contracts financed by the IDB will be governed by IDB's procurement guidelines, while those financed by the EU will be governed by IFAD's procurement guidelines. Two pre-qualification exercises (one for engineering consulting, the other for contractors) will be conducted at the outset of the programme, and repeated every two years, to develop long-lists of prequalified engineering design companies and civil works contractors respectively. Both prequalification processes will be executed by the EOF Management Board on the basis of pre-determined eligibility criteria such as location, experience and capacity. Between three and six pre-qualified companies will be invited to bid for each engineering design, supervision or civil works contract. A Bid Evaluation Committee will evaluate each bid and contracts will be awarded to bidders who are responsive to the tender documents and who offer the lowest evaluated costs.

152. For each infrastructure facility, with operational support from the mobilisation teams, the EOF's lead design engineer will discuss the proposed system layout with producers' associations, to ensure agreement and future ownership, operation and maintenance. Once agreed, the EOF will issue the construction tenders. Three levels of supervision will be undertaken during construction: (i) the designer's supervision; (ii) daily on-site supervision undertaken by a contracted short-term field engineer, assisted by several PA members; (iii) the EOF's lead construction engineer.

153. Microfinance. The EOF's equity participation in a licensed microfinance institution will be negotiated between EOF's Board of Directors and the Board of the microfinance institution. It will be subject to a positive outcome of the due diligence exercise for the microfinance institution. The equity participation will also trigger the provision of deposit in a shareholder's current account, the interest rate of which will be negotiated between the two Boards. Training, capacity building and development of new products/services for participating financial institutions will be carried out by the EOF's rural finance manager as well as short-term contracted specialised institutions and/or consultants, procured on the basis of IFAD's procurement guidelines for consulting services.

154. Micro-insurance instruments will be designed and implemented based on a feasibility study carried out by an international expert, contracted by the EOF in line with IFAD's 'quality based selection' procedures. The expert's findings and recommendations will be discussed at a workshop with the key stakeholders. The consultant will be supervised by the EOF's rural finance manager.

Transparency

155. Programme design includes several specific measures designed to improve transparency and mitigate against the risk of corruption. These are outlined below.

- Institutional arrangements: the programme will be implemented by the EOF, a public-private partnership based on principles of good governance, transparency, equity, efficiency and sustainability. Decision-making processes will be organised by team (Management Board, Bid Evaluation Committee, etc) rather than individuals.
- Business ethics: a code of business ethics will be applicable to, and signed by, Board members, managers and employees of the EOF. It will prescribe the standards that are reasonably designed to: promote integrity, honesty and ethical conduct; deter wrong-doing; promote full, fair, accurate and timely disclosure in line with legal requirements; ensure compliance with applicable laws, rules and regulations; encourage the prompt internal reporting of any violations; and set out the accountability framework.
- Management structure: the EOF's management structure includes an internal audit unit which, among other functions, will ensure that: internal procedures are complied with; financial resources are used in line with approved AWPBs and the legal/financial requirements of financiers, through a system of checks and balances; Board decisions are effectively implemented. The auditor will have access to all documents received or issued by the EOF and all accounts, and will report directly to the CEO and indirectly to the Board. The Board and CEO will be able to mandate the internal auditor for specific functions related to EOF management and operations, its financial, legal and social positions, and its relationship with partners, service providers and beneficiaries.
- Independent audit: the EOF will be audited annually by a local audit firm acceptable to Government and all financiers, and appointed by the Board based on a procurement procedure in compliance with IFAD's procurement guidelines. Audits will be conducted in line with internationally accepted auditing standards. These standards will require that: the auditor performs the audit to obtain reasonable assurance on whether the financial

statements are true, fair and free of material misstatements; that the auditor examines, on sample basis, evidence supporting the amounts and disclosures in the financial statements; that the auditor assesses the accounting principles used.

- Supervision: IFAD's direct supervision process for the programme will include modules focusing on fiduciary compliance and the responsibility and accountability framework.

B. The Collaborative Framework

The Main Implementing Agencies and Their Roles

156. The programme will be managed by the EOF and executed by contracted service providers. Service providers will include pre-selected public institutions such as YSMO, SMEPS and possibly CAC Bank and/or YBRD, and private entities such as producers' associations, processors/exporters, construction firms, microfinance institutions and commercial banks. Three public institutions and four private sector entities will initially be represented on the EOF's Board.

157. The EOF will develop appropriate partnerships, on a case-by-case basis, in response to the effective needs of the programme's target groups or to strategic programmatic considerations, rather than simply to satisfy external priorities and requirements on a supply-driven basis. Actual contracts for implementation purposes and partnership agreements for collaboration purposes will be finalised and signed by the EOF during implementation as appropriate.

Technical Partners in Implementation

158. The EOF will partner with a range of public and private sector institutions for implementation purposes, as indicated above. These institutions will be supported through capacity building and, in the case of microfinance banks/institutions, also through financial resources. The EOF will also partner with 24 private sector processors/exporters selected on competitive basis, enabling them to enter into contracts with producers' associations which will in turn be supported through capacity building, advisory services, new technologies and access to credit. Linkages between producers (through their organisations) and processors/exporters will be strengthened through the supply chain managers who will provide on-site advisory and supervision services.

159. The following specific implementation arrangements will be organised: (i) the formation and/ or capacity building of producers' associations will be implemented by the EOF's contracted social mobilization teams; (ii) the strengthening of YSMO with respect to accreditation, classification and certification services will be carried out by a contracted specialised international agency; (iii) the design, construction and supervision of infrastructure facilities will be executed by private sector engineering firms or public institutions, selected on competitive basis; (iv) micro-business development and institutional strengthening for financial institutions will be contracted to specialised trainers, training institutions, or business service providers; and, (v) small and medium enterprises will be engaged in (technical) apprenticeship activities with micro-entrepreneurs.

160. Service providers will be contracted and supervised by the EOF (by the PA mobilizer, the value chain manager, the rural finance manager, and engineers as appropriate). The performance of each service provider will be evaluated upon contract termination by beneficiaries, EOF staff, and partners, with contract renewals subject to satisfactory performance assessment.

Links with Complementary Projects

161. *Value chain development*. Under the programme, the EOF will develop linkages with the Agence Française de Développement (AFD) and USAID which are interested to strengthen Yemeni coffee production and introduce procedures for classification, export certification and compliance with standards. The EOF may develop links with ICARDA for technical support and supervision of the protected horticulture activity, should ICARDA agree to collaborate.

162. *Water*. The EOF will partner with the new Water Sector Support Project (WSSP) financed by Government, World Bank, and Dutch resources, which is expected to commence in late 2010. The project aims to support water-related activities such as urban and rural water supply, irrigation and drainage, water resource management and environmental aspects. The EOF will seek to partner with WSSP to coordinate field activities and harmonise financial procedures. It will also seek partnership with the Dutch-financed Private Sector Investment Project focusing on irrigation.

163. *Microfinance*. The EOF will create linkages with the KfW, IFC and AFD initiatives which focus on strengthening the microfinance sector and in particular Al-Amal Bank. It will also partner with capacity building initiatives such as the development of credit bureaus for the financial sector and training activities for microfinance staff. These partnerships will aim to harmonise methodologies and approaches among projects and financiers. The EOF will also maintain contact with other financial sector initiatives, such as the definition of prudential norms for licensed microfinance banks (supported by KfW) or the reported downscaling of CAC Bank and creation of a specific CAC microfinance agency (supported by KfW and IFC).

164. *Microenterprise development*. The EOF will partner with specialised units of the Social Fund for Development, such as the Small Medium Enterprise Promotion Service, to organise training and advisory services for micro-entrepreneurs, and to promote access to financial resources from microfinance banks. In order to develop market access for micro and small enterprises owned and managed by women, the EOF will seek to develop links with international specialized institutions such as Fair Trade organizations, or with companies that are organizing production in developing countries while applying Fair Trade principles.

Integration within IFAD Country Programme

165. As indicated in Sections I(C) and III (D), the medium-term IFAD-Government programme focuses on the design and implementation of sustainable pro-poor investments which are aligned with the Government's economic growth and poverty reduction policies and IFAD's strategic objectives, which are based on a private sector-led approach to development, and which institute a public-private partnership to efficiently and transparently manage development resources. The proposed 2010-2012 programme cycle envisages three investments: the Economic Opportunities Programme investing in pro-poor agriculture value chain development, the Fisheries Investment Programme focusing on sustainable fisheries resource management and value chain upgrading; and the Rural Employment Programme focusing on the creation of sustainable rural employment opportunities through venture capital investments and advisory services for rural businesses with growth potential. The Economic Opportunities Programme is fully integrated within the country programme and is complementary to the ongoing IFAD-financed operations in Yemen.

166. The establishment of the Economic Opportunities Fund as a single programme management entity (with the introduction of cost recovery and the aim of medium term financial sustainability) for current and future IFAD-financed operations will guarantee continuity in terms of programme organisation, approach and content. The EOF will coordinate with relevant IFAD grants such as the ICIPE-managed "*Sericulture and Apiculture Products in Fragile Ecosystems*" for beekeeping activities and the ICARDA-managed "*Technology Transfer to Enhance Rural Livelihoods and Natural Resource Management*" for protected horticulture activities. The programme will also become a member of the IFAD-supported regional knowledge network "*Knowledge Access in Rural Inter-Connected Areas*" (KARIANET) which covers most on-going IFAD-financed projects in the region.

C. Results-Based M&E

167. The programme's M&E system is designed to offer comprehensive and reliable information to improve decision-making for results-based management. Considering the programme's nature and the extent to which impact depends on improved value chain competitiveness, beneficiary investment and marketing decisions, the system will be participatory and decentralised, actively involving target groups and executing partners. The logical framework will constitute the basis for results-based M&E, and includes an initial list of indicators to track progress and achievements. The EOF, through its M&E officer, will be responsible for establishing and maintaining the system. All M&E data, analysis, and reporting will be disaggregated by gender.

168. The M&E system will have a three-level structure. The first level - output monitoring - will focus on physical and financial inputs, activities and outputs. Data will flow directly from records at different management levels (EOF, PFIs, YSMO, etc.) as well as from the periodic reporting of management and executing partners. Simple indicators will be agreed at start up and monitored on quarterly basis. They will include relevant first level indicators of IFAD's Results and Impact Management System (RIMS). AWPBs will provide the targets for first level monitoring.

169. The second level - outcome monitoring - will assess the use of outputs and measure their benefits at beneficiary and value chain levels. At beneficiary level, it will focus on the accessibility of programme outputs and the extent to which they provided benefits to target groups in terms of access to finance, inputs, services, secure/remunerative markets, increased profitability, and water

use efficiency. It will also include MSEs' achievements in terms of returns, added value, direct and indirect job creation, and prospects for sustainability.

170. At value chain level, the system will focus on incremental returns, margins and value added generated at each strategic value chain link, and on the distribution of benefits for the key actors. It will be based on a variety of targets and performance indicators identified in the course of value chain analysis and agreed with stakeholders. Key performance indicators may include the volume and value of commodities traded, actual market outlets, improved value chain performance (e.g. increased quality products sold on international markets, cost of production per value of output, marketing costs, post harvest losses), increased reliability of supply and security of demand, profit distribution among value chain actors, and value chain efficiency/effectiveness relative to targets and sub-sector norms. At this level, M&E will include indirect beneficiaries and job creation effects. Performance indicators will be compared with historical values, related initiatives, and expected targets. This level will include relevant second level RIMS indicators.

171. Producers' associations, mobilisation teams and supply chain managers will be responsible for data collection and, under the guidance of the M&E officer, participatory data analysis. In collaboration with staff and beneficiaries, the M&E officer will develop templates and methods for data collection and analysis. Benchmark data will also be derived from value chain analyses, infrastructure investments and microfinance feasibility studies. Data collection will be periodic while participatory analysis and reporting will be annual through workshops, with the results fed into AWPBs and progress reports. Annual workshops will be undertaken with stakeholders to draw lessons, allow participatory evaluation, and formulate recommendations for improvement. This will allow assessment of programme progress towards the achievement of objectives, enabling EOF management, beneficiaries and stakeholders to take corrective measures as appropriate.

172. The third level – impact assessment - will assess programme impact for the target group in comparison with objectives. It will focus on higher level impact indicators such as changes in productive assets, household incomes, employment conditions, gender equality and opportunity, rural poverty status, and increased sustainability of water use. It will be based on a sampling universe consisting of selected zones in the original eight governorates that will remain constant during the life of the programme. Economic multiplier analysis will be applied to assess the wider impact on the rural economy generated by the programme. Impact assessment will also assess the institutional, policy, and industry changes arising from the programme with respect to the increased competitiveness of agri-food value chains and their impact for the rural poor. The EOF will conduct a formal impact assessment in the programme's final stages, which will include an assessment of achievements, capturing of lessons and best practices, and analysis of prospects for sustainability. This will be undertaken jointly with stakeholders and beneficiary organisations.

173. The programme settlement selection criteria will allow the EOF and other stakeholders to effectively identify areas of intervention prior to execution. The programme will utilise locally adapted RIMS impact surveys at baseline, mid term, and completion as the main quantitative survey tools. This will allow simple, cost-effective and relevant process of data collection, evaluation, and impact assessment. Under the guidance of the M&E officer, EOF mobilisation teams and supply chain managers will be responsible for undertaking these surveys.

174. *Ad hoc* surveys, qualitative case studies and thematic reviews may also be carried out to capture lessons from successful experiences on themes such as market access, effective export practices, and MSE development. These reviews will be outsourced by the EOF. An evaluation of the actual benefit in terms of reduced water losses due to the improved irrigation system will be carried out by EOF engineers on completed infrastructure investments after one year of operation, in the context of the issuance of the final completion certificate; periodic follow up in subsequent years will be carried out on a sample of infrastructure investments (at least 20% of total).

175. A *Mid-Term Review* will be conducted during the third year of implementation. Its coverage will include: (i) physical and financial progress in comparison with AWPBs; (ii) the performance of service providers; (iii) an assessment of the results of technical assistance and training activities. The review will also look at institutional and policy changes arising from the programme with respect to strategic investment planning linked to value chain development.

Supervision

176. The programme will be directly supervised by IFAD. Direct supervision will encompass three discrete processes: (i) loan administration; (ii) programme supervision; and, (iii) implementation

support. Direct supervision will be perceived and applied as a continuous process which requires ongoing communication and engagement with Government and programme management.

177. Programme design will invariably be superseded by reality over time as a result of changing conditions, emerging operational experiences, political and macro-economic changes, exogenous developments and *force majeure*. The process of supervision will guide the programme towards the achievement of strategic objectives and broader poverty reduction outcomes, while ensuring fiduciary compliance and responsiveness to the accountability framework. Several instruments will be applied to influence the direction of programme implementation: ongoing policy dialogue with Government; adjustment of annual work plans and budgets; revision of implementation manuals; undertaking of supervision and mid terms review missions; and, legal amendments as appropriate.

178. The key supervision processes which will be applied are outlined below:

<u>Loan administration</u>: ensuring fiduciary compliance, with focus on:

- legal conditions;
- financial management;
- procurement and contracting.

<u>Programme supervision</u>: assessing implementation performance, with focus on:

- overall implementation performance and progress towards objectives;
- programme investments, activities and outputs;
- statutory requirements (AWPB, monitoring, reporting);
- steering, management, implementing institutions;
- targeting and gender mainstreaming.

<u>Supporting implementation, programme level</u>: with focus on:

- providing guidance towards achievement of objectives;
- supporting adaptation in response to evolving conditions;
- creating systems for sustainable flow of benefits;
- resolving operational issues and problems;
- generating lessons and articulating best practices.

<u>Supporting implementation, country level</u>: with focus on:

- introducing a broad programmatic view of development investments;
- influencing policy on the basis of operational experiences;
- developing systems and institutions for poverty reduction;
- facilitating financial and operational partnerships.

<u>Supporting implementation, IFAD level</u>: with focus on:

- generating knowledge and lessons;
- feeding operational lessons into new project design;
- creating innovative instruments, investments, pilot activities;
- enable portfolio restructuring to improve outcomes and results.

179. Supervision missions will be undertaken annually and complemented by short and focused follow up missions as appropriate. Supervision will be based on operational modalities and best practices developed by IFAD's former Cooperating Institutions, in which the Yemen country team has substantial experience.

V. PROGRAMME BENEFITS, COSTS AND FINANCING

A. Summary Benefit Analysis

180. **Benefits & Beneficiaries.** The programme will initially cover mountain settlements where business relationships exist between poor coffee farmers and processors, and will later expand to contiguous mountain settlements where new contractual arrangements between coffee producers and markets will be supported. During its implementation period the programme will cover about 133 settlements consisting of 10,000 households containing 65,000 people. Of these households, about 6,700 own small plots of land and cultivate coffee, 1,200 are sharecroppers, and 2,100 are landless with the male heads working outside the settlement. In these 133 targeted settlements, the programme will also support the development of protected horticulture (for about 600/700 landless households). In these same settlements and in about 67 contiguous settlements, the programme will support mobile beekeepers and micro-entrepreneurs, the latter mainly women and

young people. In aggregate terms, therefore, the programme will cover about 200 settlements, of which 133 benefiting from programme investment in economic infrastructure and 67 which were considered ineligible for infrastructure benefiting from mobile beekeeping and micro-businesses.

181. The phasing of participating settlements and beneficiary households is indicated in Table 10. While it is envisaged that the programme may directly benefit a maximum of 14,000 households consisting of 91,000 people, it is likely that some households will adopt dual activities under the programme (e.g. coffee production and micro-enterprises), thus reducing the number of discrete beneficiary households and people. In the final analysis, the programme may benefit about 8,500 different households consisting of 54,000 people.

Table 10: Programme Phasing – Settlements and Beneficiaries

Indicator	PY1	PY2	PY3	PY4	PY5	PY6	Total
Economic Infrastructure Related							
Settlements	16	42	45	30			133
Coffee Farmers	800	2,100	2,250	1,500			6,650
Protected Horticulture Farmers	45	100	170	130	130	100	675
Sub-total Beneficiary HHs	845	2,200	2,420	1,630	130	100	7,325
Non-Economic Infrastructure Related							
Settlements	24	63	68	45			200
Honey Producer Groups */a*	25	55	100	150	150	100	580
Honey Producers	100	220	400	600	600	400	2,320
Small Enterprises	10	20	25	30	30	30	145
Micro Enterprise Groups */a*	100	150	200	200	200	200	1,050
Micro Entrepreneurs	400	600	800	800	800	800	4,200
Sub-total Beneficiary HHs	510	840	1,225	1,430	1,430	1,230	6,665
Totals - All Activities							
Total HHs in all 200 Settlements	1,800	4,725	5,100	3,375	0	0	15,000
Aggregate Beneficiary Households	1,355	3,040	3,645	3,060	1,560	1,330	13,990
Aggregate Beneficiaries	8,808	19,760	23,693	19,890	10,140	8,645	90,935

a/ groups of 4

182. Gender. The gender distribution of beneficiaries is indicated in Table 11. Most supported micro-enterprises will be managed by women (about 1,050 micro-enterprises operated by groups of four women each, totalling 4,200 women beneficiaries for this activity alone). Also, as coffee and horticulture production are handled jointly by the man and woman of the household, women will benefit from technical advise and training provided by supply chain managers; the incomes deriving from these two activities is considered household income. The only activity which women will have difficulty to access is mobile beekeeping, due to traditional travel restrictions on women.

Table 11: Programme Beneficiaries – Distribution by Gender

Activity	Direct Beneficiaries (number)			Specific Benefits for Women
	HHs	Men	Women	
Coffee value chain	6 650			capacity building; advisory services
Horticulture value chain	675			capacity building; advisory services
Mobile honey value chain		2 320		--
Processors / exporters	24			sustainable permanent & seasonal jobs
Rural small enterprises	145			sustainable permanent jobs
Rural micro-businesses			4 200	capacity building; advisory services

183. Basic farm models, which are representative of small farms in the programme areas, have been developed based on primary and secondary data, interviews with farmers and other informed sources, and analytical work. The models are utilised to assess on-farm investments and micro-businesses, which constitute the main generators of direct benefits under the programme. The coffee models focus on existing coffee production (as new producers will not be supported), and reflect the improved common irrigation system, the on-farm drip irrigation, the improved cultural practices and the overall upgrading of the value chain. They also reflect the increased purchase prices to be paid by processors/exporters as a result of the increased quality of coffee beans, in light of market demand and prices. The honey production model is based on groups of four producers investing in 100 beehives and processing equipment, and selling output to an exporter, with sustained income increases which allow them to move above the poverty line. The protected horticulture model is based on farmers investing in up to 300 m^2 tunnels and producing crops such

as tomatoes, green beans, pepper and cucumbers. Micro-business models for carpentry, food processing, tailoring and sweet processing are also presented, mainly targeting youth and women.

184. The models indicate that the major source of credit demand and production expansion will derive from: (i) small farmers holding less than 0.4 ha who are engaged in coffee production and who adopt drip irrigation to increase yields; (ii) small farmers with less than 0.4 ha of land, or landless households willing to rent land, who will engage in protected horticulture; (iii) landless households willing to engage in mobile honey production or to start micro-businesses.

185. It is indicatively estimated that the programme will directly benefit: about 6,700 coffee producers, of whom around 5,850 also through credit; about 2,300 new honey producers; about 675 new horticulturalists; 24 processors/exporters; about 4,200 micro-entrepreneurs on individual or group basis (mainly women); and, about 150 small enterprises. It should be emphasized that these numbers are indicative and used primarily for the purpose of estimating and aggregating benefits. The estimated average net returns for the key household typologies are indicated in Table 12, which confirms that that programme will enable participating households, regardless of landholding size or status, to move above the poverty line (YER 200 per capita per day).

Table 12: Programme Net Returns by Household Type

Household Typology	Timing: Before or After EOP	Net Income ('000 YER)										Income/ capita/ day (YER)
		Coffee	*Qat*	Other Irrig. Crops	Rainfed Crops	Live-stock	Wages	Trade	Bee-keeping	MSEs	Total	
"Larger" Farm	Before	103	150	64	32	70	-	120	-	-	539	227
	After	717	72	56	32	-	-	120	-	-	997	420
"Medium" Farm	Before	65	91	40	20	45	-	120	-	-	381	161
	After	436	52	32	20	45	-	120	-	280	985	415
"Small" Farms	Before	35	60	24	14	70	95	-	-	-	299	126
	After	244	29	24	14	70	95	89	70	280	915	386
Share-cropper	Before	-	-	-	52	120	165	-	-	-	337	142
	After *	-	-	1 042	-	-	-	-	-	-	1 042	439
Landless HH	Before	-	-	-	-	-	100	89	130	-	319	134
	After	-	-	-	-	-	-	-	1 009	-	1 009	425

** net return for an average protected horticulture plot of 160 m2*
Source: based on the mission's financial analysis

186. For each of the programme's value chains, the net returns to investment and the distribution of such returns accruing to the key value chain actors is presented in Tables 13-15. These findings indicate that, as a result of programme support, the share of net returns accruing to value chain actors will be modified in favour of primary producers, while the relative importance of traders, middlemen, agents and wholesalers will be reduced, with their profit margins reallocated among primary producers, processors and exporters.

Table 13: Coffee Value Chain – Structure of Net Returns

Value Chain Actor	Before Upgrading		After Upgrading	
	Net Profit % of Total	Net Profit '000 YER/ha	Net Profit % of Total	Net Profit '000 YER/ha
Farmer	49%	426	61%	1.600
Trader/agent	10%	89	-	-
Processor	26%	225	21%	555
Exporter	15%	127	18%	486
Total	100%	866	100%	2.641

Source: based on the mission's financial models

Table 14: Horticulture Value Chain – Structure of Net Returns

Value Chain Actor	Conventional Net Profit % of Total	Upgraded Net Profit % of Total	Incremental	
			Change	% Increase
Farmer	62%	77%	15%	24%
Trader/wholesaler	25%	-	-25%	-
Exporter/purveyor	13%	23%	10%	79%
Total	100%	100%	0%	-

Source: based on the mission's financial models

Table 15: Beekeeping Value Chain – Structure of Net Returns

Value Chain Actor	Before Upgrading		After Upgrading	
	Net Profit '000 YER	Net Profit % of Total	Net Profit '000 YER	Net Profit % of Total
Beekeeper	1.407	50%	4.169	53%
Trader	321	11%	-	-
Retailer/exporter	1.069	38%	3.705	47%
Total	2.797	100%	7.874	100%

Source: based on the mission's financial models

187. The programme will also generate benefits within a wider context. Support for accreditation, classification and certification systems will provide clear benefits for the entire agriculture sector. Programme investments will generate at least 1 162 full-time job equivalents with processors and exporters, the majority of which for women workers. The establishment of microfinance rural networks will allow rural households to access diversified banking services (savings deposits, loan financing, insurance products, etc.) and will benefit all households close to the rural service points. Rainwater harvesting and conveyance investments linked with on-farm drip irrigation are expected to save 19 million m^3 of water. The programme will have benefits in terms of import substitution, export promotion, and hard currency generation which are important for the economy.

188. Programme investments in the start up and expansion of micro-businesses are expected to produce substantial benefits which cannot be predicted at this stage as the actual pattern of business activities will be determined during execution in light of the market and credit products offered. Indicative financial models confirm the substantial and sustainable returns which will be generated through investment in micro-businesses. While some degree of failure of start up micro-businesses is to be expected, the mobilisation teams and business advisors will provide training and services to micro-entrepreneurs to sustain their activities with proper market access.

189. The structure of programme benefits by household typology, disaggregated by core activities and additional activities, is illustrated in Figure 10.

190. Secondary target groups such as processors and exporters will benefit from: (i) an increase in the quality and quantity of secured supplies; (ii) technical advise on value chain management by supply chain managers; (iii) access to financial products for investments and working capital; (iv) increased international market opportunities as a result of certification services. They will also be able to recruit additional permanent and seasonal staff (mainly women) to maintain export quality.

Figure 10: Programme Benefit Structure by Household Typology

Target Group	"Larger" Farm	"Medium" Farm	"Small" Farm	Sharecropper	Landless
Core Activities Household	PA membership economic infrastructure forward contract TA and training access financial services	PA membership economic infrastructure forward contract TA and training access financial services	PA membership economic infrastructure forward contract TA and training access financial services	PA membership economic infrastructure forward contract TA and training access financial services	PA membership forward contract TA and training access financial services
Impact	improved quantity/quality water use efficiency increased income	improved quantity/quality water use efficiency increased income	improved quantity/quality water use efficiency increased income	improved quantity/quality water use efficiency increased income new activity developed	improved quantity/quality increased income new activity developed
Add'tl Activities Men		skills training access financial services access advisory services	skills training access financial services access advisory services		skills training access financial services access advisory services
Women			skills training access financial services access advisory services market linkages	skills training access financial services access advisory services market linkages	skills training access financial services access advisory services market linkages
Impact		add'tl diversified income strengthened capacity	add'tl diversified income strengthened capacity market access group membership	add'tl diversified income strengthened capacity market access group membership	add'tl diversified income strengthened capacity market access group membership

191. Additional target groups such as licensed microfinance providers will benefit from: expansion of their rural networks; additional financial resources to sustain their growth; improvement of their products and services; and specific technical assistance. These elements will contribute to the sustainability of the microfinance institutions and will support the rural population in participating settlements. The YSMO will benefit from international TA to upgrade its capacity to issue internationally recognized export certificates that will enhance Yemen's export competitiveness.

B. Summary Cost Table

192. The total programme cost amounts to USD 38.6 million (Table 16). It will be implemented over a six-year period, starting in mid-2010 and completing in mid-2016. The aggregate physical and price contingencies account for 11% of base cost, while the foreign exchange component accounts for 16% of total cost. The value chain development component accounts for 17% of base costs, the economic infrastructure component for 38%, the rural finance component for 29%, and the EOF for 16%. The programme is costed in Yemeni Rial (YER) using an average exchange rate of YER 1 to the USD. Price contingencies are applied to most local and foreign costs, apart from rural finance. The cost of private sector investments, including those covered by farmers, are projected based on the expected number and rate of investments to be induced through credit.

Table 16: Summary Programme Costs

Component	(YER Million)					(US$ Million)				
	Local	Foreign	Total	FX %	Base Cost %	Local	Foreign	Total	% FX	Base Cost %
A. Value Chain Development										
Value Chain Cluster Dev.	645.9	111.6	757.5	15	11	3.18	0.55	3.73	15	11
Export Promotion	232.9	25.9	258.8	10	4	1.15	0.13	1.28	10	4
SMEs Development	200.4	-	200.4	-	3	0.99	-	0.99	-	3
Subtotal Value Chain Dev.	1 079.2	137.5	1 216.7	11	17	5.32	0.68	5.99	11	17
B. Economic Infrastructure										
Economic Infrastructure	2 083.0	614.2	2 697.2	23	38	10.26	3.03	13.29	23	38
Subtotal Economic Infra.	2 083.0	614.2	2 697.2	23	38	10.26	3.03	13.29	23	38
C. Rural Finance	1 993.5	72.1	2 065.5	3	29	9.82	0.36	10.18	3	29
D. Econ. Opportunities Fund	700.2	403.0	1 103.2	37	16	3.45	1.99	5.43	37	16
Total BASELINE COSTS	5 855.8	1 226.8	7 082.6	17	100	28.85	6.04	34.89	17	100
Physical Contingencies	161.6	40.0	201.5	20	3	0.80	0.20	0.99	20	3
Price Contingencies	818.6	85.4	904.0	9	13	2.57	0.11	2.68	4	8
Total PROGRAMME COSTS	6 836.0	1 352.2	8 188.2	17	116	32.22	6.35	38.56	16	111

C. Programme Financing: IFAD, Co-financiers, Government, Partners, Beneficiaries

193. The programme will be financed by IFAD resources of USD 12.9 million equivalent (33% of total cost), an IDB loan of USD 10.5 million equivalent (27%), an EU grant of EUR 6.5 million equivalent (25%), a PFIs contribution of USD 2.2 million equivalent (6%), a Government contribution of USD 1.2 million equivalent (3%), a beneficiaries' contribution of USD 1.1 million equivalent (3%), and an EOF contribution of USD 1.0 million equivalent (3%). The Government's contribution covers the cost of duties and taxes, while the EOF's contribution will derive from revenues earned on financial investments in licensed microfinance institutions/banks. The financing plan by component and expenditure category is presented in Tables 17-18 respectively.

Table 17: Programme Financing by Component

Components	IFAD		IDB		EU		Beneficiaries		PFIs		EOF		GOY		Total	
	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%
A. Value Chain Dev.																
Value Chain Cluster Dev.	1.68	38	-	0	1.76	40	0.94	21	-	0	-	0	0.03	1	4.41	11
Export Promotion	0.27	19	-	0	1.00	68	0.15	10	-	0	0.05	3	0.00	0	1.47	4
SMEs Development	0.28	24	-	0	0.88	76	-	0	-	0	-	0	-	0	1.16	3
Subtotal Value Chain Dev.	2.23	32	-	0	3.64	52	1.08	15	-	0	0.05	1	0.03	0	7.04	18
B. Economic Infrastructure																
Economic Infrastructure	0.37	2	10.50	69	3.37	22	-	0	-	0	-	0	1.04	7	15.28	40
C. Rural Finance	7.25	71	-	0	0.74	7	-	0	2.18	21	-	0	0.01	0	10.19	26
D. Econ. Opportunities Fund	3.01	50	-	0	1.98	33	-	0	-	0	0.95	16	0.12	2	6.05	16
Total PROGRAMME COSTS	12.86	33	10.50	27	9.74	25	1.08	3	2.18	6	0.99	3	1.21	3	38.56	100

Table 18: Programme Financing by Expenditure Account

Expenditure Account	IFAD		IDB		EU		Beneficiaries		PFIs		EOF		GOY		Total	
	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%
I. Investment Costs																
A. Civil Works	0.09	1	10.43	70	3.37	23	-	0	-	0	-	0	0.98	7	14.87	39
B. Veh/Equip/Materials	0.14	29	-	0	0.29	60	-	0	-	0	-	0	0.05	11	0.49	1
C. Trng/TA/Contr. Serv.	2.86	31	0.07	1	4.96	54	1.08	12	-	0	0.05	1	0.12	1	9.14	24
D. Financial Instruments	7.25	75	-	0	0.30	3	-	0	2.18	22	-	0	-	0	9.73	25
Total Investment Costs	10.34	30	10.50	31	8.93	26	1.08	3	2.18	6	0.05	0	1.15	3	34.23	89
II. Recurrent Costs																
Salaries & Allowances	1.87	58	-	0	0.62	19	-	0	-	0	0.74	23	0.00	0	3.24	8
Operation & Maint.	0.64	59	-	0	0.19	17	-	0	-	0	0.20	19	0.05	5	1.09	3
Total Recurrent Costs	2.52	58	-	0	0.81	19	-	0	-	0	0.95	22	0.05	1	4.33	11
Total PROGRAMME COSTS	12.86	33	10.50	27	9.74	25	1.08	3	2.18	6	0.99	3	1.21	3	38.56	100

VI. PROGRAMME RISKS AND SUSTAINABILITY (KSF 5)

A. Risk Analysis

194. The programme has a number of inherent risks which are mitigated in programme design or will be transferred to third parties. These are summarised below.

- *Security conditions.* Yemen's entire territory is currently classified as Security Phase 3 by UNDSS. This has adverse implications for international travel to Yemen, in-country travel, security measures and logistical requirements. It may be difficult for missions to obtain internal security clearance to visit some programme districts, with adverse consequences on supervision and implementation support. While it is impossible to transfer this risk, it will be mitigated to some degree during implementation by efforts to select districts where security conditions are stable and travel is allowed.
- *Economic Opportunities Fund*. The establishment of EOF as a public-private partnership is a fundamental element of the Economic Opportunities Programme as well as future IFAD investments in Yemen. Any delay in its establishment, or any amendment to its mandate or modus operandi, will have serious implications that for the programme. Government has consistently confirmed its intention to establish the EOF, has provided assurances to successive IFAD missions in this respect. The creation of the EOF will naturally constitute a condition of disbursement for IFAD and cofinanciers. It should also be noted that EOF

personnel will be recruited on competitive basis, and subject to IFAD concurrence prior to contract signature.

- *Flow of funds.* The EOP will work with private sector partners such as processors and exporters who are investing and operating on international markets. Financiers' procedures for the flow of funds to country level are known to be slow and complex. Delays in transfer of financiers' resources to the recipient (EOF in this case) will have adverse implications for execution, programme credibility, and financiers' reputations. This will be mitigated through the establishment of a sizeable Special Account for each financier's resources, resulting in substantial cash availability for implementation and a significantly reduced number of withdrawal applications.
- *Value chain profitability.* Price fluctuations on international markets may have adverse implications on local investments in commodity value chains. This risk is mitigated by the careful selection of the export commodities to be supported, namely coffee and honey, both of which have solid regional and international reputation and focus on established niche markets which are resilient to price fluctuations deriving from the supply dynamics of other producing countries. Selection of the horticulture value chain is equally risk-mitigating, as vegetables will substitute for imports in existing local markets, and as Yemen has diversified agro-ecological 'windows' of production.
- *Weather-related production risk.* The programme will support microfinance entities to lend to small farmers whose productivity and output are ultimately dependent on rainfall. Poor rainfall will result in low output, reduced returns, and inability of farmers to repay their loans. The EOF will consider transfer this risk to third-party private sector insurers (and eventually reinsurers) by introducing forms of micro-insurance, possibly weather index-based insurance.

B. Exit Strategy and Post-Programme Sustainability

195. The exit strategy and post-programme sustainability considerations are built into the design of the programme and its inter-related components, as reflected below.

- *Institutional sustainability.* The EOF will be created as an independent and sustainable institution; its public-private ownership is configured to ensure stability of governance and decision-making equity.
- *Irrigation systems.* Producers' associations will assume ownership of irrigation schemes and will be trained to assume responsibility for operation and maintenance.
- *Value chains.* Supply chain managers will be contracted by processors/exporters to provide technical advisory services to producers even after programme completion. Processors/exporters will benefit from increased prices, improved quality and incremental quantities of supply.
- *Contractual linkages.* Improved quality and productivity at producers' level, combined with transparent contract relationships between associations and processors/exporters, will sustain in the post-programme period due to the economic incentive structure.
- *Market demand.* International market demand for Yemeni coffee and honey will increase through recognised accreditation, classification and certification ensuring the quality, hygiene and traceability of produce;
- *Rural finance.* Adapted financial services will be offered to poor households through microfinance rural service points; the diversified services will include savings, micro-leasing, insurance and contract farming loan products.
- *Private sector.* Rural development driven by the private sector is based on profitability and sustainability. Programme value chain investments will be appraised to ensure profitability and sustainability prior to investment.

VII. INNOVATION, LEARNING AND KNOWLEDGE MANAGEMENT (KSF 6)

A. Innovative Features

196. The programme is innovative for Yemen and IFAD, as confirmed by OSC at concept note stage. It will create the foundation for future IFAD operations and for public-private partnerships in

the country. It will adopt a pro-poor agenda and establish an economic approach to poverty reduction. The key innovations are outlined below.

- *Institutional arrangements.* The programme will be administered by the Economic Opportunities Fund, a public-private partnership, which will aim to become financially sustainable in the medium-term.
- *Equity in a pro-poor institution.* The EOF will purchase equity in pro-poor microfinance institution(s) enabling such institution(s) to expand operations to rural areas. This will enable EOF to influence the policies of the institution(s).
- *Private-sector approach.* The EOP will introduce a pro-poor private sector approach by selecting value chains with market demand and growth potential where production is undertaken by small farmers, and strengthening linkages to improve effectiveness, efficiency, and local value addition.
- *Water use efficiency.* The programme will promote rainwater-harvesting infrastructure, improved piped conveyance systems and on-farm drip-irrigation together with advisory services and participatory water management by producers' associations.
- *Microfinance rural outreach.* The EOP will provide financial and technical assistance to licensed microfinance banks to increase their rural outreach and agricultural lending through rural service points.

B. Programme Knowledge Products and Learning Processes

197. The EOP will introduce new approaches to value chain development, rural microfinance and institutional arrangements in Yemen. Implementation of the programme will create knowledge in these areas which will be applied by the EOF for wider purposes (the EOF itself will serve as a focal institution for poverty reduction in the country) including the other IFAD investments of the 2010-2012 programmatic cycle. Such knowledge will be captured by the EOF monitoring and evaluation specialist, concerned public institutions, and the IFAD country programme team, and will be used for: the improvement of programme implementation processes as appropriate; the analysis and sharing of operational experiences, lessons learned and best practices on a wider scale.

C. Regional Knowledge Networking

198. The EOP will contribute to (i) in-country knowledge networking through periodic seminars and workshops; (ii) in-house knowledge networking primarily within the programme management department (regional division, technical advisory division); (iii) regional knowledge networking through the Knowledge Access in Rural Inter-Connected Areas (KARIANET); (iv) regional research networks including those supported by IFAD grants such as ICARDA, AOAD, IDRC, etc. Efforts would also be made to partner with WB, AFD, IDB, UNDP, and FAO regional networks.

REPUBLIC OF YEMEN

ECONOMIC OPPORTUNITIES PROGRAMME

PROGRAMME FINAL DESIGN REPORT

ANNEXES

REPUBLIC OF YEMEN

ECONOMIC OPPORTUNITIES PROGRAMME

PROGRAMME FINAL DESIGN REPORT

ANNEXES

Table of Contents

ANNEX 1: CONTENTS OF THE PROGRAMME LIFE FILE

A. Knowledge Base not generated by the Programme (IFAD Policies)

- Country Strategic Opportunities Paper (COSOP) 2008-2013 (Dec. 2007)
- IFAD's Rural Finance Strategy
- Good Practice IFAD Learning Notes
- Country portfolio of loans and grants
- Previous projects supervision reports

B. Knowledge Base not generated by the Programme

- *Economic Growth in the Republic of Yemen*, World Bank (2002)
- *Yemen's Development Plan for Poverty Reduction, 2006-2010,* MOPIC (2006)
- *Assessment of MSE Financial Needs in Yemen*, IFC (2007)
- *Yemen, Agricultural Statistics Yearbook,* MAI (2008)
- *Yemen Country Profile 2008*, Economist Intelligence Unit (2008)
- *Yemen Country Reports, January-December 2009*, Economist Intelligence Unit (2009)
- *Small and Medium Enterprise Development in Yemen* - World Bank (2009)
- *Pilot Programme for Climate Resilience*, World Bank (2009)
- *Coping with Climate Change Impacts, Development of Options*, GEF (2009)
- *Community Resilience to Climate Change*, *Aide Memoire*, World Bank (2009)
- FAO Yearly Statistics (FAOSTAT, AQUASTAT, etc).

C. Knowledge generated by the Programme –Design Process

- Economic Opportunities Programme Concept Note (March 2009)
- OSC Minutes (March 2009)
- Programme Design Mission, *Aide Memoire* (June 2009)
- Programme Design Report, Formulation (July 2009)
- CPMT Minutes (August 2009)
- Maturity Assessment Template (August 2009)
- QE Reviewers' Recommendations Note (September 2009)
- QE Panel Report (September 2009)
- Programme Final Design Mission, *Aide Memoire* (November 2009)

D. People CPMT and Partners

- List of CPMT members
- Itinerary and list of persons met by preliminary design mission (January-February 2009), design mission (May-June 2009) and final design mission (December 2009)

ANNEX 2: UPDATED RESULT-BASED LOGFRAME

Objective Hierarchy	Key Performance Indicators	Monitoring Mechanisms and Information Sources	Assumptions(A) / Risks (R)
Goal			
Economic status of poor rural women and men improved	• Households with improvement in asset ownership index (RIMS Mandatory impact) • Reduction in the prevalence of malnutrition for children (RIMS mandatory impact); • Households or persons receiving programme services: direct, by gender (RIMS 1st level); • Households with increased income and improved food security (RIMS 2nd level).	• Baseline & impact surveys (gender disaggregated) • M&E and impact assessments; • Government socio-economic survey and statistics, health welfare surveys; • Programme completion report; • RIMS annual reporting and impact surveys.	• Stable internal security(A); • Governance improves (A); • Macro-economic conditions improve (A).
Purpose / Objective			
Sustainable economic opportunities for poor rural women and men created	• Increase in coffee and vegetable production (RIMS 2nd level); • Economically sustainable beehive package in production (#); • Economically sustainable high tunnels in production (#); • Viable micro-businesses after 3 years (RIMS 2nd level); • Full-time job equivalents created and share of jobs for women (RIMS 2nd level); • Number of people (by gender) and households receiving programme services (RIMS 1st level).	• M&E evaluation and assessment; • Coffee producers' & exporters' associations statistics; • Vegetable producers' & exporters' associations statistics; • Honey producers' & exporters' associations statistics; • Business plans.	• Stable internal security(A) • Drop in commodities prices on the international market (R); • Yemeni coffee market niche maintained in both quantity and price (A).
Outputs			
Growth and technological improvement of selected value chains and rural business activities stimulated	• Drip irrigation adoption rate (RIMD 2nd level); • Average yield increase/ha for coffee; • Average 1st grade coffee produced per ha; • Average yield/hive for honey; • Average yield/m² for horticulture production; • Avg. micro-business profitability after 3 years (by activity and gender); • Number of staff of service providers trained (RIMS 1st level);	• M&E evaluation and assessment; • Producers' associations statistics; • Processors' statistics & financial statements; • Business plans.	• Drip irrigation adoption rate >80% in a settlement (A);

Objective Hierarchy	Key Performance Indicators	Monitoring Mechanisms and Information Sources	Assumptions(A) / Risks (R)
	• Number of people accessing facilitated advisory services (RIMS 1st level) • People trained in income generating activities (RIMS 1st level); • People receiving vocational training (RIMS 1st level); • People trained in business and entrepreneurship (RIMS 1st level); • Enterprises accessing financial and non-financial services (RIMS 1st level);		
Linkages between producers' associations and markets through contractual arrangements promoted	• Contract farming signed (#); • Number of producers engaged in contract farming (by commodity, by gender); • Increase in farm-gate prices (per commodity); • Change in profit distribution (per commodity).	• Contracts; • Processors' statistics & financial statements; • registration books of PAs; • M&E evaluation and assessment.	• Agents & collectors opposed to direct linkages between producers and processors (R); • PFIs not considering contract farming or tripartite agreements as sufficient collateral (R).
Compliance with quality and food safety standards and export certification promoted	• Increase in commodity volumes certified; • Increase in volumes meeting health standards; • Accreditation for certification granted to YSMO; • Incremental coffee & honey output exported; • Number of staff of service providers trained (RIMS 1st level).	• Export statistics from Government; • Statistics from YSMO.	

Objective Hierarchy	Key Performance Indicators	Monitoring Mechanisms and Information Sources	Assumptions(A) / Risks (R)
Economic public infrastructure in support of selected value chains developed	• Volume of water saved (in m^3); • Average % of decrease in water bill at HH level; • Rainwater harvesting systems constructed and/or rehabilitated (#, type) (RIMS 1st level); • Value chain producers benefiting from infrastructure investments (#, by commodity); • Groups managing infrastructure formed and/or strengthened (RIMS 1st level); • Land under irrigation schemes constructed and/or rehabilitated (RIMS 1st level); • Hectares of land improved through water conservation methods (RIMS 2nd level); • Infrastructure investment IRR per settlement; • Number of infra. functioning (RIMS 2nd level); • Number of farmers with secure access to water (RIMS 2nd level); • % delivered vs. required water (RIMS 2nd level); • People trained in infra. mgmt. (RIMS 1st level); • People trained in NRM (RIMS 1st level).	• Contracts to architects and contractors; • Minutes of final acceptance committee; • M&E evaluation and assessment; • Minutes of settlements' associations; • PAs meetings (regarding water mgmt.); • Households' surveys.	• Severe droughts for several years continuously (R).

Objective Hierarchy	Key Performance Indicators	Monitoring Mechanisms and Information Sources	Assumptions(A) / Risks (R)
Rural outreach of financial institutions and enhance access to sustainable rural financial services expanded	• Equity participation in MFIs retained; • Financial institutions participating in the programme (#) (RIMS 1st level); • New rural service points/PFI (RIMS 2nd level); • Volume of credit (or alternative products) disbursed to programme target groups (RIMS 1st level); • Loan recovery rate; • PAR (RIMS 2nd level); • Increase in monetised savings (RIMS 1st level); • Volume of credit/alternative products extended by commercial banks from own resources (RIMS 1st level); • Producers insured (#) and premiums collected; • Volume of pay-out.	• Microfinance banks/institutions and commercial banks audited financial statements; • Central Bank's quarterly & annual reports; • M&E evaluation and assessment; • Micro-insurance fund financial statements.	• EOF to participate in equity of all licensed pro-poor gender-oriented microfinance banks operating in rural areas (A); • Commercial banks not interested in financing rural activities (R).
A sustainable Fund managed through a private/public partnership established	• EOF sustainability • Seats allocated to private sector & public sector in EOF Board of Directors (#); • Amount of financial resources channelled through EOF outside of the EOP.	• EOF audited financial statements; • Minutes of Board of Directors meetings.	• New IFAD operations to channel their resources through EOF (A); • Government and/or co-financiers to channel funds through EOF (A).

Inputs	Key activities and target	Financing
(in million USD) ***Investment costs*** • Civil works 14.87 • veh/equip/materials 0.49 • trng/TA/contr. serv. 9.14 • incremental credit 9.73 ***Total investment costs*** ***34.23*** ***Recurrent costs*** • Salaries/allowances 3.24 • O&M 1.09 ***Total recurrent costs*** ***4.33*** **Total PROGRAMME** **38.56**	• 3 value chains supported; • 133 mountain settlements selected for improved irrigation and water management commanding ap. 4 000 ha out of which 1 000 ha under coffee production; • 10 000 HH (65 000 people) reached with irrigation, farming and/or credit support; • At least 5 800 coffee producers, 2 300 mobile honey producers, 600/700 farmers engaged in protected horticulture, 145 small enterprises and 4 200 micro-entrepreneurs (mainly women) benefit from short/long term adapted financial products from PFIs; • At least 6 accreditations for exports granted to YSMO; • At least 3 exporters/processors selected for each value chain; • At least 3 supply chain managers recruited by exporters/processors for each value chain; • At least one Producers' Association operational per settlement; • > 80% of coffee producers have adopted drip irrigation; • > 70% of households reached are staying permanently above the YER 200/day/person poverty line.	**IFAD** **33.3 %** **IDB** **27.2 %** **EU** **25.3 %** **Government** **3.1 %** **PFIs** **5.7 %** **Beneficiaries** **2.8 %** **EOF** **2.6 %**

ANNEX 3: SUMMARY COST TABLES

ANNEX 3.1: COMPONENT PROGRAMME COST SUMMARY

	(YER Million)					(US$ Million)				
Components	**Local**	**Foreign**	**Total**	**% Foreign Exchange**	**% Total Base Costs**	**Local**	**Foreign**	**Total**	**% Foreign Exchange**	**% Total Base Costs**
A. Value Chain Development										
Value Chain Cluster Development	645.9	111.6	757.5	15	11	3.18	0.55	3.73	15	11
Export Promotion	232.9	25.9	258.8	10	4	1.15	0.13	1.28	10	4
SMEs Development	200.4	-	200.4	-	3	0.99	-	0.99	-	3
Subtotal Value Chain Development	1 079.2	137.5	1 216.7	11	17	5.32	0.68	5.99	11	17
B. Economic Infrastructure										
Economic Infrastructure	2 083.0	614.2	2 697.2	23	38	10.26	3.03	13.29	23	38
Subtotal Economic Infrastructure	2 083.0	614.2	2 697.2	23	38	10.26	3.03	13.29	23	38
C. Rural Finance	1 993.5	72.1	2 065.5	3	29	9.82	0.36	10.18	3	29
D. Economic Opportunities Fund (EOF)	700.2	403.0	1 103.2	37	16	3.45	1.99	5.43	37	16
Total BASELINE COSTS	5 855.8	1 226.8	7 082.6	17	100	28.85	6.04	34.89	17	100
Physical Contingencies	161.6	40.0	201.5	20	3	0.80	0.20	0.99	20	3
Price Contingencies	818.6	85.4	904.0	9	13	2.57	0.11	2.68	4	8
Total PROJECT COSTS	6 836.0	1 352.2	8 188.2	17	116	32.22	6.35	38.56	16	111

ANNEX 3.2: EXPENDITURE ACCOUNTS PROGRAMME COST SUMMARY

	(YER Million)					(US$ Million)				
Components	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
I. Investment Costs										
A. Civil Works	2 009.5	614.2	2 623.8	23	37	9.90	3.03	12.92	23	37
B. Vehicles, Equipment, Materials	13.8	84.7	98.5	86	1	0.07	0.42	0.49	86	1
C. Training, TA, Contractual Services	1 176.8	451.3	1 628.2	28	23	5.80	2.22	8.02	28	23
D. Financial Instruments	1 975.2	-	1 975.2	-	28	9.73	-	9.73	-	28
Total Investment Costs	5 175.3	1 150.3	6 325.6	18	89	25.49	5.67	31.16	18	89
II. Recurrent Costs										
A. Salaries & Allowances	565.6	-	565.6	-	8	2.79	-	2.79	-	8
B. Operation and Maintenance	114.9	76.6	191.4	40	3	0.57	0.38	0.94	40	3
Total Recurrent Costs	680.5	76.6	757.1	10	11	3.35	0.38	3.73	10	11
Total BASELINE COSTS	5 855.8	1 226.8	7 082.6	17	100	28.85	6.04	34.89	17	100
Physical Contingencies	161.6	40.0	201.5	20	3	0.80	0.20	0.99	20	3
Price Contingencies	818.6	85.4	904.0	9	13	2.57	0.11	2.68	4	8
Total PROJECT COSTS	6 836.0	1 352.2	8 188.2	17	116	32.22	6.35	38.56	16	111

ANNEX 3.3: EXPENDITURE ACCOUNTS BY COMPONENT – BASE COSTS

Expenditure Account	Value Chain Development: VC Cluster Dev.	Value Chain Development: Export Promotion	Value Chain Development: SMEs Dev.	Economic Infra.: Economic Infra.	Rural Finance	Economic Oppor. Fund (EOF)	Total	Physical Contingencies %	Physical Contingencies Amount
I. Investment Costs									
A. Civil Works	-	-	-	12.92	-	-	12.92	5.0	0.65
B. Vehicles, Equipment, Materials	0.17	-	-	-	-	0.32	0.49	-	-
C. Training, TA, Contractual Services	3.13	1.28	0.99	0.36	0.45	1.82	8.02	3.7	0.30
D. Financial Instruments	-	-	-	-	9.73	-	9.73	-	-
Total Investment Costs	3.30	1.28	0.99	13.29	10.18	2.14	31.16	3.0	0.95
II. Recurrent Costs									
A. Salaries & Allowances	0.26	-	-	-	-	2.53	2.79	-	-
B. Operation and Maintenance	0.17	-	-	-	-	0.77	0.94	5.0	0.05
Total Recurrent Costs	0.44	-	-	-	-	3.29	3.73	1.3	0.05
Total BASELINE COSTS	3.73	1.28	0.99	13.29	10.18	5.43	34.89	2.8	0.99
Physical Contingencies	0.16	0.06	0.05	0.66	0.00	0.05	0.99	-	-
Price Contingencies									
Inflation									
Local	0.78	0.21	0.20	1.97	0.01	0.86	4.02	-	-
Foreign	0.01	0.00	-	0.07	0.00	0.02	0.11	-	-
Subtotal Inflation	0.79	0.21	0.20	2.03	0.01	0.88	4.12	-	-
Devaluation	-0.28	-0.08	-0.07	-0.70	-0.00	-0.31	-1.44	-	-
Subtotal Price Contingencies	0.51	0.13	0.13	1.33	0.01	0.57	2.68	3.9	0.10
Total PROJECT COSTS	4.41	1.47	1.16	15.28	10.19	6.05	38.56	2.8	1.10
Taxes	0.03	-	-	1.04	0.01	0.12	1.21	4.3	0.05
Foreign Exchange	0.58	0.14	-	3.24	0.36	2.03	6.35	3.2	0.20

ANNEX 3.4: EXPENDITURE ACCOUNTS BY FINANCIER

Expenditure	IFAD		IDB		EU		Beneficiaries		PFIs		EOF		GOY		Total	
Account	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs																
A. Civil Works	0.09	0.6	10.43	70.1	3.37	22.7	-	-	-	-	-	-	0.98	6.6	14.87	38.6
B. Vehicles, Equipment, Materials	0.14	29.3	-	-	0.29	59.7	-	-	-	-	-	-	0.05	11.0	0.49	1.3
C. Training, TA, Contractual Services	2.86	31.3	0.07	0.7	4.96	54.3	1.08	11.9	-	-	0.05	0.5	0.12	1.3	9.14	23.7
D. Financial Instruments	7.25	74.5	-	-	0.30	3.1	-	-	2.18	22.4	-	-	-	-	9.73	25.2
Total Investment Costs	10.34	30.2	10.50	30.7	8.93	26.1	1.08	3.2	2.18	6.4	0.05	0.1	1.15	3.4	34.23	88.8
II. Recurrent Costs																
A. Salaries & Allowances	1.87	57.9	-	-	0.62	19.2	-	-	-	-	0.74	22.9	0.00	-	3.24	8.4
B. Operation and Maintenance	0.64	58.9	-	-	0.19	17.3	-	-	-	-	0.20	18.8	0.05	5.0	1.09	2.8
Total Recurrent Costs	2.52	58.1	-	-	0.81	18.8	-	-	-	-	0.95	21.8	0.05	1.3	4.33	11.2
Total PROJECT COSTS	12.86	33.3	10.50	27.2	9.74	25.3	1.08	2.8	2.18	5.7	0.99	2.6	1.21	3.1	38.56	100.0

ANNEX 4: DRAFT PROGRAMME IMPLEMENTATION MANUAL

1. Key elements of the programme implementation manual (PIM) have been drafted and are included in this document. The manual will be finalised during the initial stages of programme implementation by EOF managers and staff, with IFAD support.

2. The draft table of contents of the PIM, and the location of the relevant information within the programme final design report, is presented below. The PIM will be finalised on the basis of this table of contents.

TABLE OF CONTENTS	REFERENCE
PART A: PLANNING	
Programme Framework	
Programme Description	PDR-MR
Organisational Set-up	PDR-MR & WP2
Costs and Financing	PDR-MR & WP6
Participants' Duties, Responsibilities and TORs	
Economic Opportunities Fund	PDR-MR & WP2
Participating Financial Institutions	PDR-MR & WP5
Exporters/Processors & Supply Chain	PDR-MR & WP3
Managers	PDR-MR & WP1
Mobilization Teams	PDR-MR & WP3-5
External Service Providers	
PART B: OPERATIONAL PROCEDURES	
Implementation Arrangements	
Economic Infrastructure	PDR-MR & WP4
Value Chain Development	PDR-MR & WP3
Rural Financial Services	PDR-MR & WP5
Financial Management	
Project Costs & Financing	PDR-MR & WP6
Flow of Funds	PDR-MR & WP2
Bank Accounts	PDR-MR & WP2
Disbursement Procedures	PDR-MR & WP2
Audit Processes	PDR-MR & WP2
Financial Statements	PDR-MR & WP2
Closure & Completion	PDR-MR & WP2
Annual Work Plan & Budget	to be completed by EOF
Procurement & Contracting	
Procurement Procedures	PDR-MR & WP2
Procurement Plan (18 months)	PDR-MR & WP2
Targeting & Gender Mainstreaming	PDR-MR & WP1
PART C: M&E, REPORTING, SUPERVISION	
Monitoring & Evaluation	PDR-MR
RIMS Processes and Indicators	PDR-MR
Programme Logframe	PDR-MR
Progress Reporting	PDR-MR
Direct Supervision	PDR-MR & WP2
Mid-Term Review	PDR-MR
Project Completion Report	PDR-MR
Sustainability	PDR-MR

3. Key sections of the PIM are contained in the following Appendices. These and other sections are also contained in the Main Report and Working Papers, as referenced in the table above.

Appendix 1:	Selection Process for Exporters/Processors
Appendix 2:	Settlements Selection Process
Appendix 3:	Procedure for Equity Participation in Microfinance Bank/Institution
Appendix 4:	Financial Management
Appendix 5:	Procurement & Contracting
Appendix 6:	Procurement Plan (18 months)
Appendix 7:	EOF Organigramme
Appendix 8:	References/Locations for Staff Terms of Reference
Appendix 9:	Monitoring & Evaluation
Appendix 10:	Programme Supervision

4. The Annual Work Plan and Budget for PY1 will be completed by EOF personnel, with IFAD support as required, during the programme's initial phases.

ANNEX 4 - APPENDIX 1
SELECTION PROCESS FOR EXPORTERS/PROCESSORS

1. Processors/exporters will be selected based on a 'call for proposals' issued and managed by the EOF. A maximum of eight processors/exporters will be selected by the EOF for each value chain, for a total of up to 24 participating exporters/processors. The selection criteria will include:

- Location: the location, poverty status and water availability of settlements from which they purchase commodities directly from producers.
- Poverty: proportion of smallholders and poor households within these settlements.
- Transparency: transparency in their purchase pricing and transactions procedures.
- Contracting: their willingness to enter into contracts with PAs, and to transfer to PAs a substantial portion of incremental value resulting from the improvement of production.
- Staff: their willingness to recruit and pay for supply chain managers (initially cost-shared with the programme).

2. The selection process will be carried out by the EOF Management Board. Prior to final selection, the PA mobilizers will visit each proposed settlement to analyse and verify the poverty status. Once the selection process is completed, each selected exporter/processor will sign a Memorandum of Understanding (MOU) with the EOF which describes the roles and responsibilities of all partners. The MOU will cover the following aspects:

- the exporter/processor will recruit a supply chain manager who will provide technical assistance to coffee/honey/horticulture producers.
- the exporter/processor will cost-share the supply chain manager with the programme (the programme's share will reduce every year to reach 0% by year 5).
- the exporter/processor will enter into firm agreements with producers (contract farming agreement, or tripartite agreement including a microfinance institution).
- the EOF will support producers by investing in producers' associations, executing specific economic infrastructure works to enhance water conservation and use efficiency, and organising rural financial services for investment and working capital purposes.
- the exporter/processor will revise the purchase price from producers to account for the improvement in quality and quantity of coffee/horticulture produced by the PAs.

3. An MOU will be signed by the EOF Board of Directors with each selected exporter/processor for the duration of the programme. An evaluation of contractual performance will be organised annually, involving producers, supply chain managers, exporters/processors, and the EOF. This evaluation will consist of a focus group discussion and changes in selected indicators between contract signature and the date of the evaluation. The indicators include: changes in the price received by producers for their output; changes in the quality and quantity produced (for each producer and for the whole settlement); number of days spent by supply chain managers in the settlement; the adoption rate for drip irrigation; the savings in water use (for each producer and for the whole settlement); the number of PA members; and, the increase in revenues for the whole settlement and the average increase for each producer.

4. In case of negative performance evaluation of the exporter/processor and/or supply chain managers, the EOF may terminate the cost-sharing arrangements for the supply chain managers.

ANNEX 4 - APPENDIX 2
SETTLEMENTS SELECTION PROCESS

1. Settlements will be selected in the eight programme governorates, namely Abyan, Amran, Dhamar, Hodeidah, Ibb, Lahj, Sana'a and Taiz. The general principles for selection of participating settlements are: (i) the selection process is driven by coffee production, water availability, and poverty; (ii) settlements should be in mountainous regions (typically above 1,000 m) where household farm sizes average 0.4 ha and annual household incomes average USD 770, qualifying them as poor under any circumstances; (iii) individual farmers should be willing to adopt and install on-farm drip irrigation, to justify programme investment in off-farm irrigation infrastructure.

2. While all households residing in the selected settlements, regardless of their poverty status, will benefit from water infrastructure development, the programme will focus on primary producers for coffee activities and on women and the youth for investments in mobile honey production, protected horticulture and rural businesses.

3. The actual settlement selection processes will differ slightly for the programme's first year and subsequent years. These two processes are outlined in below.

Selection Process for Settlements – Programme Year 1

Step 1: List of eligible settlements

Outcome: List of 25 eligible settlements

Methodology:

a) long list of potential settlements provided by selected exporters/processors from which they purchase coffee and which face problems of low productivity, low quality and poverty;
b) visit to settlements organized by exporters/processors;
c) checking all potential settlements against eligibility criteria:
- mountain settlement: altitude between 1 000 and 1 900 m
- existing water source for irrigation with low efficiency e.g. 50% or less
- area under coffee production: > 50% of total area cultivated
- number of households: < 80 households
- average size of household's plot: < 0.4 ha
- average size of household's coffee plot: < 0.3 ha
- social cohesion and adoption capacity: willingness to form a PA; to engage in contract farming; to adopt drip irrigation; to operate the irrigation scheme and on-farm system.

Responsibility: EOF PAM

Step 2: Definitive list of settlements

Outcome: List of 16 settlements to be included in PY1 AWPB *1/*

Methodology:

a) **Technical pre-feasibility** study carried out by EOF LDE while EOF PAM will collect information regarding evaluation of the monetized villagers' contribution (typically consisting of: provision of water meters the cost of which would be shared by the PA members based on the size of the holdings; land for the construction of the facilities and, labour for erosion protection works). Only projects with an estimated cost of contracted civil works under USD 200 000 (excluding taxes) would be further processed. The technical report would also include an assessment on the viability of O&M arrangements proposed by the PA.
b) For settlements passing the technical pre-feasibility study: **environmental study** carried out by EOF LDE (even when not specifically required by national laws) assessing (i) in the case of micro-dams, the impact on downstream users and on the site due to access of heavy duty equipment, quarrying and disposal of debris and, (ii) in the case of continued reliance on existing wells or boreholes, the reliability of the source and the risk of additional withdrawals in connection with potential shifts in land use. The findings of the environmental study will constitute an integral part of the technical pre-feasibility report; investments showing non-negligible impacts on natural resources and failing to address the environmental issues with adequate mitigation measures will be rejected;
c) For settlements passing the environmental study; **financial viability study** carried out by EOF VCM assisted by EOF LDE and EOF PAM inclusive of the on-farm equipment, based on realistic assumptions for yield increases, adoption rate, provision of credit through PFIs and beneficiaries in-kind contribution. The study will include a calculation of the IRR. Only investments in irrigation infrastructure with a calculated IRR above 16% over a period of 10 years will be considered.

Settlements Selection Process – Programme Years 2-4

Step 1: **List of eligible settlements**

Outcome: List of 61 eligible settlements for PY2; 67 for PY3 and 45 for PY4.

Methodology:

a) visit to settlements adjacent to settlements selected during PY1;
b) checking all visited settlements against eligibility criteria;

- mountain settlement: altitude between 1 000 and 1 900 m
- existing water source for irrigation with low efficiency e.g. 50% or less
- area under coffee production: > 50% of total area cultivated
- number of households: < 80 households
- average size of household's plot: < 0.4 ha
- average size of household's coffee plot: < 0.3 ha
- social cohesion and adoption capacity: willingness to form a PA; to engage in contract farming; to adopt drip irrigation; to operate the irrigation scheme and on-farm system.

Responsibility: EOF MTs supervised by EOF PAM and assisted by exporters/processors

Step 2: **Definitive list of settlements**

Outcome: List of 42 settlements to be included in PY2 AWPB; 45 in PY3 and 30 in PY4 *1/*

Methodology: Same as that for step 2 of PY 1 (above)

1. If, after all studies, more settlements are eligible than the projected number, settlements in excess will be transferred to the following year AWPB (except at the end of PY4).

4. **Endorsement.** Final endorsement of settlement proposals would be carried out by the EOF Board of Directors. Based on the results of steps 1 and 2, the EOF lead design engineer will prepare an annual investment plan to be submitted to the EOF Management Board for inclusion in the AWPB following CEO approval. The AWPB will be submitted to the EOF Board for final approval subject to each financier's concurrence. Any settlements rejected in Step 2 of the process will still be eligible for mobile honey production and the development of rural businesses.

ANNEX 4 - APPENDIX 3
PROCEDURE FOR EQUITY PARTICIPATION IN A MICROFINANCE BANK/INSTITUTION

1. Equity participation is subject to effective and legal creation of the EOF. This will constitute a condition for IFAD disbursement, and it is expected that the EOF will be created by mid-2010. The shareholder's current account deposit is also linked to equity participation and the creation of EOF.

2. Once the EOF is established, and prior to equity participation and deposit in the shareholder's current account, the EOF will verbally express its interest to take 10% equity participation in the share capital of the Al-Amal Bank. Upon positive answer from the Al-Amal Board[15], a thorough due diligence exercise will be carried out by the EOF Rural Finance Manager (EOF RFM) on the Al-Amal Bank. The EOF RFM will be assisted by contracted consultants. Due diligence is a comprehensive and exhaustive analysis of the business of the company.

3. The aim of due diligence is to confirm the validity and integrity of all financial and accounting documents of the company. Due diligence is a vital procedure in mergers and acquisitions as well as in public offerings. It will allow the EOF to gain a deeper understanding of the management and operations of the microfinance bank. The due diligence exercise includes review of the institution's documented policies and procedures, and numerous interviews with senior management as well as bank staff. In undertaking the exercise, the EOF RFM will also meet with local legal counsel, tax experts, and the Central Bank of Yemen regulatory body.

4. The due diligence exercise typically focuses on the following key areas:

- ***Management and Board.*** The most important element of an investor due diligence is the EOF assessment of the quality of management and staff of the microfinance bank. Through interviews and discussions, the EOF will attempt to gauge the mission, qualifications, and overall attitude of the staff and will seek to understand the current governance structure and nature of those sponsoring the transformation.
- ***Financial.*** The financial analysis includes a thorough review of the microfinance bank's historical and projected financial position, including earnings potential, operating efficiency, portfolio quality, capital adequacy, and liquidity.
- ***Market.*** Through conversations with the microfinance bank's senior management team and research and development unit (if any), as well as through third-party sources, the EOF will evaluate the supply and demand for microfinance services in Yemen and will analyze the adequacy between services and products offered by the microfinance bank and market d0emand.
- ***Economic and political.*** The stability of the economy (currency, inflation, etc) and the government are key factors in any due diligence exercise. EOF will likely to assess the private investment climate in Yemen and any recent political developments, and review the relevant regulatory framework and government policy specifically with respect to interest rate ceilings and foreign exchange policies and risks.
- ***Legal and tax.*** Analysis of the legal and tax framework will include, among others, the requirements regarding share purchase and sales, the tax treatment of payments of interests and dividends (including applicable withholdings), the rules for determining capital gains, the statutory rights of minority shareholders, and litigation norms.

5. The EOF RFM will also: (i) evaluate the Al-Amal Bank MIS in order to ensure that transparent information about its social performance is accurate and timely delivered; and (ii) ensure that Al-Amal Bank has signed or will sign the Client Protection Principles in microfinance.

6. Upon positive assessment, the EOF will buy 10% equity in the share capital of the Al-Amal Bank and process a deposit in its shareholder's current account. During the first Al-Amal Bank

[15] Al-Amal Bank bylaws will have to be modified as the company is a closed company created by a specific law. This will be possible once all shareholders of Al-Amal Bank have agreed on either an increase in the share capital of the Bank or to sell part of their equity participation to the EOF and once the Law has been modified by the Parliament. A General Assembly will meet after Parliament's approval of the amendment of the Al-Amal Microfinance Law to approve the decision of the Board of Directors. Only after the approval from the General Assembly, can the EOF become a shareholder of Al-Amal Bank.

Board meeting after the change in its share capital, the EOF CEO will communicate to the Bank the maximum amount of deposit that the EOF will make from programme funds. This amount will not exceed USD 7.0 million for the 6 years of the Economic Opportunities Programme.

7. The disbursement of these funds will be processed semi-annually based on the estimated demand for loans/leasing from the programme's target population and the incremental financing requirement to finance this demand. Disbursements of subsequent tranches will also be subject to: (i) minimum repayment rate of 97%; (ii) minimum of 35% of women borrowers; (iii) terms and conditions of loans extended by Al-Amal Bank from the programme refinancing should be similar to terms and conditions of similar loans financed from other sources; (iv) increase in savings and deposits mobilized; (v) accurate and timely information on loans extended. The demand for additional funds to be deposited in the EOF current account will be issued by the Management Board of Al–Amal Bank, approved by its Board of Directors and then submitted to the EOF CEO. The transfer of funds from the EOF to the current account should be processed within 10 days of receipt of the demand.

8. The EOF RFM will be authorized by the Bank to proceed with random controls and checks on the files of loans extended by the Bank financed from the current account. Such spot checks and controls will be carried out on quarterly basis, and the results of will be summarized in a report submitted to the EOF CEO and the Al-Amal Bank Management Board.

9. Interests paid by the Al-Amal Bank will be calculated on the effective amount deposited in the current account. An EOF revolving fund will be set up at the level of the Al-Amal Bank with the repayments from target beneficiaries, and will be used for further on-lending to the same target population.

10. The equity participation will be used to finance part of the development costs of the rural network extension of the Al-Amal Bank in the programme areas. This rural extension will not only be in the form of 'brick and mortar' branches but may also include village bank intermediaries, mobile banks and phone banking mechanisms.

11. The deposit in the shareholders' current account will be used to lend to programme target beneficiaries. This deposit will have no maturity date and will bear an interest rate set at LIBOR plus 3.25 points per annum (currently the interest rate would be equal to 4.00%).

12. The Al-Amal Bank's on-lending activity will consist of: (i) Islamic short- and medium-term loans to individuals or joint-liable groups for investments (medium-term loans) and working capital (short-term loans) at the same financial conditions as those applied by the Bank for similar loans; (ii) Islamic leasing especially for investments. Traditional lending products may also be extended by the Bank (if required). The terms and conditions of loans and leasing instruments to the target beneficiaries will be determined by the Bank in line with its current procedures and financial conditions (including the loan appraisal process).

ANNEX 4 - APPENDIX 4
FINANCIAL MANAGEMENT

Bank Accounts

1. The EOF's financial management procedures are described below and will be detailed in the Government decree establishing the EOF.

2. ***Special Accounts.*** The EOF will open and maintain a separate Special Account for the funds of each external financier. These Special Accounts in hard currency will be opened in commercial banks acceptable to the respective financiers. The EOF Chief Executive Officer and Chief Financial Officer will be authorised to operate the Special Accounts. These Accounts will receive advance liquidity from the financiers and will be utilised to effect hard currency payments to contractors, suppliers and service providers, and to pre-finance local currency EOF Operating Accounts for each financier. The authorised allocations for the respective Special Accounts will be set at a sufficiently high level in light of the expected pattern of expenditures, withdrawal application processing timeframes and costs, and the need to ensure sufficient EOF liquidity and financial efficiency. The Special Account for IFAD resources will amount to at least USD 2.0 million.

3. ***EOF Operating Accounts.*** The EOF will open and maintain separate Operating Accounts for the funds of each financier. These Accounts in YER will be established in commercial banks acceptable to the respective financiers. The EOF Chief Executive Officer and Chief Finance Officer will be authorised to operate the Accounts. These Accounts will receive advance liquidity from the respective Special Accounts and will be utilised to effect YER payments for contractors, suppliers, and service providers, and for operating costs. The ceilings for the respective Operating Accounts will also be set at sufficiently high levels to enable the EOF to operate rapidly and effectively.

4. ***EOF Revolving Fund Account.*** The EOF will open and maintain a Revolving Fund Account in YER in a commercial bank acceptable to IFAD. This Account will be used to transfer funds to participating financial institutions for the purposes of purchasing equity, financing the shareholder's current account, and providing institutional development loans (bank infrastructure, TA, training). Interest reflows to this Account will be used to partly cover EOF recurrent costs (after programme completion).

Accounting Systems and Audit

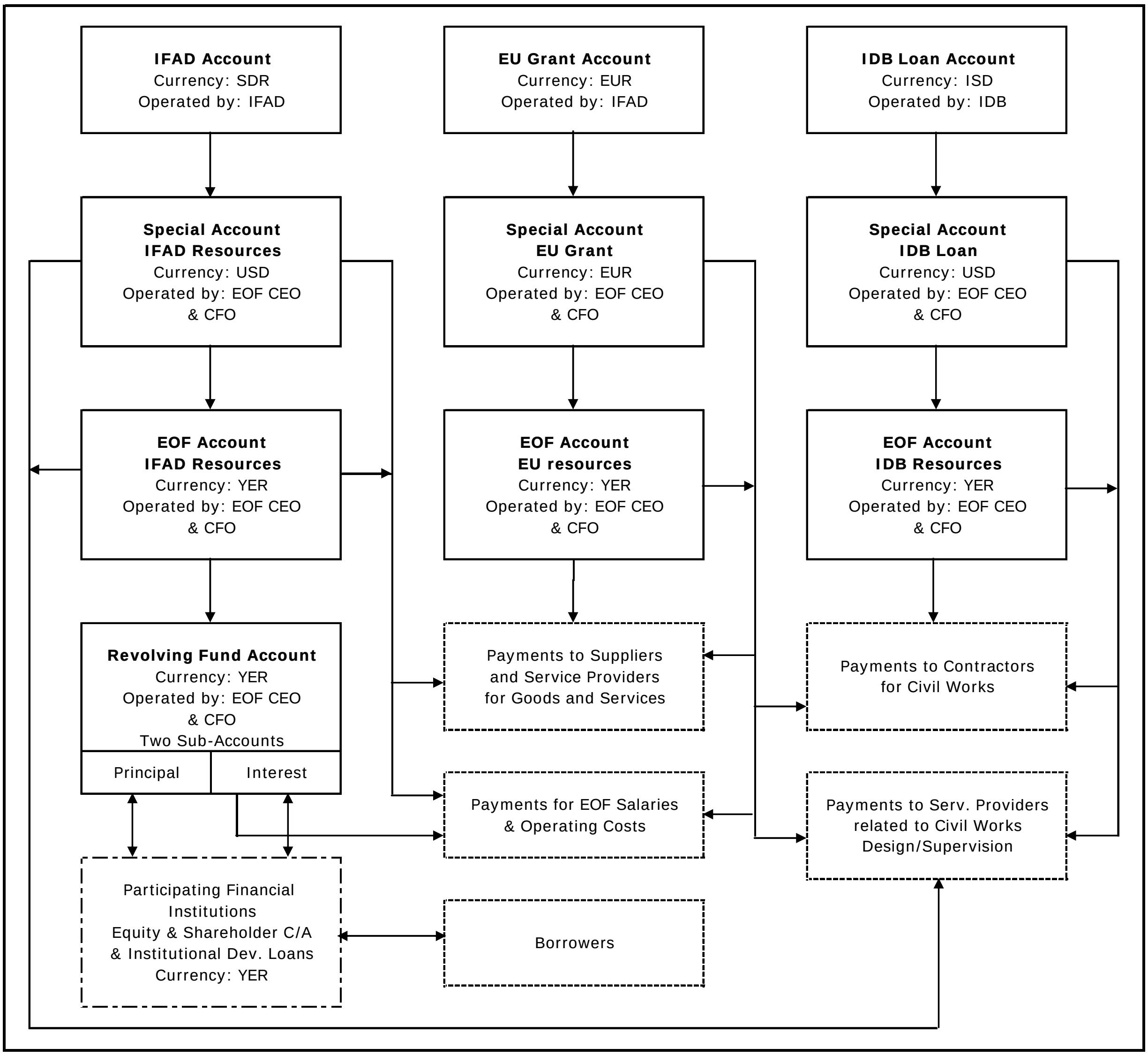
5. ***Accounting Systems.*** The EOF will adopt accounting systems consistent with international accounting standards and principles and Government requirements. It will be responsible and accountable to Government and financiers for proper use of funds in line with the respective legal agreements. The EOF will provide quarterly financial reports to the financiers as well as annual financial statements to all partners within two months of the end of each fiscal year.

6. ***Audit.*** The EOF will appoint independent auditors on annual basis, subject to financiers' prior review, to audit the programme accounts and financial statements for each fiscal year. The selection of the auditor and the audit process itself will comply with *IFAD's Guidelines for Project Audits*, the requirements of co-financier(s), and international auditing standards. The audit report will contain a management letter addressing the adequacy of the accounting and internal control systems, and will provide separate opinions on financial statements, sources and uses of funds, certified statements of expenditure, and operation of Special Accounts. Audit reports will be submitted to Government and financiers within six months of the end of each fiscal year. In addition, each cofinancier will finance an annual audit specifically related to the use of its funds. The conclusions of each audit will be communicated to EOF Board as well as to other financiers.

Flow of Funds

7. The flow of funds under the programme is presented in the diagramme below.

EOP – Flow of Funds Diagramme



ANNEX 4 - APPENDIX 5
PROCUREMENT AND CONTRACTING

1. **Goods, Works and Services.** The procurement of goods, works and services will be carried out by the EOF in line with IFAD's *Procurement Guidelines* or the guidelines of co-financiers as appropriate. All goods, works and services procured will be exempt from duties and taxes.

2. Civil Works. All contracts for engineering design, supervision and civil works under the programme will be financed by the IDB and EU; it is not expected that any contract will exceed USD 225,000 (excluding taxes). Contracts financed by IDB will be governed by IDB's *Procurement Guidelines*, while those financed by EU will be governed by IFAD's *Procurement Guidelines*. Two pre-qualification exercises (for engineering consulting and for contractors) will be conducted at the outset of the programme and will be repeated every two years, to develop long-lists of prequalified engineering design companies and civil works contractors respectively. Both prequalification processes will be completed by the EOF Management Board on the basis of pre-determined eligibility criteria such as location, experience and capacity. Three to six pre-qualified firms will be invited to bid for each engineering design, supervision or civil works contract. Contracts will be awarded to bidders who are responsive to tender documents and offer the lowest evaluated costs.

3. Goods. Contracts for procurement of goods costing USD 250 000 or more will be awarded based on international competitive bidding; those costing USD 10 000 or more but less than USD 250 000 will be based on national competitive bidding; while those costing less than USD 10 000 will be based on national shopping.

4. Services. Contracts for procurement of contractual services costing USD 10 000 or more will be awarded based on national competitive bidding; while those costing less than USD 10 000 will be based on local shopping. Contracts for procurement of individual consultancy or TA services costing USD 20 000 or more will be awarded based on international shopping; those costing USD 5 000 or more but less than USD 20 000 will be based on national shopping; and those costing less than USD 5 000 will be based on direct contracting. These financial thresholds may be adjusted, with prior IFAD approval, depending on the nature of the procurement action.

5. Procedure. The EOF will be responsible and accountable for executing procurement in compliance with the stipulated procedures of financiers and Government. The EOF bid evaluation committee will consist of EOF staff, and its composition will be determined depending on the nature of the contract. The CEO will be the signatory for all EOF contracts. The award of any contract estimated to cost more than USD 100 000 equivalent will be subject to prior review by IFAD in accordance with the provisions of the *Procurement Guidelines*.

6. Contracting. Contracts for civil works will be based on unit costs and bills of quantities, while contracts for services will be based on achievement of deliverables and compliance with milestones rather than based on inputs, to the extent feasible.

7. **Service Providers**. Programme activities will be managed by the EOF and implemented through contracted service providers. These will include public institutions such as the Yemen Standardisation and Metrology Organisation (YSMO) and Small and Medium Enterprise Promotion Service (SMEPS), and private sector entities such as PAs, processors, exporters, construction firms, microfinance institutions, commercial banks, and mobilization teams. Service providers will be either pre-selected or procured on the basis of IFAD (or cofinanciers) procurement guidelines.

8. Exporters/processors selection. Eight exporters/processors will be selected for each of the three commodity value chains by the EOF Management Board. Selection will be based on public announcement for expressions of interest and an evaluation process to measure the degree of compliance with stipulated eligibility criteria. Transparency in pricing, willingness to adopt contract farming, location of existing business relationships with small producers, and potential to enhance the incomes of small producers will constitute key eligibility criteria.

9. Mountain settlements selection. The 16 settlements which will participate in PY1 will be selected based on the process outlined in the main report. Selected exporters/processors will provide a long-list of settlements, in the eight governorates, from which they purchase coffee. Final selection will be undertaken by the EOF Management Board based on verified compliance with eligibility criteria and objective ranking. Eligibility criteria will include settlement poverty and

social cohesion indicators. In subsequent years, settlements will be selected in areas adjacent to the PY1 settlements in order to create synergies and maximise economies of scale.

10. Supply chain managers. The programme will assist each selected exporter/processor to recruit a supply chain manager to guide and supervise small producers in the selected settlements. The recruitment process will be advertised and competitive. The supply chain managers will support producers with: advisory services; specific skills training; support to enter into forward contracts; and, facilitation in accessing financial services. They will support processors/exporters to manage contracts with producers or their associations. The costs of these managers will be shared between exporters/processors and the programme (with a declining programme share). They will operate under the guidance and supervision of the exporters/processors and EOF value chain manager, and their performance will be periodically assessed by stakeholders.

11. Producers' associations. The programme will support small producers to create a new PAs, or will strengthen existing PAs, in each selected settlement. Capacity building support for association members will be carried out by mobilisation teams (6 teams of one woman and one man each) contracted by the EOF for up to 30 months; efforts will be made to recruit team members at an early stage of implementation. These mobilization teams will be guided and supervised by the EOF PA mobilizer and trained by consultants as appropriate.

12. Export promotion. The programme will contract an international specialised institution to develop the capacity of YSMO to maximise export competitiveness. The 'quality based selection' procedure for consultancy services will most likely be applied to procure the relevant institution.

13. Infrastructure. All contracts for engineering design, supervision and civil works will be financed by the IDB and EU. Two pre-qualification exercises (one for engineering consulting, the other for contractors) will be conducted at the outset of the programme, and repeated every two years, to develop long-lists of prequalified engineering design firms and civil works contractors respectively. Both prequalification processes will be executed by the EOF Management Board on the basis of pre-determined eligibility criteria such as location, experience and capacity. Three to six pre-qualified companies will be invited to bid for each engineering design, supervision or civil works contract. A bid evaluation committee will evaluate bids, and contracts will be awarded to bidders who are responsive to tender documents and who offer the lowest evaluated costs.

14. For each infrastructure facility, with operational support from the mobilisation teams, the EOF lead design engineer will discuss the proposed system layout with PAs to ensure agreement and future ownership, operation and maintenance. Once agreed, the EOF will issue the construction tenders. Three levels of supervision will be conducted during construction: the designer's supervision; daily on-site supervision executed by a contracted short-term field engineer, assisted by several PA members; the EOF lead construction engineer's supervision.

15. Microfinance. The EOF's equity participation in a licensed MFI will be negotiated between the EOF Board of Directors and the Board of the microfinance institution. It will be subject to a positive outcome of the due diligence exercise for the microfinance institution. The equity participation will also trigger the provision of deposit in a shareholder's current account, the interest rate of which will be negotiated between the two Boards. Capacity building and development of new products/ services for PFIs will be carried out by the EOF and contracted specialised institutions and/or consultants, procured based on IFAD's procurement guidelines for consulting services. Micro-insurance instruments will be designed and implemented based on a feasibility study carried out by an international expert, contracted by EOF in line with IFAD's 'quality based selection' procedures. The expert's findings and recommendations will be discussed at a workshop with the key stakeholders. The consultant will be supervised by the EOF rural finance manager.

ANNEX 4 - APPENDIX 6
PROCUREMENT PLAN (18 MONTHS)

1. The programme's 18-month procurement plan is detailed in the following tables, which indicate the required procurement actions for civil works, goods and equipment, and consultancy services. These plans have been developed to allow up-front planning and to ensure economy and efficiency in processing and the delivery of the "right" goods, works and services at the "right" time.

2. The assumptions used in the preparation of these procurement plans are as follows:

- to the extent feasible, goods have been bulked into annual procurement packages;
- goods, works and consultancy services are intended for ownership and use by the EOF
- procurement at community level is not detailed in this procurement plan as the need will be determined on participatory and demand-driven basis during the implementation of community sub-projects.

3. Similar items have been packaged together to avoid splitting of contracts to attain economies of scale and ensure efficiency and economy in the procurement process.

4. The procurement plan is based on the following concepts.

Reference	A unique reference for the procurement contract
Description	A description of the procurement contract
Estimated cost	This is the base cost and the expected physical and price contingencies for the procurement item.
Number of Packages	An estimate of the expected economical packages for the procurement items.
Procurement Method	The method of procurement as per the IFAD guidelines.
Start Date	The date the procurement has to be planned, including initial stages of establishing detailed requirements, preparation of bidding documents and gaining all the necessary approvals as Public Procurement Act.
Bid Opening Date	The expected date for opening of the bids.
Domestic Preference	Domestic preference will be applicable for all ICB contracts.
Prior Review	The award of any contract estimated to cost more than USD 100 000 equivalent, for whatever category of procurement, would be subject to prior review by IFAD in accordance with the provisions of the Procurement Guidelines.

1.a - WORKS : Economic infrastructure

Bid package ref. no.	Description	Unit	Quantity	Unit cost	Total Cost USD	Procurement Method	Prior review	Domestic preference	Start Date	Bid Opening Date	End Date	Responsible Entity	Remarks
	IDB Financing												
W1	**Works**	settl.	40	91 750	4 018 870	LS	N/a	Yes	Aug-2010	Oct-2010	Feb-2012	EOF	**NIF**
	sub-total				**4 018 870**								
	EU Financing												
W2	**Works**	settl.	18	91 750	1 801 280	NCB	N/a	Yes	Aug-2010	Oct-2010	Feb-2012	EOF	**NIF**
	sub-total				**1 801 280**								
	Total Civil Works				**5 820 150**								

Methods permitted by Loan Agreement

NCB **National Competitive Bidding**
LS **Local shopping (IDB procedures)**
NIF **Non IFAD Financing**

2 - GOODS AND EQUIPMENT

Bid pack ref.	Description	Unit	Quantity	Unit cost	Total Cost USD	Procur. Method	Prior review	Domestic preference	Start Date	Bid Opening Date	End Date	Responsible Entity	Remarks
	Vehicles												
G1	4WD double cabin		13	25 500	333 950	ICB	Yes	N/A	July-2010	Sep-2010	Dec- 2010	EOF	
	Station wagon		1	35 000	35 230								
	sub-total				**369 180**								
	Office Equipment & Furniture												
G2	Desk-top & peripherals	no	15	1 800	27 170	NCB	No	N/A	Aug-2010	Sep-2010	Nov-2010	EOF	
	Lap-top & peripherals	no	15	2 000	30 220	NCB	No	N/A	Aug-2010	Sep-2010	Nov-2010	EOF	
	GPS	no	2	300	600	LS	No	Yes	Aug-2010	Sep-2010	Nov-2010	EOF	
	Office Equipment	Lot	Lot		40 260	NCB	No	N/A	Aug-2010	Sep-2010	Nov-2010	EOF	
	Office Furniture	Lot	Lot		21 130	LS	No	Yes	Aug-2010	Sep-2010	Nov-2010	EOF	
	sub-total				**98 250**								
	Total Goods and Equipment				**467 430**								

Methods permitted by Loan Agreement

NCB **National Competitive Bidding**
ICB **International Competitive Bidding**

3 - CONSULTANCY SERVICES

Bid pack ref.	Description	Unit	Quantity	Unit cost USD	Total Cost USD	Nbr of bid packs	Selection Method	Prior Review	Domestic preference	Start Date	Technical Proposal Opening Date	End Date	Responsible Entity	Remarks
C1	**Value Chain Development**													
C1.1	Int. T.A. for Value chain development	P/M	2	20.000	40.260	1	ICB	yes		Aug- 2010	Oct-2010	June - 2011	EOF	
C1.2	Int. T.A. for Coffee & Honey standards	lp			130.360	1	ICB	yes		Aug- 2010	Oct-2010	June - 2012	EOF	
C1.3	Trade fairs & study tours	lp			228.130	1	ICB	yes		Aug- 2010	Oct-2010	June - 2012	EOF	
C1.4	Field Mobilisation Team	P/M	264	1.500	431.300	1	IC	No	Yes	Aug- 2010	N/a	June - 2012	EOF	
	sub-total				**830.050**									
C1.5	Training for PAs	settl.	74	100	8.200	1	CQ	yes	Yes	Aug- 2010	Oct-2010	June - 2012	EOF	
C1.6	Training for FMTs	session	1	41.000	43.260	1	QCBS	yes	Yes	Aug- 2010	Oct-2010	June - 2011	EOF	
C1.7	Refresher course for FMTs	session	2	9.000	19.600	1	CQ	yes	Yes	Aug- 2010	Oct-2010	June - 2012	EOF	
C1.8	Training for value chain improvement	lp			415.200	1	QCBS	yes	Yes	Aug- 2010	Oct-2010	June - 2012	EOF	
C1.9	Training for R&D	lp			158.300	1	QCBS	yes	Yes	Aug- 2010	Oct-2010	June - 2012	EOF	
C1.10	Training of YSMO	lp			153.950	1	QCBS	yes	Yes	Aug- 2010	Oct-2010	June - 2012	EOF	
C1.11	standards	lp			108.630	1	QCBS	yes		Aug- 2010	Oct-2010	June - 2012	EOF	
C1.12	catalogue	lp			37.240	1	QCBS	yes		Aug- 2010	Oct-2010	June - 2012	EOF	
C1.13	Establishment of Eas SPS contol system	lp			63.950	1	QCBS	yes		Aug- 2010	Oct-2010	June - 2012	EOF	
C1.14	Auditing & Accreditation of YSMO	contract			44.700	1	QCBS	yes		Nov-2010	Dec-2010	June - 2012	EOF	
C1.15	General training for SMEs	session	261	900	259.370	1	CQ	yes	Yes	Nov-2010	Dec-2010	June - 2012	EOF	
C1.16	Skill training	session	783	250	216.150	1	CQ	yes	Yes	Nov-2010	Dec-2010	June - 2012	EOF	
C1.17	Strategic marketing study	lp			116.700	1	QCBS	yes	Yes	Nov-2010	Dec-2010	June - 2012	EOF	
	sub-total				**1.645.250**									
	Total Component 1				**2.475.300**									

CONSULTANCY SERVICES (CONT.)

Bid pack ref.	Description	Unit	Quantity	Unit cost USD	Total Cost USD	Nbr of bid packs	Selection Method	Prior Review	Domestic preference	Start Date	Technical Proposal Opening Date	End Date	Responsible Entity	Remarks
C2	**Economic Infrastructure**													
C2.1	Feasibility studies	settl.	103	2.900	324.000	1	CQ		yes	Jan-2010	Jan-2010	Apr - 2010	EOF	
C2.2	Design & supervision (IDB)	settl.	40		263.680	1	LS	yes		Apr - 2010	May-2010	Aug - 2012	EOF	
C2.3	Design & supervision (EU)	settl.	18		73.280	1	QCBS	yes		Apr - 2010	May-2010	Aug - 2012	EOF	
	sub-total				**660.960**									
	Total Component 2				**660.960**									
C3	**Rural Finance**													
C3.1	Feasibility study & Workshop	lp			78.750	1	CQ		yes	Aug 2010	Sep-2010	Dec - 2010	EOF	
C3.2	International T.A.	P/M	7	20.000	102.000	1	ICB	yes		Aug 2010	Sep-2010	June - 2012	EOF	
C3.3	National T.A.	P/M	7	10.000	72.280	1	QCBS	yes		Aug 2010	Sep-2010	June - 2012	EOF	
C3.4	Implementation T.A.	lp			50.000	1	QCBS	yes		Aug 2011	Sep-2011	June - 2012	EOF	
	sub-total				**303.030**									
	Total Component 3				**303.030**									
C4	**Programme Coordination**													
C4.1	International T.A.	P/M	6	20.000	121.400	1	ICB	yes		Nov-2010	Dec - 2010	June - 2012	EOF	
	sub-total				**121.400**									
C4.2	Base line survey	survey	1	20.000	20.000	1	QCBS	yes		Nov-2010	Dec - 2010	June - 2011	EOF	
C4.3	Annual Audit	lp	2	25.000	51.860	1	QCBS	No		Jun - PY 1	Jul - PY 1	Jun - PY 3	EOF	
	sub-total				**71.860**									
	Total Component 4				**193.260**									
	TOTAL				**3.632.550**									

Methods permitted by Loan Agreement

QCBS	**Quality and Cost Based Selection**
CQ	**Consultants' Qualifications**
IC	**Individual Consultant**
ICB	**International Competitive Bidding**
LS	**Local Shopping (IDB procedures)**

ANNEX 4 - APPENDIX 7
EOF ORGANIGRAMME

1. The appointment of all key EOF staff is subject to IFAD 'no-objection'. Key positions include: Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Procurement Officer (CPO), Monitoring & Evaluation Officer (MEO), Value Chain Manager (VCM), Rural Finance Manager (RFM), Lead Design Engineer (LDE), Lead Construction Engineer (LCE), Producers' Associations Mobilizer (PAM), and Business Advisor (BA).

2. When selecting staff, recruitment will be conducted in a competitive and transparent manner, including advertisement in daily newspapers and other appropriate media to enable the EOF to select people by open competition.

3. **Organizational Structure.** The EOF structure will reflect programme components and requirements. It will consist of a CEO nominated by and responsible to the EOF Board of Directors for its daily management, and three offices reporting directly to the CEO:

- An ***Administration Office*** responsible for financial management, procurement and contracting, and monitoring and evaluation, headed by the CFO, directly responsible to the CEO and staffed with an accountant (financial management unit), a CPO (procurement and contracting unit) and a MEO (M&E unit). Drivers and additional support staff will also be included in that office (support unit);
- An ***Investment Office*** responsible for managing investments in value chain development, economic infrastructure, and financial institutions and services. It is sub-divided in three units whose managers are directly responsible to the CEO.
  - Value Chain Development Unit is managed by a VCM and includes a second value chain manager from PY3 onwards. It groups all investments/activities related to value chain development;
  - Infrastructure Unit is managed by the LDE seconded by the LCE. It groups all activities and investments related to economic infrastructure;
  - Financial Services Unit is managed by the RFM. It groups all investments/activities related to financial institutions and services.
- A ***Capacity Building Office*** responsible for mobilising PAs and organizing business advisory services for micro-entrepreneurs (mainly related to accounting, marketing, commercialization and quality control). The office will consist of two units: PAs Mobilization Unit managed by a PAM; and, Business Advisory Unit managed by a BA. Both managers will be responsible directly to the CEO. The Capacity Building Office also includes a small decentralized field office in the South which would coordinate activities in Lahej, Taiz, Ibb and Abyan. This Field Office is staffed with a Field Coordinator (FC) and a Field Business Advisor (FBA).

4. An internal audit service reports directly to the CEO. Its role consists of: a/ analysing and improving business processes and procedures; b/ ensuring internal checks and balances; c/ verifying the accuracy of financial reporting, and d/ ensuring compliance with laws and regulations. Recommendations from the Internal Auditor are implemented after being discussed at Management Board level and approved by the CEO. The Internal Auditor's reports and summary of implemented recommendations are then submitted to the EOF Board of Directors.

5. The EOF will have a maximum of 12-15 professional staff members at full development. As the quality of staff is of fundamental importance in determining the quality of EOF performance, staff will be closely monitored by the Board during the initial years of the programme. Additional staff may be recruited as required, particularly when incremental resources are mobilised.

6. **Recruitment procedures.** All staff members will be recruited on competitive basis in compliance with IFAD procurement guidelines, and will receive highly competitive performance-based salary levels similar to those paid by commercial banks.

7. Selection of the CEO will be carried out by the EOF Board of Directors in the presence of financiers' representatives (IFAD, IDB and EU). Unanimity of Board Members is required for the recruitment of the CEO. Financiers' representatives have a veto power but do not participate in the

vote. Once agreed on a candidate, the EOF Board will submit its evaluation report together with its conclusions and recommendations to financers for their 'no-objection'.

8. Selection of other key staff will be carried out by the EOF Board of Directors and the EOF CEO, in the presence of financiers' representatives. Simple majority is required for all recruitments, and financiers' representatives are vested with a veto power but no voting rights. Recruitments are subject to financiers' no-objection.

9. The recruitment of the internal auditor will be carried out by the CEO and CFO.

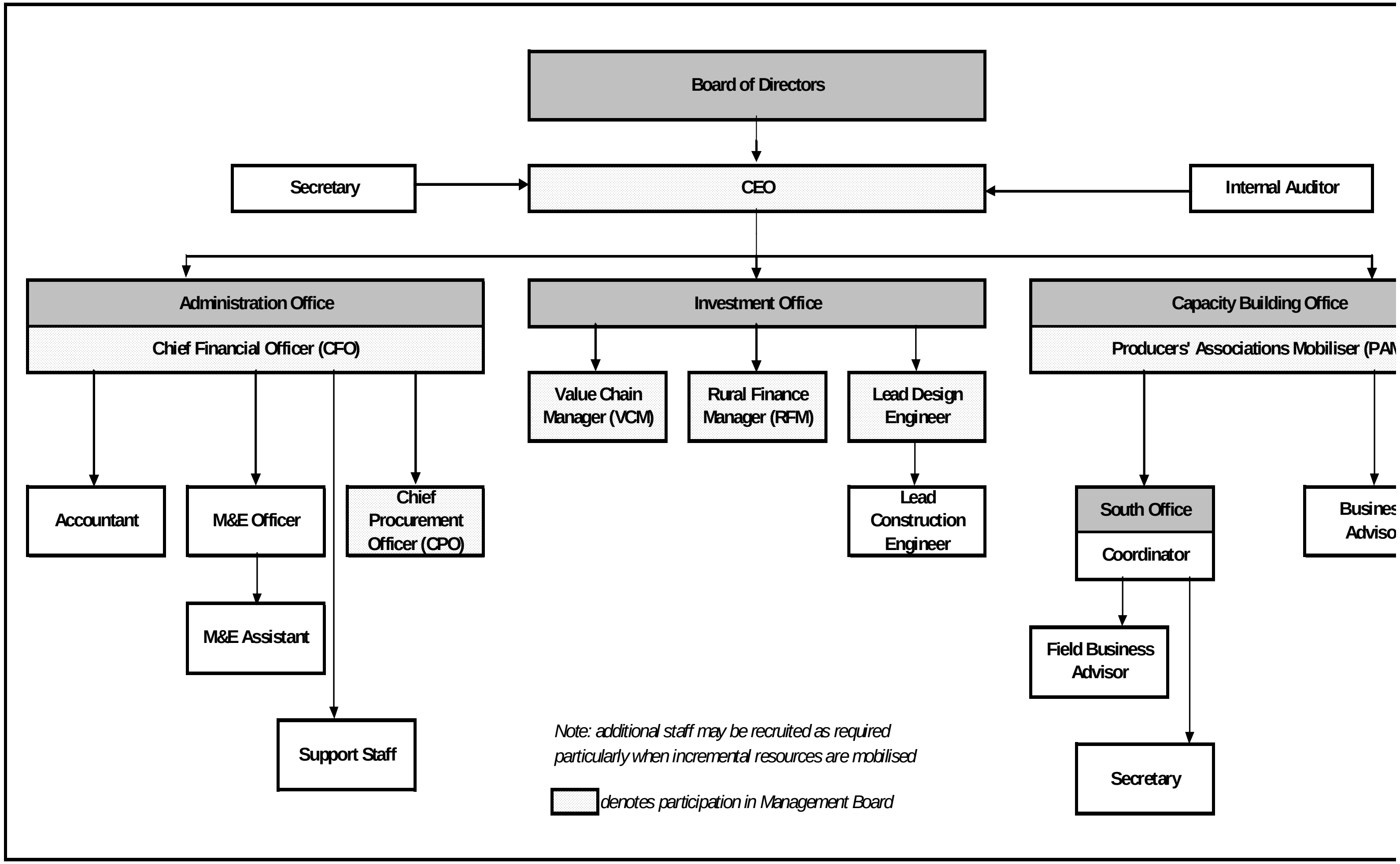
10. Recruitment of other EOF staff will be carried out by the manager of the respective office: accountant recruited by the CFO; assistant M&E officer by the MEO; and BA by the PAM. All recruitments will have to be confirmed by the CEO.

11. As for the South Field Office, its Coordinator will be recruited by the CEO, subject to the formal approval by the Board of Directors. Once recruited, the Coordinator will recruit the Field Business Advisor together with the PAM and BA from the Headquarters. These two recruitments are also subject to CEO approval.

12. The entire staff has to be recruited at programme effectiveness. All staff contracts will be for an initial 1-year probationary period, with the possibility of extension subject to satisfactory performance. EOF staff will be annually evaluated (staff by the office managers; office managers by the CEO, and the CEO by the Board of Directors) based on performance indicators. The contract of any staff member with a negative evaluation will be revoked or not renewed (in line with the Yemeni Law). However, any changes regarding the key management positions will be subject to the review and approval of financiers.

13. The EOF's organigramme is presented in the following figure.

EOF ORGANIGRAMME



ANNEX 4 - APPENDIX 8
REFERENCES/LOCATIONS FOR STAFF TERMS OF REFERENCE

1. The complete and detailed terms of reference for all managerial and staff positions under the programme have been prepared and are contained in the working papers. The specific position, and the location of its detailed terms of reference, is indicated below.

Working Paper 1: Field Mobilisation Teams

Working Paper 2: EOF Board of Directors

EOF Chief Executive Officer
EOF Chief Financial Officer
EOF Chief Procurement Officer
EOF Value Chain Manager
EOF Lead Design Engineer
EOF Lead Construction Engineer
EOF Rural Finance Manager
EOF Senior M&E Officer
EOF Assistant M&E Officer
Accountant

Working Paper 3: Coffee Supply Chain Manager

Honey Supply Chain Manager
Horticulture Supply Chain Manager

Working Paper 4: Field Engineer

ANNEX 4 - APPENDIX 9
MONITORING & EVALUATION

1. The M&E system will aim to ensure that the programme is implemented as planned, is effective, is producing the intended impact for beneficiaries, is relevant for, and prioritised by, the beneficiaries, and is able to identify the necessary corrections needed to keep progress on track. The system will be divided into two key inter-linked functions – progress monitoring and evaluation (impact assessment).

2. **Progress Monitoring**. This relates to the collection of qualitative and quantitative data on programme activities, inputs and outputs that can help programme management to self evaluate and improve performance. Progress monitoring will be undertaken by the EOF, by service providers, and by beneficiaries. It will involve the collection and processing of data on inputs and outputs, and the analysis and consolidation of data at Governorate and programme levels.

3. **Evaluation**. This relates to the regular review and evaluation of the performance, relevance and sustainability of programme activities and the changes occurring in beneficiary living standards. It will be undertaken through: regular data collection and analysis; special studies; beneficiary participatory assessment; and, preparation of the programme completion report.

4. **External M&E**. The programme will be externally monitored and evaluated by IFAD through various measures, including: annual IFAD supervision and follow up missions; RIMS impact surveys (at mid-term and completion); the Mid-Term Review exercise (at end-PY3 or beginning-PY4); the Programme Completion Report exercise; any thematic or diagnostic studies; and, annual independent audit exercises. Cofinanciers such as the IDB and EU will also evaluate the programme with focus on the use of their funds in compliance with the respective legal agreements. This may be achieved through participation in supervision missions and the mid-term review, and annual audit exercises.

The Operations of the M&E System

5. The responsibility for programme M&E activities will rest with the M&E Officer and assistant (MEOs) within the EOF. The MEOs will be under the supervision of, and will report directly to, the Chief Financial Officer. The M&E assistant will be responsible for collecting and initially analysing data gathered from service providers in each programme governorate on the basis of an agreed reporting format and timeframe. The MEO will provide support, consolidate and further analyse data, and prepare programme reports. All M&E activities will be based on the IFAD Guide for Project M&E.

6. At programme start up, the EOF will recruit an experienced international M&E consultant, with suitable qualifications and experience, for a short term contract (max. 2 months) to help develop a comprehensive M&E system, including indicators and reporting formats for service providers.

7. **Performance Questions and Indicators**. In line with the IFAD Guide for Project M&E and as part of the M&E system, performance indicators and means of verification are included in the design document and logical framework. The MEOs will have the opportunity (jointly with stakeholders) to examine them during the start-up workshop and modify them, if necessary, by framing appropriate performance questions and identifying the response indicators required. Each programme component and sub-component should be monitored at the progress and effect/impact levels.

8. **Rural Enterprise & Microfinance Development**. PFIs will be responsible for the monitoring of the portfolio financed through funds on-lent by the EOF either under the form of equity participation and shareholders' current account or in the form of credit lines, using their own systems. PFIs will report to the EOF and the Micro Finance Information (MiX) market. Particular attention will be paid to reporting on the percentage of target clients (by gender) able to access credit, the number and volume of loans (by gender) and the portfolio at risk. Specific focus will be placed on new products and services and the number of target beneficiaries having access to them.

9. **RIMS**. Since 2004, IFAD has promoted the 'Results and Impact Management System' as a standardised system of reporting results and impact which all IFAD-funded programmes must adhere to. RIMS is intended to measure programme results at the three levels of the logical framework concerned with outputs (level one), effects (level two) and impact (level three). It relies on specific indicators as instruments to measure results at each level. The programme's M&E system is designed to include appropriate RIMS indicators. IFAD requires each programme to report on RIMS indicators annually each March; there is a specific reporting format, and reports should be compiled from data contained in the M&E reports and sent to IFAD. All indicators utilised will be socially and gender sensitive and disaggregated by gender and socio-economic category to ensure that the programme is reaching its intended target beneficiaries.

10. **Participatory Monitoring**. The programme will seek feed-back from its intended beneficiaries to ascertain whether it is reaching them and delivering support which is effective, sustainable and effective. Participatory community based monitoring will be an important part of the overall M&E approach in generating as much learning as possible. Involving community members (at settlement or PA level) in identifying how they view and judge the programme activities and impact will be a valuable learning exercise for EOF staff and partners such as exporters/processors and PFIs. It will help settlements' populations to better understand the programme, and will help the programme to better appreciate their needs and expectations. It will also help other stakeholders to fine-tune services and products to the needs and expectations of the settlements' population, and will provide a foundation for a participatory approach to reviewing performance. Participatory monitoring will be organised by the EOF through: (i) on-going exchange of experiences among settlements' population, EOF staff and service providers; (ii) specific meetings to assess priorities, successes, failures and underlying reasons; and, (iii) annual assessment or annual reviews of activities and plans.

11. **Annual Participatory Assessments**. An annual meeting will be held in several settlements in each governorate as an opportunity for participatory M&E. This will commence about one year after programme effectiveness in the selected settlements, as an occasion in which to evaluate the past year's activities and to make necessary adjustments for the future. These meetings will be organized appropriately to promote maximum participation of beneficiaries, EOF staff, and service providers. The agenda for such meeting may include: (i) analysis of the successes, failures and problems of implementation of the previous year; (ii) discussion of the relevance of activities of the previous year, and recommendation on continuation, modification or abandonment; (iii) mutual assessment by the EOF and selected settlements in each governorate of their own and EOF staff performance, and recommendations for improvement; (iv) assessment of quality and quantity of work executed by each service provider, and recommendations for improvement; (v) proposal for new activities, and preliminary assessment of their relevance and their technical and financial feasibility; and, (vi) assessment of targeting of previous year activities and recommendations for improvement.

Establishment of the M&E System

12. **Start-up Workshop**. The programme will conduct, at its outset, a Start-up Workshop, with the aim of sensitizing EOF staff, service providers and beneficiary organizations regarding programme objectives and scope. At this workshop, the logical framework will be reviewed and M&E indicators defined. The workshop's timing and agenda will be agreed between Government and cofinanciers.

13. **Baseline Survey (BLS)**. As M&E is concerned with changes in the beneficiary situation over time, it involves making comparisons to assess changes taking place during the programme life. To facilitate this comparison, a BLS will be conducted by the EOF in selected settlements in each initial programme governorate to assess the physical and socio-economic status of the settlements and their households and to define their 'bench' status before the programme execution. The BLS will focus on collecting data related to indicators identified in design (as modified at the Start-up workshop). This survey will be undertaken in collaboration with an appropriate institution or consultant.

14. There will be two baseline surveys carried out at two different moments of the programme and aiming at two different beneficiary categories. The first baseline survey will consider at least one settlement in each initial programme governorate. In each such settlement, the survey will collect information related to the RIMS indicators for each household. During the lifetime of the programme and thereafter, it will be possible to measure the changes that have occurred in each

household of the settlement: (i) for those who are producing coffee, have adopted drip-irrigation, and are members of a PA; (ii) for those who are producing coffee but are not a PA member or have not adopted drip irrigation; (iii) for those who are not engaged in coffee production but have land; (iv) for those who have no access to land (either own or as sharecropper). It will be possible to measure the impact on revenues from various activities: (i) economic infrastructure for all households with access to land; and, (ii) value chain development activities for coffee and horticulture producers.

15. The second survey will consider the settlements that have been rejected during the settlements' selection process and where the programme will develop mobile honey production activities and small and micro-enterprises development activities. In the first two programme years, a baseline survey will be carried out in some settlements including households that are engaged in one of these activities, and control households that are not involved, as for comparison purposes. Data related to RIMS indicators will be collected once a household engages in honey or MSEs activities.

16. **Mid-Term Review**. The MTR will be undertaken at end-PY3 or beginning-PY4 to assess the progress, achievements and constraints of implementation and to provide recommendations for the remaining programme period. The MTR will review: (i) the implementation approach, effectiveness and performance of each programme component (value chain development, economic infrastructure, rural finance); and, (iv) the effectiveness of the EOF approach and implementation. Based on the MTR findings and recommendations, necessary adjustments will be made to the programme design and, eventually, to the legal agreement to remove constraints and achieve the programme objectives. The MTR will be carried out jointly by Government, IFAD and cofinanciers (at their request).

17. **Special Studies**. The EOF will coordinate and manage special studies to investigate problems or assess outcomes within and across components/sub-components. They will be undertaken by contracted international or local consultants. Special studies may include: (i) surveys and studies to determine adoption rates for technical packages; (ii) surveys and studies for export promotion activities; (iii) client satisfaction with services provided; (iv) studies for new PFI products and services.

18. **Programme Completion Report**. At the end of the programme a completion evaluation will be conducted, as an input into the PCR, through a formal survey undertaken by a neutral agency without previous involvement in implementation. It will examine the overall performance of the programme taking into account a broader and longer term perspective.

19. **Knowledge Management**. The IFAD Yemen team will organise annual national programme implementation workshops allowing programme staff, cofinanciers, partners and service providers to communicate and share lessons learned. The programme will also make substantial use of the on-going IFAD-supported regional network 'Knowledge Access in Rural Inter-Connected Areas (Karianet)' to learn from and share experiences with IFAD projects in the NENA.

20. **Supervision Arrangements**. The programme will be directly supervised by IFAD. Efforts will be made to coincide supervision missions with annual review workshops, to be scheduled by EOF towards the end of financial years, with the participation of stakeholders at national and governorate levels. Within IFAD, the Yemen country team will be responsible for supervising the programme. There will be one full supervision mission complemented by one follow up mission per year.

21. **Project Reporting System**. The reporting activity is the backbone of the project M&E system. The EOF will be responsible for operating a reporting system designed to track physical and financial performance and emerging impact. Three key reports will be produced: (i) a monthly progress report produced by each service provider and implementing partner; (ii) a semi-annual progress report; (iii) an annual progress report. Reporting arrangements will be finalised at the start up workshop.

M&E Indicators

22. The M&E indicators that will be used to monitor and evaluate the programme, in addition to the RIMS 1st and 2nd levels, are outlined below.

Component 1: Value Chain Development	
• Drip-irrigation adoption rate • Increase in coffee & horticulture production • Average yield increase/ha of coffee • Average 1st grade coffee produced • No. of economically sustainable beehives packages in production • Average yield/hive for honey	• No. sustainable high tunnels in production • Average yield per m² for horticulture prod. • No. of contract farming signed • No. of producers in contract farming • Increase in farm-gate price • Change in profit distribution • progress in the settlement poverty status
Export Promotion	
• Increase in commodity volumes certified • Increase in commodity volumes meeting health requirements and standards	• No. accreditations for certification granted to YSMO
MSEs Development	
• Increase in income and in tax paid to the local and national government	
Component 2 Economic Infrastructure	
• No. of infrastructure constructed • Area with improved irrigation conveyance • Population/HHs served by infrastructure • No. households obtaining credit for drip irrigation	• No. households obtaining credit for protected horticulture • Volume of water savings • No. infrastructure maintained after three years • Average price of water billed to user
Component 3 Rural Finance	
• Effective percentage of equity participation • No. and amount of loans extended • Outstanding amount • Repayment rate • No. of points of services implemented • No. of transactions recorded • Savings and deposits collected	• No. & amount of loans to non-beneficiaries • No. insurance contracts • No. & amount of pay-outs • Amount of premiums paid by borrowers • No. contract farming arrangements signed • No. & amount of leasing/leaseback contracts • No. PFI staff trained

RIMS indicators

23. The M&E system for IFAD-financed programmes is required to include among its M&E indicators the appropriate first, second and third level RIMS indicators (taken from the standard list compiled by IFAD) depending on the nature and scope of the programme. The inclusion of RIMS indicators in the M&E system will facilitate the computation and reporting on RIMS at the end of each year.

24. **First-Level Results**. First-level indicators measure quantitative financial and physical progress. First level results are reported annually starting from the end of PY1. They include:

<u>Total programme outreach</u>
- Households receiving programme services
- Individuals receiving programme services
- Households with improved assets ownership index

<u>Value chain improvement</u>
- Number of people accessing facilitated advisory services
- Staff of service providers trained
- People trained in value chain production practices and technologies

- Producers' associations formed and/or strengthened
- People in producer's associations
- Producers' associations with women in leadership position
- People trained in income generating activities
- People receiving vocational training
- People trained in business and entrepreneurship
- Enterprises accessing facilitated non-financial services
- Enterprises accessing facilitated financial services

Economic infrastructure
- People trained in infrastructure management
- Groups managing infrastructure formed and/or strengthened including NRM
- Groups managing infrastructure with women in leadership position
- Land under irrigation schemes constructed or rehabilitated
- Rainwater harvesting systems constructed or rehabilitated
- People trained in NRM

Rural financial services
- Financial institutions participating in the programme
- Staff of financial institutions trained
- Voluntary savers
- Value of voluntary savings
- Active borrowers
- Value of gross loan portfolio

25. **Second-level results**. Second-level indicators measure improved functionality or behavioural change, namely the effectiveness of interventions in terms of delivering the expected benefits and the likely sustainability of these benefits in the longer term. Second-level results are more qualitative and normally take longer to realize. They are therefore reported starting from mid-term. The actual ratings are reported in terms of effectiveness or sustainability, using a rating ranging from 6 (highly satisfactory) to 1 (highly unsatisfactory). The rating for effectiveness and sustainability is itself arrived at by analyzing a number of supporting indicators shown below, of which some are first-level RIMS indicators, some are part of the M&E system, and some are second-level indicators that can be reported when data becomes available. Effectiveness and sustainability ratings may also require data from special studies, surveys or existing secondary sources.

Value chain improvement
- Number of farmers reporting production/yield increase
- Number of farmers adopting recommended new technologies
- Number of jobs generated by micro- and small enterprises
- Number of enterprises operating after three years

Economic infrastructure
- Number of groups managing infrastructure operational/functional
- Percentage of delivered vs. required water
- Number of farmers with secure access to water resources
- Number of functioning infrastructure
- Hectares of land improved through soil/water conservation methods

Rural financial services
- Portfolio at risk
- Operational self-sufficiency
- Active borrowers/personnel
- Operating expenses ratio

26. **Third-level results**. Third-level indicators measure programme results or impact on the target beneficiaries (impact is the combined effects of the first- and second-level results). Third-level results are quantitative and measured at specific points during the programme life (e.g. at baseline, mid-term, completion). These results will be reported at mid-term and at completion by comparing data gathered from the baseline survey with data from repeat surveys at mid-tem and completion. The main indicators are as follows:

- Households with improvement in assets ownership index
- Households receiving programme services
- Households with increased income and improved food security

- Reduction in the prevalence of malnutrition for children (weight for age, height for age and weight for height)

Economic Infrastructure – Specific Considerations

27. National regulations. Infrastructure investments will be subject to the national legal framework for design approval, issuance of construction permits and environmental impact assessment. The latest updates of Environment Protection Law No. 26 of 1995 (EPL) define the thresholds and steps of the formal EIA, including public consultation and information disclosure. The EOF's PDE and LCE will be responsible for compliance with all relevant environmental and construction regulations.

28. Programme requirements. An environmental study (even if not specifically required by national laws) will be carried out as part of the technical feasibility study for: (i) all proposed micro-dams; (ii) all settlements that will continue relying on existing groundwater resources for irrigation. For micro-dams, the study will assess the impact on downstream users and on the site due to access of heavy duty equipment, quarrying and disposal of debris; in case of continued reliance on (existing) wells or boreholes, it will assess the reliability of the source and risk of additional withdrawals in connection with potential shifts in land use. The findings of the environmental study will constitute an integral part of the technical feasibility report; investments showing non-negligible impacts on natural resources and whereby adequate mitigation measures are not identified will be rejected. With specific reference to micro-dams, the detailed design will include a hydrological study on the recharge regime, vulnerability to droughts and effects of climate change, based on recent updates of rainfall scenarios.

29. Mitigation measures. The LDE will ensure that investments have in-built environmental enhancement features and that the technological mitigation measures identified in the environmental studies are included in the detailed design. The implementation of mitigation measures related to water management (training on use efficiency, IPM, salinity control and environmental monitoring at the PA level) will be carried out by mobilization teams and supply chain managers in the context of the respective social mobilization and value chain strengthening activities.

30. Monitoring. An evaluation of the actual benefit in terms of improved use of water resources due to the new or upgraded irrigation system will be carried out by the EOF engineers on all completed investments after one year of operation, in the context of issuance of the final completion certificate; periodic follow up in subsequent years would be carried out on a sample of investments (at least 20% of total) covering all types of infrastructure financed.

ANNEX 4 - APPENDIX 10
PROGRAMME SUPERVISION

1. The programme will be directly supervised by IFAD (and cofinanciers). Direct supervision will encompass three discrete processes: (i) loan administration; (ii) programme supervision; and, (iii) implementation support. Direct supervision will be perceived and applied as a continuous process which requires ongoing communication and engagement with Government and programme management.

2. Programme design will invariably be superseded by reality over time as a result of changing conditions, emerging operational experiences, political and macro-economic changes, exogenous developments and *force majeure*. The process of supervision will guide the programme towards the achievement of objectives and broader poverty reduction outcomes, while ensuring fiduciary compliance and responsiveness to the accountability framework. Several key instruments will be used to influence the direction of programme execution: ongoing policy dialogue with Government; adjustment of annual work plans and budgets; revision of implementation manuals; undertaking of supervision and mid terms review missions; and, legal amendments as appropriate.

3. The key supervision processes which will be applied are outlined below:

Loan administration: ensuring fiduciary compliance, with focus on:

- legal conditions;
- financial management;
- procurement and contracting.

Programme supervision: assessing implementation performance, with focus on:

- overall implementation performance and progress towards objectives;
- programme investments, activities and outputs;
- statutory requirements (AWPB, monitoring, reporting);
- steering, management, implementing institutions;
- targeting and gender mainstreaming.

Supporting implementation, programme level: with focus on:

- providing guidance towards achievement of objectives;
- supporting adaptation in response to evolving conditions;
- creating systems for sustainable flow of benefits;
- resolving operational issues and problems;
- generating lessons and articulating best practices.

Supporting implementation, country level: with focus on:

- introducing a broad programmatic view of development investments;
- influencing policy on the basis of operational experiences;
- developing systems and institutions for poverty reduction;
- facilitating financial and operational partnerships.

Supporting implementation, IFAD level: with focus on:

- generating knowledge and lessons;
- feeding operational lessons into new project design;
- creating innovative instruments, investments, pilot activities;
- enable portfolio restructuring to improve outcomes and results.

4. Supervision missions will be undertaken annually and complemented by short and focused follow up missions as appropriate. Supervision will be based on operational modalities and best practices developed by IFAD former Cooperating Institutions, in which the Yemen country team has substantial experience.

ANNEX 5: KEY FILES

Table 1: RURAL POVERTY AND AGRICULTURAL SECTOR ISSUES

Priority Areas	Affected Group	Major Issues	Actions Needed
Coffee production	Mostly very small holders (average holding 0.25 ha of coffee)	• Small holding sizes, low productivity, low incomes; • drought sensitive landraces; • low management standards; • lack of knowledge for improving yields; • limited possibility for supplementary irrigation from *wadi* flows; • danger of groundwater depletion; • inefficient use of existing water sources; • poorly designed dam schemes without command area conveyance systems; • lack of knowledge, finance to install drip irrigation; • very basic market linkages thus reducing incomes; • limited on-farm processing leading to low prices; • demoralisation due to low prices, frequent droughts and death of trees; • absence of quality control and branding.	• Training to improve quality and yields at farm level; • development of other income generating activities; • establish new extension mechanisms focusing on technology, improving marketability of produce; • improve access to inputs incl. drought resistant seedlings; • develop organic cultivation practices; • develop market linkages; • develop small water catchment facilities including water harvesting, on-farm storage tanks etc.; • improve irrigation management and efficiency; • control *wadi* flows for irrigation and recharge of water table; • provide credit to allow farmers to introduce drip irrigation; • support producers to form associations to improve negotiating positions and develop market based processing; • ensure producers' associations develop equitable mechanisms for water management of improved structures/networks; • develop certification and branding to prevent mixing with low quality beans at national and international market levels.
Honey production	Women and men beekeepers, most of whom own very few hives and are landless	• Lack of training; • lack of knowledge of modern bee keeping methods; • long mobility reduces accessibility for extension; • lack of finance to purchase hives and equipment; • lack of knowledge of diseases and cure; • mostly use informal marketing systems; • lack of trust in traders; fear of 'mixing' output; • low standards of processing and absence of processing and packaging equipment.	• Provide credit for purchase of modern hives, additional bees and processing equipment; • provide extension through processors/traders; • training in improved beekeeping, disease control, processing; • assist beekeepers organise in associations to improve their marketing and to invest in processing technology; • develop certification systems and high value brands.
Development of on and off-farm micro and small enterprises	Landless women and men, poor smallholder men and women whose farm income is insufficient to maintain HHs	• Lack of ability to identify suitable MSEs in their areas; • lack of capital to start or develop micro-enterprises; • lack of technical and management skills to operate successful micro-enterprises; • lack of access to credit to purchase equipment and operating costs.	• Develop technical and managerial skills to run MSEs; • support preparation of feasibility studies for local MSEs; • identify and organise technical, managerial and financial training for potential and existing micro entrepreneurs; • access the type of credit needed for such enterprises; • develop market linkages for these micro enterprises; • provide business services to MSEs to improve market position.
Natural Resource Management	Rural populations living (i) where terrace systems deteriorated; (ii) near *wadi* beds on rangelands	• Degradation of terrace systems leading to loss of soil cover and severely reduced agricultural land; • erosion of cultivable land due to *wadi* bank damage during flash floods; • deforestation through fuel wood and fodder collection, in particular loss of coffee trees.	• Rehabilitate terraces; • assist participants to identify sources of support and financing; • protect *wadi* banks; • establish water flow slowing mechanisms to improve ground water recharge.

Table 1: Rural Poverty and Agricultural Sector Issues (cont'd)

Priority Areas	Affected Group	Major Issues	Actions Needed
Rural Economic Infrastructure	All rural populations	• Inadequate water supply, road access, power supply; • lack of community ownership/management; hence sustainability of existing infrastructure low.	• Demand-focused investment in critical infrastructure, esp. for water supply, & community surface water retention structures; • community involvement in identification, planning, execution and management of rural infrastructure facilities; • advise and assist communities to access financial and other services to solve these problems.
Rural Finance	The rural poor	• CAC Bank increasingly operates as commercial bank; • lack of access to formal credit for women, landless, and landholders without formal written titles; • absence of banking culture among farmers; • limited informal credit systems, mainly from rich individuals, relatives or traders; • rural microfinance institutions recently created, with very limited rural outreach and experience; • insufficient rural outreach of commercial banks; • absence of diversified adapted products for rural and agricultural financing; • microfinance and commercial banks staff poorly trained in rural and agricultural financing; • microfinance banks have limited financial resources.	• Support Al Amal Bank and other MFIs to expand rural activities; assist them to develop mobile or part time facilities; • develop microfinance for men as well as women; • support new MFIs to develop savings windows; • improve understanding of MFIs and banks among the rural poor; assist to access financial services more effectively; • develop target group's confidence in financial institutions; • offer new loan products (e.g. leasing) as alternative to credit; • develop insurance products (weather index-based insurance); • analyse possibility to apply temporary risk-sharing instrument; • provide adequate training, capacity building, better MIS; • increase MFI financial resources with reasonable interest rate.
Gender	Rural women	• High degree of gender inequality; • very low level of female literacy; • women's role in agriculture ignored by extension and market institutions; • low skills of women in agriculture and processing; • women lack control over important farm assets; • micro-finance institutions do not manage savings, while credit available only in small amounts; • inadequate rural outreach of MFIs; • lack of skills in marketing and marketable products; • lack of knowledge of MSEs with good marketing potential, locally or beyond.	• Empower women in the rural economy; • increase women's skilled work in coffee growing, beekeeping, tunnel horticulture and micro enterprises; • provide technical, financial, managerial training for women; • improve domestic water supply; • improve women's access to financial and business services; • increase women's agriculture skills, empower them economically; • ensure women have access to savings and credit from MFIs; • provide women with business services to increase the likelihood of success of their enterprises; • involve women in management bodies of associations, to allow them to learn and participate.

Table 2: ORGANISATION CAPABILITIES MATRIX

Organisation	Strengths	Weaknesses	Opportunities/Threats	Remarks
Enablers				
Yemen Coffee Association (YCA)	• Keen interest to develop coffee sector; • important exporters are members.	• No experience in running an association; • no technical expertise on coffee classification to obtain premium price for Yemeni coffee; • lack of knowledge on international registration of brand names critical for export.	• With limited assistance, YCA can take lead in Yemeni coffee classification, in collaboration with YSMO, PGI and ACTL; • the YCA can also take the lead to develop transparent marketing systems.	• YCA should be supported to take lead role in developing the coffee sector.
Yemen Honey Association (YHA)	• Members interested to develop honey sub-sector.	• No experience in running an association; • no technical expertise on honey classification to obtain premium price for Yemeni honey.	• With limited assistance, YHA can take lead in Yemeni honey classification, in collaboration with YSMO; • the YHA can also take the lead to develop transparent marketing systems.	
Yemen Horticulture Exporters Association (YHEA)	• Members have experience in exporting; • has necessary cold storage/pack-house infrastructure.	• Lacks knowledge on many key issues related to export; • lacks efficient administration and organisational management.	• With TA the YHEA could: develop out-grower systems to bulk output for export; build technological capacity of out-growers; manage market information and technical knowledge for exporters; share knowledge of quality standards in fresh produce markets.	
Ministry of Agriculture and Irrigation (MAI)	• Programme implementation experience	• Physical rather than financial mindset; • overstaffed; lacking operational budget; • limited management/execution capacity; • inadequate post harvest knowledge.	• Offers possibility to disseminate programme-supported technology widely.	
Agricultural Research and Extension Authority (AREA)	• Qualified research staff with some relevant experience.	• Research not connected to market demand; • lack of system for information flow between farmers and extension; • insufficient overall direction; • lack of operating funds.	• New strategy focuses on high returns to water, market demand and economic aspects; • increasing interaction with farming community and extension.	• Under restructuring; • performance to be closely monitored to ensure relevance for farmers.

Table 2: Organization Capabilities Matrix (cont'd)

Organisation	Strengths	Weaknesses	Opportunities/Threats	
Service Providers				
Agriculture and Fisheries Prod. Promotion Fund (AFPPF)	• Well funded.	• Transparency limited; • no field presence; • weak community involvement; • political interference.	• Co-financing of programme activities	• Should publicise capacities and involve communities.
Agricultural Corporation's Tissue Laboratory (ACTL)	• Qualified & motivated core staff; • very well equipped laboratory; • dedicated manager.	• Farmers unaware that lab develops and sell planting material; • over several hundred people employed, draining resources and management effort; • proceeds from sale of planting material and other services credited to treasury.	• With limited TA and financing of some equipment, the lab could also produce tissue culture for coffee and grapes.	
Plant Generic Institute, Sana'a University (PGI)	• Qualified research staff; • reasonable experience & capability; • good facilities for research.	• Traditional academic approach to problem solving; • lack of operating funds.	• With limited TA and funding for site selection/visits, PGI can classify coffee and conduct field selection of varieties, particularly rainfed and drought tolerant.	
YSMO	• Qualified core staff; • well equipped labs; • solid experience.	• Low pay of qualified staff; • over several hundred non qualified staff draining resources and management effort; • lack ISO 17025 accreditation for certification of residues of pesticides and antibiotic; • coffee/honey classification not established; • lack accreditation for HACCP/ISO certification • lack of accreditation for organic certification; • only allowed to retain 50% of earnings.	• With the present human capital and infrastructure it is relatively inexpensive to upgrade YSMO and enable it to issue certification for: HACCP; ISO standards related to food; coffee standards; honey standards; organic and export certification.	
Microfinance Institutions	• Women focus; • can mobilise savings/deposits; • supervised by Central Bank; • specific Microfinance Bank Law.	• Most MFIs are not financially sustainable; • most MFIs are urban based; • lack of resources to finance MFI growth and network expansion; • little diversification of loan products; • socially-oriented when implemented by SFD; • SFD MFIs not always following microfinance best practices; • new linkage with commercial banking sector.	• Can increase rural outreach if additional resources provided; • promising newcomers in microfinance sector (Al-Amal Bank; Tadamon Microfinance Inst.); • equity participation in pro-poor gender oriented MFI with membership at the Board to influence decisions and policies; • favourable legal environment (supervision by Central Bank, microfinance bank law).	• Many financiers ready to finance development, capacity building and outreach.

Table 3: COMPLEMENTARY FINANCIER INITIATIVE /PARTNERSHIP POTENTIAL

Donor/Agency	Nature of Project/Programme	Coverage	Status	Complementarity / Synergy Potential
World Bank (IDA)	*Groundwater and Soil Conservation Project*: Water use efficiency in groundwater irrigation; spate irrigation improvement; water harvesting and soil conservation in uplands; terrace rehabilitation and *wadi* bank protection.	countrywide	ongoing	Strong – IFAD-financed projects will harmonise execution modalities to prevent confusion for communities.
World Bank (IDA)	*Social Fund for Development III and IV*	countrywide	ongoing	Very strong – selected partner to execute productive rural development component; new phase under preparation.
World Bank (IDA)	*Rural Water Supply and Sanitation Project*	Ibb, Abyan, Hajja, Amran,	ongoing	Strong – potential partner for financing and executing drinking water schemes.
World Bank (IDA)	*Third Public Works Project*	countrywide	ongoing	Strong – potential partner to cooperate in funding rural infrastructure schemes.
World Bank (IDA)	*Water Sector Support Project*	countrywide	about to start	Will include water management activities through NWRA and with MAI
World Bank (IDA)	*Second Rural Access*	countrywide	ongoing	Strong – potential partner for construction of rural access roads.
World Bank (IDA)	*Second Vocational Training*	countrywide	ongoing	Strong – potential partner to cooperate in delivering and financing the training needs of enterprises
UNDP	*Promising Sectors Project*	countrywide	about to start	Moderate - agriculture, microfinance, MSEs; but mainly focusing on provision of TA.
European Union	Grant funds for rural roads and irrigation systems through counterpart funds linked to food aid	countrywide	ongoing	Strong – potential partner for funding and implementing fisheries and water development initiatives.
France	Part of proceeds of monetisation of food aid used to support coffee project with MAI	countrywide	ongoing	Very strong –potential financier for promotion of coffee value chain project
Agence Française de Développement and KfW				Very strong – Potential financial partner in Al-Amal bank share capital
Germany/GTZ	*Private Sector Development Project*	countrywide	Ongoing	Very strong – Advisory services and other non-financial services to MSEs
Germany/GTZ	Provision of technical assistance to the Microfinance sector and Al-Amal Bank in particular	countrywide	Ongoing	Very strong – Potential partner in the strengthening of microfinance sector
Germany/GTZ	IDAS 3 capacity building of community organizations in planning and skill development	Taiz, Ibb, al Baidha, Lahej, Abyan	completed	Lessons learned should be shared with other IFAD-financed projects.

Table 4: TARGET GROUP PRIORITY NEEDS AND PROGRAMME PROPOSALS

Typology	Poverty Levels And Causes	Coping Actions	Priority Needs	Programme Response
Smallholder coffee growers	• Small plot of land averaging 0.33 ha of which 0.24 allocated to coffee; • low yields; • high cost of water (irrigation through flooding, water pricing by hour rather than by volume); • sale of produce to intermediaries (agents/collectors) with low prices; • non-transparent relationship with processors (when existing); • absence of diversified demand to purchase production; • increase in food prices without increase in income; • former savings used for households needs; • substantial funds allocated to *qat* as proportion of household income.	• Shifting from coffee and/or other crops to *qat;* more profitable but using more water; • joining producers' associations; • men leaving the village for 6 months or more for wage labour.	• Access to regular and equitable irrigation water supply; • access to credit to finance on-farm drip irrigation & other investments; • access to improved market opportunities; • access to means and knowledge to add value to product on-farm; • technical packages/training for improved tree husbandry and water management; • better access to rural finance and markets; • institutional support to water users' and producers' associations; • better access to off farm income opportunities and employment.	• Construction/installation of water harvesting structures and piped conveyance systems to farm edge • development of efficient irrigation systems based on springs and existing wells; • provision of credit for installation of on-farm drip irrigation systems; • development of producers' associations which will also handle water management; • promotion of SMEs through training and provision of credit; • training in adding value and processing at farm level; • improvement in marketing and managerial skills; • promotion of microfinance and credit through MFIs and commercial banks.
Landless people & unemployed youth	• Lack of opportunities for income-generating activities and micro-businesses; • inadequate access to financial institutions; • lack of guarantee/collateral to obtain credit; • limited wage labour possibilities in villages; • absence of technical training; • limited income; • substantial funds allocated to *qat* as proportion of household income.	• Migration to cities for wage labour; • seasonal agricultural wage labour (planting, pruning, harvesting).	• Income earning opportunities; • access to working capital and assets to develop MSEs; • access to skills to establish new MSEs or work in existing MSEs; • access to micro and small loans; • training in technical, financial and managerial skills.	• Promotion of microfinance through MFIs; enhanced rural outreach; • providing insurance and guarantee schemes to encourage commercial banks to provide loans; • SME development through training and availability of business development services; • support to beekeepers through producer groups, training, credit and improved services; • provision of loans to rent land and start vegetable tunnel production; • skill and basic management training for a variety of MSEs.

Table 4: Target Group Priority Needs and Programme Proposals (cont'd)

Typology	Poverty Levels And Causes	Coping Actions	Priority Needs	Programme Response
Poor rural women and female headed households	• Limited number of activities for women; • food price increase, while incomes stagnant; • disparity with men's wages; • low yields; • high cost of water (irrigation through flooding and water pricing by hour rather than volume); • sale of produce to intermediaries (agents/collectors) with low prices; • high illiteracy rate; • high school drop-out rate; • restricted movement; • high fertility rate; • not involved in decision-making processes; • heavy workload on top of normal housekeeping.	• Joint-liability groups of women to access micro-loans from MFIs for income generating activities.	• Higher incomes to cover rises in cost of living and improve status within the household; • improved working conditions and wage rates for wage labourers; • increased income for work on family farms through adding value to coffee beans and better quality processing of honey; • access to MSEs (skills and ideas); • better access to rural finance and markets; • empowerment and better representation in producers' and other local associations.	• Provision of microfinance through MFIs, including savings facilities; • promotion of women's groups for microenterprises; • promotion of individual microenterprises; • training in marketable technical skills to establish MSEs or obtain skilled jobs in such enterprises; • training in financial and other management skills to improve success rate of MSEs; • training in coffee techniques including value added activities at farm level, to increase income for casual wage and family labour; • provision of business development services to assist in starting MSEs; • training in beekeeping, horticulture and other activities which increase wage income.

Table 5: STAKEHOLDER MATRIX / PROGRAMME ACTORS AND ROLES

Component	Sub-Component	Coverage	Perennial Institutions Involved	Potential Contractors/ Periodic Inputs	Other Possible Partners in Execution
Value Chain Development	Cluster development	• Formation of producers' association (PA); • Improved market relationship governance; • Capacity building of PA members; • Technical training to PA members; • Adoption of drip irrigation for increased yield.	• MFIs and commercial banks for investment and working capital loan/leasing/lease-back; • Agricultural Corporation's Tissue Laboratory; • Plant Genetic Institute, Sana'a University.	• Processors/exporters (VCCs); • Supply chain managers recruited by exporters/processors providing technical advisory services to producers; • Contract farming between VCCs and producers; • Mobilization teams recruited for PA formation and training of members.	AFD.
Value Chain Development	Export promotion	• Accreditation of YSMO for internationally accepted export standards and certification; • Niche market research and promotion.	• Yemeni Standardisation, Metrology and Quality Control Organisation.	• Technical assistance, audit and supervision by international company.	AFD.
Value Chain Development	MSEs promotion	• Advisory services to MSEs	• Small and Micro-enterprise Development Unit from SFD; • Private Sector Development Project from GTZ	• SFD, international and local consultants.	SFD.
Economic Infrastructure		• Rainwater harvesting infrastructure • Pipe conveyance system to field edge; • Storage tank.		• Engineering design firms; • Construction firms.	Department of Irrigation of MAI.
Rural Finance	Microfinance outreach	• Equity participation and deposit in shareholders' current account; • Loan for network expansion.	• Licensed microfinance banks/institutions.	• International and local audit firms and consultants.	Depends on licensing of any new MFIs.
Rural Finance	Rural PFI capacity building	• Development of new products; • Staff training; • Insurance products.	• Licensed microfinance banks/institutions; • Commercial banks; • Insurance companies.	• International and local consultants; • Arab Academy for Banking Institutions.	

ANNEX 6: ENVIRONMENTAL AND SOCIAL REVIEW NOTE

A. Introduction

1. The Environmental and Social Review Note (ESRN) for the Economic Opportunities Programme is prepared in line with IFAD's new Environmental and Social Assessment (ESA) Procedures (2009) on the basis of information gathered by the programme inception and design missions. The programme is not expected to have any significant negative environmental impact and is considered under environmental classification of Category B.

B. Description of Programme and Components

2. The programme's goal is to improve the economic status of poor rural women and men. Its objective is to create sustainable economic opportunities for poor women and men in the programme areas. Its outputs will be to stimulate the growth and technological improvement of selected value chains and rural business activities; promote linkages between producers' organizations and markets through contractual arrangements; promote compliance with quality and food safety standards; develop public economic infrastructure in support of selected value chains; expand the rural outreach of financial institutions and enhance access to sustainable rural financial services.

3. The programme is national in scope. Its geographical coverage is driven by the coffee value chain and will initially consist of mountain settlements where business relationships exist between poor coffee farmers and processors. It will subsequently expand to neighboring mountain settlements and support the creation of contractual arrangements for poor coffee farmers and the diversification of the rural economy through horticulture, honey production and micro-enterprises.

4. Programme interventions are organized in three technical components: (i) value chain development; (ii) economic infrastructure; (iii) rural finance. The programme will be managed by the Economic Opportunities Fund (EOF).

5. **Value Chain Development.** The component will focus on three commodity value chains (coffee, honey, horticulture) with demonstrated export and domestic market potential. It will support key value chain process and actors, improve market relationship governance, and promote economically viable investments at various stages of production. This component consists of three sub-components: (i) cluster development consisting of the creation of producers' associations, the strengthening of value chain linkages, and capacity building of value chain actors (particularly poor primary producers); (ii) export promotion consisting of improved access to markets, development of classification and certification services, and introduction of quality and food safety standards, and (iii) promotion of rural SMEs consisting of improved linkages with markets, skill training and capacity building of micro-entrepreneurs and access to different forms of credit to finance their working capital and investments. This latter sub-component will mainly target youth and women.

6. **Economic Infrastructure.** The component will invest in public economic infrastructure focused on water harvesting and off-farm piped conveyance systems to field level. This will establish the necessary preconditions for the development of on-farm drip irrigation to be financed through loans extended by participating financial institutions. The types of public water storage structures eligible for programme support will include floodwater harvesting systems; tanks fed by existing springs or wells, and piped distribution networks. The programme will enhance water use efficiency through improved water management and the promotion of improved technologies. Infrastructure investments will be selected based on a participatory approach considering technical feasibility and economic viability.

7. **Rural Finance.** The component will increase the outreach and develop the capacity of microfinance banks/institutions in programme areas, and will develop sustainable access to adapted rural finance products and services provided by microfinance banks/institutions and commercial banks. This will include: equity participation and associated deposit in shareholders' account in licensed pro-poor microfinance bank(s); support for rural network development of microfinance banks/institutions on loan basis; introduction of new financial instruments such as contract farming arrangements, micro-leasing, savings, micro-insurance products and capacity building of participating financial institutions. These investments will enable the programme's

target groups to access and benefit from appropriate financial services. Micro entrepreneurs will also benefit from training in business management.

8. **Management.** The EOF will be created by Government decree. It will be managed as a public-private partnership working to improve the economic status of poor women and men in rural areas. It will serve as the focal institution to manage the programme as well as future rural economic development operations in the country. While its initial costs will be financed by the programme, the EOF would generate its own financial resources to gradually cover its operating costs through financial income from equity participation and shareholders' deposit in MFI(s).

C. Major Site Characteristics

9. To consolidate programme investments and maximize economies of scale, the programme will focus in mountain settlements in a limited set of coffee producing districts within eight Governorates (Abyan, Amran, Dhamar, Hodeidah, Ibb, Lahej, Sana'a, and Taiz). These areas fall entirely in the Yemen Mountain Massif agro-ecological region, characterized by a very irregular and dissected topography, with elevations ranging from a few hundred meters to 3 760 m above sea level. The climate varies from hot at lower elevations to cool at the highest altitudes. The western and southern slopes are the steepest and enjoy moderate to rather high rainfall, on average 300–500 mm/year, but in some places even more than 1,000 mm/year. The eastern slopes show a comparatively smoother topography and average rainfall decreases rapidly from west to east.

10. The region holds 44% of the country's cultivated land but holds 60% of the farms. Agriculture in the coffee growing districts in the highlands is restricted to riparian farms on the sides of the *wadi* and hillside terraces, which range in size from as little as 10 to more than 1 000 m^2. The agricultural holdings are fragmented, averaging 0.33 ha and comprising a mix of qat, coffee and vegetables for domestic consumption. The average coffee holding is 0.24 ha; only a few farmers have orchards larger than 1 ha and therefore are not considered among the rural poor. Landless sharecroppers are estimated to account for 10% of the rural households. Women play a major role in agriculture activities, and particularly in the production of coffee.

11. All streams in Yemen are ephemeral. The sources of irrigation water in the programme area, beyond rainfall and spate flows, are primarily wells (both dug wells on the *wadi* banks and boreholes) and some springs. These sources are supplemented, in some settlements, by shared floodwater harvesting structures (micro-dams, or high weirs) across the upper reaches of the *wadi*. Traditional water management arrangements consist of establishing irrigation turns allowing an individual farmer to irrigate for a full day, with an application interval from 30 to 50 days. However these sources, particularly the boreholes, are increasingly unreliable as a consequence of droughts and the widespread overexploitation of Yemen's groundwater resources. The conveyance systems are primarily open earth canals and flood irrigation is applied for on-farm distribution.

12. Settlements are generally scattered and comprise of an average of 40-80 households with a total irrigable area that does rarely exceed 20 ha. Agriculture is the main source of household income, but poor farming practices and water application methods result in yields that are less than half compared to countries with a comparable environment[16]; moreover, agricultural outputs are highly vulnerable and dependent on climatic factors. Despite the high population growth rate (3.5%) there is a trend of net out migration from the programme areas, to the cities and even to the Gulf countries. Emigration patterns are in fact complex, and even when away, rural Yemenis never lose contact with their homeland and very seldom sell their proprieties in the highlands.

D. Issues in Natural Resource Management

13. The sustainable use of limited water resources remains a key issue in Yemen, with a direct link to poverty.[17]. Agriculture is by far the largest consumer, accounting for about 90% of total water use. Over the last two decades, there has been a rapid and unregulated expansion of groundwater use for irrigation, promoted by the low diesel prices (currently 35 YR/l) and easy credit for drilling and pumps. It is estimated that there are 52 000 to 55 000 active wells in the Republic. The volume of water pumped every year from these wells is about 2.6 km^3, of which 1.6 km^3 from non renewable deep acquifers (FAO, 2006). The overdraft of the aquifers has

[16] World Bank, *A World Bank Country Study: Economic Growth in the Republic of Yemen* (2002)
[17] Annual water share is 176m3/capita, below the water poverty line of 1000m3/capita (FAO-AQUASTAT)

reached the status of a national emergency, with the striking case of the Sana'a basin, where recent detailed studies[18] reported that current abstraction rates will lead to the total depletion of the mined fossil water by 2015.

14. Despite the increasing scarcity of the resource and the continued drop of the groundwater table, irrigation schemes have low efficiencies (25-50%) due to the lack of engineered systems, losses in earth canals and poor water application methods. Individual users have little incentive to conserve water and eventually deepen their boreholes. The distribution systems from pumped wells are mainly by open canals and even when piped conveyance systems have been installed, flooding is the most common on-farm irrigation practice, resulting in low efficiency and loss of topsoil. Moreover, the use of open canal systems poses a serious risk of downstream contamination due to direct access by livestock, with potential harmful effects on human health.

15. *Qat* cultivation is widely spread in the programme area, particularly in Sana'a Governorate. While the use of *qat* is acknowledged as a social plague, absorbing up to 28% of the earnings in low income groups, its production and trade undoubtedly provides quick returns and employment. Irrigated *qat* production has been increasing at an annual rate of 3.5% between 1970 and 2006 and the associated increase of groundwater withdrawal has reached an estimated 837 million m^3/year (i.e. 84% of the renewable groundwater resources)[19]. An additional adverse impact in connection with *qat* production is the widespread and often uncontrolled use of pesticides, causing serious health hazards and contamination of water resources.

16. The current practice of rotational irrigation with long application intervals poses a constraint to the introduction of localised irrigation as the latter requires frequent applications of small volumes of water. Moreover, long intervals do not allow a timely supply at critical crop development stages, such as flowering for coffee. The definition of the irrigation schedules are most likely to be dominated by relatively better-off farmers or directly by the well owners. Thus poor smallholders are disadvantaged, and conflicts among water users may occur when resources are limited. However, consultations carried out in the field showed a common willingness to contribute to the improvement of a distribution system that would ensure a supply on-demand and charges based on the volumes actually consumed.

17. Out migration and abandonment of agriculture in the highland terrace systems have negative consequences in the overall watershed management such as increased erosion and risk of disruptive flash floods in the lower reaches of the *wadis*. Among the key factors causing reduced terrace maintenance are the decline in income from field crops terraced production, combined with major socio-economic changes and the occurrence of drought cycles.

18. Ownership of cultivated land comes through private, state or endowment systems (*waqf*). Most (70%) of the private land is cultivated by owners but it may also be rented out to tenants under various sharecropping arrangements depending on crop, area, availability of irrigation water, cost-sharing and terrace maintenance arrangements. At the local level, a trusted person keeps records of tenancy arrangements on *waqf* lands. Customary tenure systems in Yemen are flexible and accommodate investment in land improvement by tenants. However, the customary rule on land improvement investment is more likely to apply where high-value crops such as qat and coffee are grown. It must be noted that there is no formal agricultural land registration and statistics on properties are based on estimates.

E. Potential Social and Environmental Impacts and Risks

19. The activities to be directly financed by the programme will be demand-driven and small-scale in nature. Individual interventions are expected to have insignificant negative environmental impacts in any one location. Cumulative environmental impact can be assessed once the location and composition of interventions are known, but it is also expected to be neutral to positive.

20. Many potentially eligible investments associated with improvement of irrigation efficiency and practices will have a positive effect on the social and natural environment. Incremental gains in primary production will be attained through capital investments and improved water

[18] *The study for the water resources management and rural water supply improvement in the republic of Yemen, water resources management action plan for Sana'a basin* Earth System Science Co and Japan Techno, September 2007.
[19] *Qat Production in Yemen: Water use, competitiveness and possible policy options for change* (FAO 2008).

management that will eventually result in reduced groundwater abstraction and/or increased availability of drinking water. Throughout the programme, local capacity will be strengthened by targeted training for Producers' Associations covering all aspects of production, management and marketing. Training would also include technical aspects on irrigation system. Operation and maintenance as well as optimal use and regulation of drip emitters to reduce the risk of localised soil salinity. Drip irrigation would also allow control on flowering of selected coffee trees in order to trap the firs outbreak of insects through integrated pest management (IPM).

21. No major shift in designated land use is envisaged. Any irrigation works will be associated with improvement of water use efficiency of existing schemes on already-agricultural land and will therefore not involve a spatial expansion of farming. In any case, the risk that the water saved will be used for the extension of the cultivated land is very limited, due to the steep topography of the targeted areas and to the little opportunity for constructing new terraces.

22. With specific reference to infrastructure investments under the EOP, the main potential environmental issues would be those associated with: (i) management and disposal of construction material off-cuts and debris and any excavation materials during the execution of the works; and (ii) the impact of irrigation mismanagement on water quality and quantity for downstream users. The procedures to be put in place for the assessment and selection of infrastructure investments provide early opportunity for any environmental concerns to be taken into consideration. The EOF will be responsible for: (i) overall compliance with requirements of the environmental legislation of Yemen; (ii) ensuring that all necessary environmental mitigation measures are built into infrastructure designs; and (iii) supervising the implementation of mitigation measures through their in-house specialist or consultants as required.

23. The EOP support for ISO, HACCP and GGAP certification and accreditation processes will extend clear environmental and social benefits throughout the value chains directly targeted by the programme, and also to the entire Yemeni agricultural sector; the specific benefits in the primary production areas will be: (i) improved labor standards; (ii) lower use of chemicals and fertilizers; (iii) support for the development of organic farming and fair trade.

24. The establishment of agro-processing enterprises that may raise concerns about handling of chemicals, by-products and waste is not within the scope of EOP-supported microenterprise development. The rural businesses supported through micro-finance institutions will typically target women and consist of agro-processing, handicraft, metalwork (especially for high tunnel metallic arches or sewing workshops that would have positive outcomes on gender and negligible environmental impacts. Concerns on social responsibility and handling of industrial wastes may apply to larger investments at different levels of the value chain (such as traders or processors), financed by commercial banks. However, the EOP will extend specific training activities on these issues to the participating financial institutions.

F. Environmental Category

25. Yemen ratified the UN Framework Convention of Climate Change, the Convention to Combat Desertification, and the Convention of Biological Diversity. The Republic is also party to other relevant UN conventions and regional protocols including, the Vienna Convention for Ozone Layer Protection, its Montreal Protocol and the London and Copenhagen Amendments, the Basel Convention on Trans-boundary Movement of Hazardous waste, the RAMSAR Convention for the conservation of wetlands, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention to combat Persistent Organic Pollutions (POPs), World Heritage Convention, Washington Convention, and Bonn Convention for migratory species.

26. The national legal framework for Environmental Impact Assessment (EIA) is set by the Environment Protection Law No. 26 of 1995 (EPL) and its draft update of 2007 that defined the steps of the EIA process, including public consultation and information disclosure. The Environmental Protection Authority of the Ministry of Environment has the mandate to enforce the EPL and review the EIA on projects that may have adverse/irreversible impact on the environment.

27. The interventions supported through the programme will be typically small scale, not requiring a formal EIA; few, if any, negative environmental impacts are expected to result from programme implementation. Rather, many of the anticipated activities will contribute positively towards a number of environmental services, including sustainable land use, improved water use

efficiency and reduced use of pesticides. Improved livelihoods and human health for the rural poor will be also indirectly supported by increasing their incomes.

28. In line with IFAD Environmental and Social Assessment Procedures and based on the design mission's fieldwork and report, the programme is considered to be classified as Category B.

G. Further Information Required

29. No further information is required to complete the environmental screening and scoping (ESS) exercise for the Programme.

H. Recommended Features of Programme Design and Implementation

30. A number of key features are to be incorporated in programme design and implementation to improve NRM and mitigate environmental concerns.

31. The EOP objectives in terms of improving water resources management and reducing water losses will be achieved only if programme activities are focused and mutually complementary. In particular, it shall be emphasised that investments in off farm irrigation infrastructure shall be carried out only in settlements where individual farmers are willing and ready to install on-farm drip irrigation, eventually by accessing loans extended by participating microfinance institutions. The number of perspective borrowers for drip irrigation equipment should be assessed at the early stages of selection, and it will constitute a key element for ranking the investments.

32. The specific request of an in-kind contribution to the cost of the off farm irrigation system as labour for terrace rehabilitation and water meters to be installed at individual outlets will be an effective means of increasing famers' awareness on the importance of soil conservation/erosion protection and on water use efficiency.

33. An environmental study (even when not required by national laws) will be carried out as part of the feasibility of all the proposed micro-dams. The study will explicitly address issues of impact on downstream users, access to the site of heavy duty equipment, quarrying and disposal of debris. During detailed design, further analysis of the rainfall data (including the most recent time series) will be carried out in order to assess the recharge regime, vulnerability to droughts and effects of climate change on a sound statistical basis. A Quality Assurance system, with well defined responsibilities within EOF Management for review of designs and approval of construction works, will also ensure compliance with good engineering practices and in-built environmental enhancement features.

34. A continued consultation with beneficiary farmers will actively support the achievement of the programme environmental and social objectives. The contracted designers will illustrate and discuss the proposed irrigation system layout in an open consultation with prospective PA members, to ensure that the design meets the user's requirements, including women, particularly for the case when the same source is used for irrigation and domestic supply.

35. As part of the training activities carried out by the programme mobilisation teams and the supply chain managers to support the establishment/strengthening of producers' associations, special emphasis will be given to improved agricultural practices, water use efficiency and negotiation mechanisms to prevent conflicts among water users. Technical training on operation and management of the off farm network will be provided to a minimum of three users who will also be involved in the daily supervision activities by the field engineer; this will provide an adequate resource base to the PA for future system O&M and the carrying out of minor repairs.

36. The PAs will be supported by the programme to develop as inclusive associations that will also provide sharecroppers and tenant farmers, in the absence of a formalized land registration and tenancy system, with the opportunity of access to credit through contract farming.

37. In cases where electricity is available to provide adequate backup capacity and to meet the peak power requirement, the programme will support the introduction of solar pumps for booster or shallow well applications.

38. The training for honey producers carried out by the programme will highlight the importance of habitat conservation and the impact of good environmental practices on quality, thus increasing awareness on environmental issues.

39. The rural finance component will also support microfinance banks/institutions to develop insurance products such as weather index-based micro-insurance, to compensate for crop failures due to droughts.

40. Moreover, within the context of the training extended both to participating microfinance institutions and interested commercial banks, the EOP will specifically address issues of social and environmental relevance in lending operations (social responsibility, environment-friendly and gender-specific lending policies). The development of advisory services on the market and the availability of credit/incentives for the application of green technologies (photovoltaic, thermal solar, biomass) will also be advocated by the programme.

I. Monitoring aspects

41. Monitoring of relevant environmental and poverty indicators will be part of the programme's M&E system. With specific reference to irrigation infrastructure, data on to the actual benefits after the completion of the infrastructure works as compared to the estimated and presumed benefits (increased incomes) will be studied to enrich the decision-making process.

42. Monitoring the uptake of drip irrigation will constitute a key element for assessing the actual impact of the off farm investments in water saving. Besides feedback from the field through SCMs and mobilisation teams, the EOF's rural finance manager will be responsible for monitoring the loan portfolio of PFIs, thus the number of loans extended for the purchase of on-farm equipment.

43. An evaluation of the actual benefit in terms of reduced water losses due to the improved irrigation system will be carried out by the EOF Engineers on all completed EI investments after one year of operation, in the context of the issuance of the final completion certificate; periodic follow up in subsequent years would be carried out on a sample of investments (at least 20% of total) covering all types of infrastructure financed.

44. The uptake of ISO, GGAP and HACCP certification, supported by the programme, will be monitored through the records of accredited certifying agencies in the settlements and at national level; environmental benefits arising from the introduction of the improved agricultural practices will be assessed through focused group discussions carried out in programme settlements.

45. Besides the relevant result and impact management system (RIMS) indicators, some additional indicators that may be used to assess, on a yearly basis, the progress and the impacts on poverty and on the environment are listed hereunder. The assessments may take the form of short surveys, focus group or structured interviews, complemented by EOF data.

- command area with improved irrigation conveyance (ha, population/HHs, type of infra.);
- number of households obtaining credit through PFIs;
- volume of water saving (m^3/year, by settlement);
- increase in coffee area vs *qat* (ha, by district);
- number of microenterprises started (by type);
- people/PA trained (drip irrigation, protected agriculture, honey);
- increased smallholder income (YER/ha);
- number of certified farmers (GGAP, HACCP) (by settlement and countrywide);
- number of organic certified farmers (by programme settlement and countrywide);
- progress in the settlement's poverty status (households raised above poverty line);

J. Components requiring ESA

46. EOF components do not require specific Environmental & Social Impact Assessment (ESIA).

ANNEX 7: KNOWLEDGE MANAGEMENT

1. The EOP will introduce new approaches to value chain development, rural microfinance and institutional arrangements in Yemen. Implementation of the programme will create knowledge in these areas which will be applied by the EOF for wider purposes (the EOF itself will serve as a focal institution for poverty reduction in the country) including the other IFAD investments of the 2010-2012 programmatic cycle. Such knowledge will be captured by the EOF monitoring and evaluation specialist, concerned public institutions, and the IFAD country programme team, and will be used for: the improvement of programme implementation processes as appropriate; the analysis and sharing of operational experiences, lessons learned and best practices on a wider scale.

2. The EOP will contribute to:

- in-programme knowledge dissemination through periodic meetings of EOF Management Board;
- in-country knowledge networking through periodic seminars and workshops;
- in-house knowledge networking primarily within programme management department (regional division, technical advisory division);
- regional knowledge networking through the Knowledge Access in Rural Inter-Connected Areas (KARIANET);
- regional research networks including those supported by IFAD grants such as ICARDA, AOAD, IDRC, etc. Efforts would also be made to partner with WB, AFD, IDB, UNDP, and FAO regional networks.

3. The EOP will also publish at least every year leaflets related to the success and impact of its activities such as: coffee, horticulture and honey value chain improvement through additional advisory services, adoption of new technologies and access to credit; improvement of export conditions for Yemeni products; adoption and impact of insurance in rural areas including the weather index-based insurance product. These publications will be the result of: a/ EOF monitoring and evaluation, and b/ specific studies carried out by contracted external consulting firms.