



Enabling poor rural people
to overcome poverty

Report No.

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The International Fund for Agricultural Development

REPUBLIC OF TURKEY

**MURAT RIVER WATERSHED REHABILITATION PROJECT
(MRWRP)**

Project Final Design Report

Volume I: Main Report

December 2011

REPUBLIC OF TURKEY
MURAT RIVER WATERSHED REHABILITATION PROJECT (MRWRP)
FINAL PROJECT DESIGN REPORT

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FISCAL YEAR

1st January - 31st December

CURRENCY EQUIVALENTS

Monetary Unit	=	Turkish Lira (TRY)
TRY 1.00	=	USD 0.639 (May 2011)
USD 1.00	=	TRY 1.565

WEIGHTS AND MEASURES

1 kilogramme (kg)	=	2.204 pounds (lb)
1 000 kg	=	1 metric tonne (mt)
1 kilometre (km)	=	0.62 miles (mi)
1 decar (da)	=	1 000 square metres
1 hectare (ha)	=	10 decars

ABBREVIATIONS AND ACRONYMS

AGM	General Directorate of Afforestation and Erosion Control (in MOEF)
ASLR	Accelerated Sea Level Rise
AWPB	Annual Work Plan and Budget
BCPCPS	Beneficiary Centred Problem Census Problem Solving
CBD	Convention on Biodiversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COSOP	Country Strategic Opportunities Paper
CPE	Country Programme Evaluation
CPM	Country Programme Manager
CPO	Country Programme Officer
CQ	Consultants' Qualifications (procurement method)
EB	Executive Board
EIA	Environmental Impact Assessment
EIRR	economic internal rate of return
EIU	Economist Intelligence Unit
ENRM	Environmental and Natural Resource Management
ESA	Environmental and Social Assessment
ESRN	Environmental and Social Review Note
EU	European Union
FM	Financial Management
FMD	Foot and Mouth Disease
FMR	Financial Monitoring Report

ABBREVIATIONS AND ACRONYMS (CONT'D)

GDI	Gender Development Index
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
GNI	Gross National Income
GOE	Government Owned Enterprise
HBS	household budget survey
HDI	Human Development Index
HH	Household
IC	Individual Consultants (procurement method)
ICB	International Competitive Bidding
IPA-RD	Instrument for Pre-Accession Assistance – Rural Development
IPSAS	International Public Sector Accounting Standards
IRR	Internal Rate of Return
JICA	Japanese International Development Agency
M&E	monitoring and evaluation
MAPs	Medicinal and Aromatic Plants
MARA	Ministry of Agriculture and Rural Affairs (former)
MC	micro-catchment
MCP	Micro-catchment Plan
MCPT	Micro-catchment Planning Team
MDG	Millennium Development Goal
MEU	Ministry of Environment and Urbanization (new)
MFAL	Ministry of Food, Agriculture, and Livestock (new)
MFWA	Ministry of Forestry and Water Affairs (new)
MIC	Middle Income Country
MOEF	Ministry of Environment and Forestry (former)
MoU	Memorandum of Understanding
MRWRP	Murat River Watershed Rehabilitation Project (proposed)
MTR	Mid-term Review
NCB	National Competitive Bidding
NFP	National Forest Programme
NGO	non-governmental organisation
NPAA	National Programme for the Adoption of the Acquis (EU)
NR	natural resource
NRDP	National Rural Development Plan
NRDS	National Rural Development Strategy
NRM	natural resource management
NWFP	non-wood forest product
O&M	operation and maintenance
OECD	Organisation for European Co-operation and Development
OBM	Regional General Directorate of Forestry (Turkish acronym)
OGM	General Directorate of Forestry (Turkish acronym)
OIM	Provincial General Directorate of Forestry (Turkish acronym)
ORKOY	General Directorate of Forest Village Relations (in MOEF)
OU	Operations Unit (attached to OGM)

ABBREVIATIONS AND ACRONYMS (CONT'D)

PCE/IA	Project Completion Evaluation/Impact Assessment
PCR/IA	Project Completion Report/Impact Assessment
PDA	Provincial Directorate of Agriculture
PDO	Provincial Directorate of OGM
PES	Payment for Environmental Services
PIM	Project Implementation Manual
PPL	Public Procurement Law
PPP	public-private partnership
PPR	Peste des petit ruminants
PPT	Provincial Project Team
PRSP	Poverty Reduction Strategy Paper
PY	project year
REDD	Reducing Emissions from Deforestation and forest Degradation
RIMS	Results and Impact Management System
RoT	Republic of Turkey
SBD	Standard Bidding Document
SEDI	Socioeconomic Development Index
SIGMA	Support for Improvement in Governance and Management
SME	small-/medium-sized enterprise
SOE	Statement of Expenditure
SPO	State Planning Organisation
TA	technical assistance
ToR	terms of reference
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank
WS	Watershed

EXECUTIVE SUMMARY

1. **Introduction.** The Murat River Watershed Rehabilitation Project (MRWRP) aims at improving livelihoods through the rehabilitation and sustainable use of natural assets. The linkage between poverty among upland village communities and the degradation of natural resources needs to be broken for the community to embark on a more productive and sustainable livelihood strategy. The challenges lie in combining the regeneration of land and vegetation with increased agricultural productivity improving the livelihood for the people living in and of the upland watershed.

2. Turkey is categorized as a Middle-Income Country with an average Gross National Income per capita of USD 8 720 (2009). The sector shares of GDP are: services 64.7%, industry 25.9% and agriculture 9.4%, reflecting a long term shift from rural to urban living. Unemployment is higher in rural areas and among youth (24%), and women's participation in the labour force is low at 27%. Despite vigorous growth of the economy, marked regional income disparities persist, with the mountainous regions in the East continuing to lag behind. Government's national development strategy features economic growth, human resource development, employment in high technology industry and infrastructure advances but maintains a strong commitment to regional development and poverty reduction. The *National Rural Development Plan* (2010-2013) entails four strategic objectives of which the last is crucial to the present initiative: "Protection and improvement of the rural environment through adoption of environmentally friendly agricultural practices, protection and sustainable use of forest resources and the management and improvement of protected areas". The rural poverty reduction strategy is underpinned by strong policies related to key aspects of environmental remediation and protection, including forestry, desertification and climate change.

3. **Natural Resource-based Livelihoods and Rural Poverty.** About seven million people (10% of the population) live in 21,000 forest villages, some located in the uplands. Per capita income in these areas was just 7% of the national average in 2004 and the gap is widening. Upland village households engage in mixed farming, mainly livestock with some horticulture, but production is seldom sufficient even for household consumption. The majority rely on supplementary income from state and/or extended family welfare provision in order to remain in their villages; the alternative is migration. The Project's target is poor upland villages within the Murat River Watershed, one of the physically most degraded environments in the country. The area is located within the provinces of Elazığ, Bingöl and Muş, which are ranked 53rd, 77th and 79th respectively out of 81 provinces in UNDP's HDI. The three provinces are characterised by larger household size, younger average age, lower life expectancy, significantly lower male and female literacy, higher unemployment and a higher proportion of employment in agriculture than the national average – all of which is highly correlated to rural poverty. Pressure on fragile ecosystems, particularly the indiscriminate harvesting of fuel wood and overgrazing by animals, has accelerated natural erosion processes, reduced the economic carrying capacity of the land and resulted in sedimentation, decreased water quality and increased the incidence of flooding and landslides.

4. **Project Rationale.** Lasting rehabilitation of land, vegetation and water resources in degraded catchment areas is a process requiring long-term management changes. The rationale of this Project is to link catchment area rehabilitation with improving livelihoods in adjacent communities. People here need to be empowered to take care of the resources on which they rely for feeding their livestock, collecting firewood for cooking and heating, and receive water for households, irrigation and livestock.

5. The Project will assist communities to embark on a more sustainable development path where they will be able to use instead of overuse and misuse their surrounding environment. In the period before investments in natural resources and in livelihood

improvements start to generate longer term benefits, the village communities will benefit from employment in civil works.

6. **MRWRP Development Objective.** The overall Project goal is *reduced poverty among the upland communities of the Murat River Watershed*. The development objective is *improved livelihood and natural resources management in the upper catchment areas in the Murat watershed*.

7. **Targeting.** The primary target group of the MRWRP would be poor women and men living in upland villages in the selected micro-catchments. A secondary target group would be other non-farming residents who would also benefit from improvements to their physical environment and living standards. Together, these groups total an estimated 80 000 very poor potential direct beneficiaries (12 500 households).

8. **Project Components and Outcomes.** (i) Natural resources and environmental management (consultations, empowerment and planning); (ii) investments in natural resources and environmental assets (land, water and vegetation); and (iii) investments in improved livelihoods empowering upland communities to maintain and benefit from the natural resources improvements.

Component 1: Natural Resources and Environmental Management

9. The outcome of this component is an environmentally conscious community capable of planning and managing the use of Natural Resources. The component focuses on assisting the Turkish Government's institutions effort to make planning and management more people oriented, and to build ownership and sustainability into its ambitious programme for investments in the upper watersheds of Eastern Turkey. The centrepiece of the Project is the generation, negotiation, preparation, and implementation of around 25 viable and replicable micro-catchment plans. The Project will seek to promote participatory co-management modalities under which the village communities' livelihood strategies are aligned with the sustainable use and improvement of public/shared natural resources. Contracted Micro-Catchment Planning Teams (MCPT) will assist villagers from selected MCs to make informed decisions about committing themselves to work with OGM to rehabilitate their degraded natural resources (in the short term) and manage them sustainably (in the medium and long term). The participatory planning will result in the preparation of village plans addressing both NRM management and improved livelihood. The village plans constitutes the building blocks of an integrated Micro-Catchment Plan comprising sub-plans for forestry land, pastureland, agricultural land, water and energy

Component 2: Investments in Natural Resources and Environmental Assets

10. The component's outcome is reduced erosion, improved vegetative cover and a steady flow of water. The component will make investments through activities as identified in the MCPs for rehabilitation and protection of degraded areas in public land (gazetted forest land including rangelands). Reversing degradation and checking of erosion will establish the base for a sustainable economic development and poverty reduction in the upland communities. Natural resources rehabilitative measures will be implemented under the direction of the General Directorate for Forestry (OGM) with assistance from village communities. The investments for the management of land, vegetation and water will include: (i) soil conservation investments; (ii) rehabilitation of degraded forests; (iii) development of public nurseries; (iv) rehabilitation and sustainable management of degraded grazing land/rangelands; and (v) livestock watering structures.

11. The labour requirements for the activities will to the extent possible be met by hiring from the local village community.

Component 3: Investments in Improved Livelihood

12. This component's outcome is improved living conditions through supporting small-scale crop and livestock production on private land. The Project will provide opportunities on a cost-sharing basis to raise the income of MC communities reinforcing the adoption of rehabilitation activities. Hired multidisciplinary Project Provincial Teams (PPTs) will assist villagers in the implementation of activities. A forester from the provincial Forest Directorate (OIM) will be seconded to each PTT as a focal point for the liaison between OIM, PPT and local communities. The governors' offices in the Project provinces will provide necessary coordination and linkages between the Project and the resources of Provincial Directorates of Agriculture (PDAs) for extension and training support. The investments in livelihood improvements will target: (i) improved grain production; (ii) forage crop production; (iii) improved livestock stables; (iv) orchard establishment; (v) improved vegetable production; (vi) small-scale irrigation; and (vii) contracted seedling production; and (viii) promotion of energy saving technologies. The selected areas of investments will be based on the agro-ecological and socio-economic conditions in each village as well as farmers' resources and needs and wishes as expressed in the village plan for the MC plan.

13. **Project Management.** The General Directorate of Forestry (OGM), within the recently reconfigured Ministry of Forestry and Water Affairs (MFWA), will be responsible for implementation at central level in Ankara, regional level (OBM) in Elazığ, and provincial level. Operation units to support field implementation will be established within OGM in Ankara (OU) and within OBM in Elazığ. A Steering Committee will be established at central level responsible for the overall policy guidance and oversight, including approval of Project implementation plan and annual work plan and budget.

14. **Project Area and Period.** The geographic coverage of the Project is defined as the hilly parts of the Murat river watershed (the upper watershed of the Murat/Euphrates river system), which includes upland districts and villages of Elazığ, Bingöl and Muş provinces. The seven-year Project period is anticipated as 2012 to 2018 inclusive.

Project Costs and Financing

15. The total investment and incremental recurrent Project costs, including physical and price contingencies, is estimated at USD 43.1 million (TL 86.9 million).

Project Costs

	(Local '000)		(US\$ '000)			%	% Total	
	Local	Foreign	Total	Local	Foreign	Total	Foreign	
							Exchange	Base
1. Natural Resource and Environmental Management	5 459.4	257.8	5 717.2	3 033.0	143.2	3 176.2	5	8
2. Investments in Natural Resources and Environmental Assets	30 124.9	-	30 124.9	16 736.1	-	16 736.1	-	43
3. Investments in Improved Livelihood	31 181.3	-	31 181.3	17 322.9	-	17 322.9	-	45
4. Operations Unit	2 198.9	190.9	2 389.8	1 221.6	106.1	1 327.6	8	3
Total BASELINE COSTS	68 964.5	448.7	69 413.1	38 313.6	249.3	38 562.9	1	100
Physical Contingencies	3 001.4	29.3	3 030.7	1 667.5	16.3	1 683.7	1	4
Price Contingencies	14 938.3	60.1	14 998.4	2 856.3	11.6	2 868.0	-	7
Total PROJECT COSTS	86 904.2	538.1	87 442.3	42 837.4	277.2	43 114.6	1	112

16. Investment costs make up 96.4% of the total projected baseline costs whereas recurrent costs amount to 3.6%. Three main expenditure categories account for 88% of the total: civil works 53.5%, equipment and goods 27.7% and technical assistance 6.3%.

17. At current estimates, an IFAD loan and grant of USD 31.4 million will finance 73% of the total Project costs, whereas the Government contributes 20% of the total Project costs. Approximately USD 2.9 million (7% of total Project costs) will be provided by the

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primary beneficiaries (participating farmers in the Project area), mainly as contributions to the financing of investments in improved livelihoods.

Financing Plan by Components

(US\$ '000)	IFAD		IFAD Grant		Gov: Budget		GOVT: Taxes		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Natural Resource and Environmental Management	2 706.3	75.2	360.2	10.0	-	-	531.7	14.8	-	-	3 598.1	8.3
2. Investments in Natural Resources and Environmental Assets	14 540.9	75.4	-	-	1 314.0	6.8	3 370.6	17.5	72.1	0.4	19 297.6	44.8
3. Investments in Improved Livelihood	12 952.5	69.1	-	-	135.2	0.7	2 851.4	15.2	2 806.1	15.0	18 745.2	43.5
4. Operations Unit	1 200.0	81.4	132.2	9.0	135.2	9.2	6.3	0.4	-	-	1 473.6	3.4
Total PROJECT COSTS	31 399.6	72.8	492.3	1.1	1 584.3	3.7	6 760.0	15.7	2 878.2	6.7	43 114.6	100.0

Project Benefits and Economic Justification

18. The benefits generated by MRWRP activities are related to (i) higher income from agricultural and livestock production; (ii) reduced household expenditures and workload; and (iii) reduced negative impacts from erosion; flash floods and landslides. The Project specifically aims at providing benefits to the women and the poorest in the villages.

19. The Project's overall Economic Internal Rate of Return (EIRR) is estimated at 8% over twenty years. The sensitivity analysis shows that this base rate is slightly more sensitive to shortfalls in benefits than cost increases of equal magnitude.

Sustainability

20. The communities, who have lived in dire poverty for generations, have had little choice but to base their livelihoods on unsustainable use of land and vegetation, which in turn further aggravates their poverty. The sustainability of MRWRP benefits depends on a voluntary gradual change in communities' behaviour in managing shared natural resources gradually breaking the vicious cycle of poverty and natural resource degradation.

LOGICAL FRAMEWORK

Results Hierarchy		Verifiable Indicators	Means of Verification	Assumptions
Goal				
Reduced poverty among the upland communities of the Murat river watershed.		Number of village HHHs living below the poverty line reduced (10%).	Official statistics, Baseline (MCP) and impact assessment studies.	Government maintains and pursues pro-poor policies. No extreme economic, seismic, or climatic shocks.
Development Objective				
Improved livelihood and natural resources management in the upper catchment areas in the Murat watershed.		<ul style="list-style-type: none"> ➤ 30% increase in vegetative cover in treated micro-catchments, three years after project completion (include tree survival rate). ➤ 80% of participating families have improved livelihood (nutrition, income, reduced workload). ➤ 10% reduction in government expenditures on rehabilitation of public works damaged due to floods and landslides. 	GIS –based data collection including photos. Vegetation plot/afforestation data Social survey. Improved livelihood measured by nutritional diet, income and women workload. Provincial records.	Existing forestry and natural resource policies are improved & enforced. Infrequent staff turnover.
Components/Outcomes				
1. Natural resources and environmental management				
1.1	Environmental awareness enhanced in MC communities.	<ul style="list-style-type: none"> ▪ 50% of villagers in targeted micro catchment areas have agreed to MC management plans. 	<ul style="list-style-type: none"> ▪ OGM records. ▪ Baseline survey. 	Awareness raising effective.
1.2	Modalities for participatory & sustainable natural resource management operational.	<ul style="list-style-type: none"> ▪ Consensus in planning and management decision-making is reached through participatory processes with equal gender representation and inclusion of vulnerable groups. 	<ul style="list-style-type: none"> ▪ Impact assessment. ▪ Meeting attendance and minutes. 	Existing village and OIM structures for decision making allows for the establishing effective modalities for NRM co-management.
2. Investments in natural resources and environmental assets				
2.1	Rehabilitation of soil and vegetation.			
2.1.1.	Soil erosion reduced.	10% reduction in sediment load from selected micro catchments.	<ul style="list-style-type: none"> ▪ Sediment traps. ▪ Erosion field plots. ▪ Vegetation field plots. ▪ OGM records. 	Physical conditions (soil, rainfall) and management practices (fire wood collection, livestock rearing) adequate for soil and vegetation rehabilitation.
2.1.2.	Vegetative/forest cover increased.	20% reduction in erosion from treated areas.		
2.1.3.	Improvements in grazing/rangeland.	30% increase in vegetation cover in rangelands.		
2.2.	Improved livestock productivity due to improved access to clean water.	75% of livestock in rangeland benefit from water points (possible proxy: livestock mortality).	<ul style="list-style-type: none"> ▪ OGM/PPT records ▪ Social surveys 	Improved water access translates into better livestock management.

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LOGICAL FRAMEWORK (CONT'D)

3	Investments in improved livelihood			
3.1.	Diversified and more efficient use of energy.			
3.1.1.	Fuel wood consumption reduced.	30% reduction in annual HH fuel wood use.	<ul style="list-style-type: none"> OGM/PPT records. 	Improved energy efficiency leads to reduced use of fuel wood.
3.1.2.	Energy saving technologies adopted.	25% increase in number of HH using renewable technologies.		
3.2.	Improved agricultural productivity.			
3.2.1.	Improved stables and livestock management.	20% productivity increase per livestock head	<ul style="list-style-type: none"> HH and focus group interviews. PPT records. HH and focus group interviews. 	Villagers demonstrate an interest and are willing to invest in new management practices Sufficient water availability. Possible to provide sufficient no. of villagers without irrigation access to irrigation.
3.2.2.	Output from horticulture, orchards, forage and field crops increased.	10% increase in rain fed crop production and yields/ha. 30% increase in overall value for irrigated crop.		
3.2.3	Increased access to irrigation for horticulture/agriculture, forage and orchards).	20 % increase of number of households with access to irrigation.		
Outputs				
1	Natural Resources and Environmental Management			
	<ul style="list-style-type: none"> NRM awareness raised in MC communities. 25 MC plans produced with operational modalities for participation. Staff trained in NR and environmental management including: Multifunctional participatory planning; participatory monitoring & data management; poverty and gender sensitization Studies and workshops in: NR economics; carbon sequestration; energy efficiency and alternative energy sources 	<ul style="list-style-type: none"> Percentage of villagers in MC area taking part in preparing MC plans. Selected elements in the MC plans are NRM oriented. Numbers of plans produced (pro-poor/gender sensitive/participatory). Number of TA contracts, workshops and training. OGM, OBM, OIM staff and PPT attendance and results. 	<ul style="list-style-type: none"> Supervision reports. OGM records. Audits. OGM records. Post training test/evaluation charts. 	<ul style="list-style-type: none"> Procurement systems in place and functioning. Sufficient Government counterpart funds available in a timely manner. No community segment excluded from participating. Beneficiaries accept terms of cost sharing.
2	Investments in Natural Resources			
	<ul style="list-style-type: none"> Soil conservation works (9 000 ha). Forest and rangeland rehabilitation and afforestation (22 160 ha). Two public nurseries completed in Elazığ and Muş. Erosion measurement field trials installed (25). Sediment measurement stations installed (25). 	<ul style="list-style-type: none"> Soil conservation investments effective. Forests rehabilitated (% increase vegetation cover), afforestation (number of trees/survival rate). Rangelands rehabilitated (ha. and % increase in vegetation cover): <ul style="list-style-type: none"> No. of livestock drinking facilities operational; and No. of shelters for communal use operational. Public nursery that includes cold storage for seedlings developed (production increase). Erosion field plots and gully erosion (stick measurement) operational and participatory. Sediment measurement stations operational. 	<ul style="list-style-type: none"> Erosion/sediment measurement. MFWR records/photo (time and GPS marked). Audits. Data collected for erosion/water run-off/sediment yield. 	<ul style="list-style-type: none"> OGM pursue best practices for NRM and erosion control OGM and village collaboration in operation and data handling OGM and village collaboration in operation and data handling

LOGICAL FRAMEWORK (CONT'D)

3	Investments in Improved Livelihood			
	<ul style="list-style-type: none"> • Demonstrations and farmer training events (308). • Farmer exposure visits (292). • Improved wheat and barley production (1 381 ha). • Improved forage crops (1 230 ha). • Improved horticultural production (247 ha) including 180 ha of new orchards. • Water storage ponds built and connecting earth canals rehabilitated (250). • Drip irrigation installed (127 ha). • New contracted seedlings producers operational and selling (4). • New solar panels installed and in use (1 250 hh's). • Insulation (625hh's). • Energy saving stoves installed (1 250 hh's). • Improved stables (100). 	<ul style="list-style-type: none"> • Demonstration and farmer training program conducted (number of participants). • Farmer exposure visits carried out (number of participants). • Sustained increase in grain yields (%). • Sustained increase in forage crop production (%). • Sustained increase in horticultural production (%). • Small scale irrigation developed: <ul style="list-style-type: none"> ○ Water storage ponds functioning (increase in water collection); and ○ Increase in water supply from rehabilitated earth canals (%). • Increase in crop yield and value from irrigated land (%). • Contracted seedling production introduced as a profitable business model. • Energy saving technologies (solar, insulation and stoves) have led to reduced fuel consumption. • Increases revenues from increased yield o meat and milk and savings from less disease. 	<p>Supervision reports. OGM records. PPT records. Audits. Number of trees in orchards and survival rate (OGM records).</p> <p>PPT records.</p> <p>Number of seedlings produced/revenues. (Sale Record.) Fuel consumption (PPT record/survey). PPT records.</p>	<ul style="list-style-type: none"> • Village communities interested in participating in training/exposure. • Sufficient land available and farmers interested in applying new technologies. • (Improved crop production, crop rotations and soil conservation measures.) • Interest to engage in seedling production. • Possible to produce seedlings at competitive prices sufficient demand for seedlings. • Improved efficiency translates into less use of fuel. • Existing stables have negative impact on livestock production and health.
	Inputs		USD million	
	Civil Works		23 901.4	
	Vehicles, Equipment, and Goods		13 109.8	
	Technical Assistance, Training, Studies and Workshop		6 164.8	
	Operational Expenses and Salaries		1 608.2	
	Total		44 784.2	

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I. STRATEGIC CONTEXT AND RATIONALE

A. Country and Rural Development Context

1. **Country Economic and Social Development.** Turkey is categorized as a Middle-Income Country with an average Gross National Income (GNI) per capita of USD 8 720 (2009). The sector shares of Gross Domestic Product (GDP) are: agriculture 9.4%, industry 25.9% and services 64.7%, reflecting a long term trend of migration from rural to urban. Turkey's economy has recovered from the global financial and economic crises of 2007-08, with GDP growth expected to reach about 6 % in 2011 and unemployment falling to pre-crisis levels of around 10%. Unemployment and under-employment are higher in rural areas and among youth (24%), and women's participation in the labour force is low at 27%. Despite the vigorous growth of the economy, there are marked income disparities with the populations in the mountainous regions in the East lagging behind the rapid economic advances elsewhere.

2. Government's overall approach to Turkey's economic and social development is set out in the *Long-term Strategy 2001-2023* which features the pursuit of rapid sustained economic growth, human resource development and employment in high technology industry, infrastructure advances and regional development, coupled with transfer payments to poorer segments of society. In this context, the *National Rural Development Plan* (NRDP, 2010-2013) entails four strategic objectives of which the last is crucial to the marginal communities targeted by the Project: "Protection and improvement of the rural environment through the adoption of environmentally friendly agricultural practices, protection and sustainable use of forest resources and the management and improvement of protected areas". The NRDP is underpinned by an array of policy statements related to the physical environment including the *National Forest Programme 2004-2023* (NFP), the *National Action Programme on Combating Desertification 2006*, and the *National Climate Change Strategy (2010-2020)*.

3. **Poverty Reduction Strategy.** Turkey has a coherent poverty reduction strategy and, particularly in the present era of rapid economic growth, the means to pursue it. The country is well on its way to meeting the MDGs. The proportion of the national population living on less than USD 1 per day has been zero since 2006 and the food poverty rate decreased to 0.54% in 2008. However, structural inequalities remain a challenge, especially those related to geographic and gender disparities, and there continues to be entrenched pockets of rural poverty. Regional differences in levels of economic activity and income are strong; among OECD countries, only Mexico has a more unequal distribution of income. The rural poverty rate is 35% as opposed to the urban rate of 9.4%, and the poverty rate in rural agricultural communities is 38%. The eight poorest provinces, out of the total of 81, are all located in the east of the country.

4. The State combines purposeful investment in rural infrastructure and natural resource assets with a welfare safety net that provides a range of means-tested welfare benefits that include universal medical care, free education; winter fuel support is provided in the poorest areas.

5. **Rural Poverty Analysis.** Economic structural change has been accompanied, and assisted by considerable migration, both from rural to urban areas and from the eastern to the western regions of the country, as people have sought to benefit from

employment opportunities and better social infrastructure. While 75% of Turkey's population lived in rural villages in the 1950s, this has dropped to 56% in 1980 and further to 35% in 2000. Seasonal and permanent migration from rural to urban areas remains high among the male active labour force and is an important part of the livelihood coping strategies of poor rural people including those in the Project target area. The migration reflects poverty push as much as income pull, as there is little evidence of substantial remittances from the migrants. The poverty rate in Central Eastern Anatolia is 36.8% (defined by a national annual income threshold of TRY 3 146) as compared to a national rate of 16.7%. There are also pronounced intraregional disparities, with Eastern Anatolia the second most unequal province in terms of income distribution.

6. Poverty in the Project area is pronounced, with the upland villages within being the poorest. UNDP's Human Development Index ranking (2004) place Elazığ, Bingöl and Muş at 53rd, 77th and 79th respectively out of the 81 Turkish provinces. Compared with the national averages, the three provinces are characterised by larger household size, younger average age, lower life expectancy, significantly lower male and female literacy, higher unemployment, and a higher proportion of employment in agriculture – all of which are elements of rural poverty.

7. **Gender equality** is being targeted by the Turkey government working towards the achievement of MDG 3 on gender equality: in 2009, female participation in the labour force rate was 24% and studies suggest that reaching the female LFP target of the Ninth Development Plan (from the current 24% to 29%) could contribute to reducing poverty by up to 15% if all new entrants would take full-time jobs. In education the enrolment rate in primary school has nearly reached the MDG of 100% (98.5% boys, 97.8% girls), but the enrolment of girls in secondary schools is considerably lower. Girls living in rural areas in the eastern regions of the country are the most disadvantaged.

8. Turkey is a highly patriarchal society which constrains women's economic opportunities and social autonomy. Typically, rural women's work comprises domestic chores, animal husbandry (dairy), vegetable and fruit production and processing, and labour-intensive farm fieldwork. The 2004 Gender Development Index (GDI) Ranking for Elazığ, Bingöl and Muş places them 52nd, 76th and 80th (of 81 provinces) respectively.

9. **Natural Resource-based Livelihoods.** Official (gazetted) forestlands in Turkey total 20.7 million ha, accounting for 26% of the country's area. About seven million people, or 10% of the national population, are living in about 21 000 forest villages, most of which are located in the uplands. The gross annual per capita income of these was just 7% of the national average in 2004 and the gap may be widening. Forest village households, generally located in mountainous areas at the topographical and climatic limits of agriculture, engage mostly in small-scale agriculture that includes some livestock and horticulture where production is often insufficient to meet household needs. The majority rely on supplementary income from the state and/or extended family remittances in order to remain in their villages.

10. The natural resource base of the high mountains and valleys of Eastern Anatolia has supported agricultural production (including transhumant livestock husbandry) for centuries. The rough topography and climate of the Murat Watershed makes it prone to erosion that is aggravated by continuous and increasing pressure from indiscriminate harvesting of the already degraded forest for fuel and fodder, overgrazing by animals and inappropriate agronomic practices. These factors combined have accelerated natural erosion processes and reduced the economic carrying capacity of the land.

11. Land degradation and the absence of sufficient use of soil erosion control and sediment trapping measures have resulted in sedimentation, decreased water quality, and increased run-off leading to flash flooding and landslides. Thus, upper watershed

degradation has adverse impacts both on the population living in these areas as well as those living downstream.

12. The land degradation in the watersheds further exacerbates the impact of already harsh physical and climatic conditions hampering agricultural productivity around the upland. However, there are potentials for increasing incomes from agriculture provided that both natural resources management and agricultural productivity are targeted in a concerted effort.

13. Given the geographic, climatic and environmental setting of the upland villages in the Murat river watershed, enhanced agricultural productivity cannot be considered as the only means of reducing rural poverty in the area. A broader perspective on poverty reduction is embraced by the Project, recognizing the importance of increasing the quality of life in the villages, expanding off-farm income-generating opportunities, and reducing unavoidable energy costs.

B. Rationale

14. The proposed Project aims at supporting the Government's efforts to check further degradation of upland watersheds and to improve the natural resource base as a means to raise income and livelihood in upland villages. The Project will specifically focus on village dwellers' involvement in the decision-making and implementation processes relating to the rehabilitation of the existing natural resources while facilitating the creation of a strong sense of ownership among the upland communities and thereby ensuring sustainability of the investments.

15. The Murat River Watershed is characterised by a high degree of environmental deterioration and widespread poverty in the upland villages. The situation is locked in a vicious cycle where unsustainable crop and livestock production practices have detrimental effect on soil structure and fertility, on the natural vegetation, and on water flow and quality. This degradation of the natural resource base further aggravates the entrenched poverty in upland villages.

16. The central development hypothesis for IFAD's involvement is to break the vicious cycle of natural resources degradation and poverty. The Project views the natural resource degradation as a multi-sectoral problem requiring site-specific solutions. It will support catchment development involving the integration of forestry investments, soil and water conservation and crop and livestock production in a mutually reinforcing and complementary manner.

17. In the planning and implementation, restrictions will be accompanied by benefits: Controlling livestock movement will be compensated by alternative management and feeding through better stables and forage production; erosion control and stabilising water flow provides more water with less sediment for watering of livestock and crops; and afforestation and rehabilitation of existing oak coppices enhance the availability of firewood, which coupled with more efficient stoves and solar heating make firewood consumption sustainable.

18. The elements of conservation and livelihood improvement are parts of a comprehensive package where the support to improved agriculture and livelihoods are conditional on the acceptance of natural resources rehabilitation and protection. Over time higher yields from livestock and crops coupled with more efficient energy use will gradually reduce the pressure on natural resources in the micro catchment area. The micro catchment area will over time become more productive, which in turn will change the villagers' perception of the natural resources and the exploitation of these.

19. Relevant Government agencies (Ministry of Forestry and Water Affairs, and Ministry of Environment and Urbanization) have a well-documented track record in physical stabilization and recovery of degraded natural resources. Investment are already carried out in a joint effort together with village communities in the intervention areas with villagers benefiting from employment during land rehabilitation, such as erosion control intervention and tree planting. The intention of the Project is to build on the valuable experience gained from government-community cooperation in watershed management and reaching a level further. The Project will through its modalities establish a direct linkage between watershed restoration and management with agricultural and livelihood development. This will create higher ownership and sustainability as villagers will be more inclined to protect the watershed when they experience the enhanced economic value from a better natural resources management.

20. The present Project design is aligned with the objectives set out in the Results-based Country Strategic Opportunities Programme (COSOP) of 2006 and its 2011-12 Addendum, in particular the emphatic statement that sustainable natural resource management is a necessary condition for rural poverty reduction. The 2006 COSOP notes that the support from IFAD should aim to combine targeted interventions, geared towards quality of life improvements in poorer villages, with primarily self-targeting measures to stimulate, where feasible, broader-based growth in economic activity that can generate jobs and increase income for poorer rural people. The Addendum 2011-2012 served mainly to provide updated information and analysis with regard to the 2006 COSOP, and to steer the focus of the IFAD country programme towards improved natural resource management with pronounced emphasis on the participatory rehabilitation of degraded forests and agricultural lands together with creating income-generating opportunities for poor forest dwellers.

II. PROJECT DESCRIPTION

A. Project Area and Target Group

21. **Project Area.** The geographic coverage of the Project is defined as the hilly parts of Murat river watershed (technically the upper watershed of the Murat/Euphrates river system), which definition generates two areas within the upland districts and villages of Elazığ, Bingöl and Muş provinces in Eastern Anatolia separated by a relatively flat area of high plateau. The selected territory comprises some 100 micro-catchments (MCs) of differing sizes with varying degrees of natural resource endowment and degradation and proximity to larger settlements. The MCs would form the operational units for the Project; the technical and organizational attributes of the intervention make it imperative that whole MCs are engaged with whatever affordable package of interventions are appropriate to local circumstances. Through the systematic application of objective criteria, including the preparedness of inhabitants to participate, the Project would select about 25 MCs for implementation.

22. Common agro-ecological characteristics of the Project area are high altitude, steep slopes prone to erosion, limited availability of surface water and a short growing season following a long winter with snow. Relentless pressure on the fragile natural resource base has resulted in loss of vegetative cover and soils, and contributed to the risks of landslides and floods. The area is at the limits of agricultural production, the main viable productive activity being the use of natural pastures by small stock (and bees) brought up from lower altitudes as the snow melts. Aside from livestock husbandry, resident households carry out very small-scale production of cereals and horticulture for their own consumption. It is not yet clear what effects climate change is having or is likely to have on agricultural potential in the area.

23. **Project Target Group.** The MRWRP's primary target group would be poor women and men smallholders, living in upland villages in the selected MCs within Elaziğ, Bingöl and Muş provinces. A secondary target group would be other non-farming stakeholders in the locality who would benefit from improvements of the physical environment and living standards in the micro-catchment. Together, these groups total an estimated 80 000 very poor potential direct beneficiaries (12 500 households) usually resident in the targeted MCs. The majority lack the means to escape poverty either by earning sufficient incremental income locally, or by migrating permanently within Turkey or beyond. Tertiary indirect beneficiaries are the general population living downstream.

24. Within the objective selection of whole village communities by virtue of their location, the state of their local natural resource base and degree of household poverty, all subsequent Project interventions would be demand driven and self-targeting. Whilst all upland villagers would benefit from the substantial investments in public goods, and some from the provision of energy-saving technologies for individual households, participation in the promotion of small-scale agriculture would be entirely individual voluntary basis.

B. Development Objective and Impact Indicators

25. The overall goal of the Project is: *Reduced poverty among the upland communities of the Murat river watershed.* The corresponding verifiable indicator established for the goal is *Reduction in the number of village households living below the national poverty line by 10%* in the target areas of Elaziğ, Bingöl and Muş.

26. The development objective of the Project is to: *Rehabilitate the natural resource-base in selected micro-catchments of the Murat river watershed.* The rehabilitation of the natural resource base is expected to *"create the foundation for a sustainable utilisation of the micro-catchment and increase the catchments' resilience to impact of extreme weather events (rainfall and droughts).*

C. Outcomes/Components

27. The three complementary Project components comprise: (i) Natural resources and environmental management (consultations, participation and planning); (ii) investments in natural resources and environmental assets (land, water and vegetation); and (iii) investments in improved livelihood (empowering upland communities to maintain and benefit from the natural resources improvements).

Component 1: Natural Resource and Environmental Management

28. The outcome of the component is an environmental conscious community capable of planning and managing the use of Natural Resources. The first component focus on assisting the Turkish Government's institutions effort to make planning and management more people oriented and to build ownership and sustainability into its ambitious programme for investments in the upper watersheds of Eastern Turkey. Past inadequate management of fragile forests and rangelands have contributed to the depleted and deteriorating state of the landscape, both close to human settlements and at higher altitudes. The Project will seek to promote participatory co-management modalities under which the private economic interests of the village communities are aligned with the sustainable use and improvement of public/shared natural resources.

29. Experiences gained through processes of participatory MC planning and implementation of MC plans will be shared at different levels of OGM. These experiences from the field can serve as valuable inputs to the national policy development and hereby contribute to the national environmental goals. A gradual change in the

effectiveness of land use management is a necessary condition for reversing the deterioration of the natural resource base. Expensive rehabilitation works will not be sustainable in terms of physical conditions or poverty reduction without active participation of the local communities.

30. The selection of **Micro-Catchments (MCs)** would be driven by objective criteria to identify a long list of candidate MCs that are accessible, where natural resource degradation is reversible, housing sufficient number of poor people who can participate in Project activities and without identified social friction. Contracted **Micro-Catchment Planning Teams (MCPT)** will assist villagers from the selected MCs to make informed decisions about committing themselves to work with OGM to rehabilitate their degraded natural resources (in the short term) and manage them sustainably (in the medium and long term). Each of the three Project provinces will then prepare a prioritized list of seven to nine micro-catchments totalling about 25 micro-catchments for further screening.

31. The Micro-Catchment Planning Teams will be multi-disciplinary service providers comprising specialists within forestry, crop-production, livestock production, rural infrastructure, rural sociology, and economics based on the guidelines in the **Project Implementation Manual (PIM)**. For each MC, a plan will be prepared in a participatory manner through communication, collaboration and agreements with the resident communities concerning the rehabilitation and subsequent care of the natural resources and the improvement of livelihoods of the resident households. The communities will themselves identify priority problems following the so-called process "*Beneficiary Centred - Problem Census - Problem Solving (BCPCPS)*". The Project's contribution is limited to facilitating the process; staff only explains the procedure, and neither takes part in the discussion nor makes promises. The village plans would constitute the building blocks of an integrated **Micro-Catchment Plan (MCPs)** comprising sub-plans for forestry land, pastureland, agricultural land, water and energy. Once negotiated, the MCP will form the formal agreement for the implementation of activities and define the modalities for (a) community participation in implementation; and (b) community participation in MC management and decision processes. Following approval of the plan by the Regional Forestry Directorate (OBM), the plan will be finally endorsed by the OGM in Ankara and serve as the basis for investments in the Micro-Catchments.

32. A subsidiary activity in support of the MC planning process will be the support of priority studies and high-level technical advice, including natural resource economics, carbon sequestration, multi-functional forest management plans, and renewable energy sources.

Component 2: Investments in Natural Resources and Environmental Assets

33. The component's outcome is reduced erosion, improved vegetation and a steady flow of water. The component will make investments through activities as identified in the MCPs for rehabilitation and protection of degraded areas in public land (gazetted forest land including rangelands). Reversing degradation and checking of erosion will establish the base for a sustainable economic development and poverty reduction in the upland communities. Natural resources rehabilitative measures to be implemented under the direction of the General Directorate of Forestry at the provincial level (OIM) with assistance from village communities. In any given MC, one or more interventions could be selected based on the micro-catchment planning process and (i) magnitude of the erosion; cost of intervention versus rehabilitation effectiveness and benefits for the community; (ii) soil type; (iii) steepness of slopes; (iv) type and density of vegetation cover; (v) rainfall characteristics; (vi) land use; (vii) cost and foremost; and (viii) the agreement of the resident communities.

34. The investments for the management of **land, vegetation and water** will include: (i) soil conservation investments; (ii) rehabilitation of degraded forests; (iii) development of public nurseries; (iv) rehabilitation and sustainable management of degraded grazing land/rangelands; and (v) livestock watering structures. The labour requirements for the activities will be locally sourced to the extent possible on a first right of refusal basis. Both traditionally as well as due to the nature of the work OGM gives preference to the hiring of village women except for manual earth moving.

35. Soil conservation investments include: (i) erosion control and slope stabilization measures such as gully rehabilitation; (ii) shallow/manual terracing for improved moisture retention; (iii) plantations of forest and fruit-bearing tree species as agreed with communities; and (iv) closure of specific and agreed areas to grazing for a period of time to enable the vegetation to regenerate.

36. The interventions for rehabilitation of the degraded forests will include: (i) oak coppice rehabilitation; and (ii) tree planting (afforestation) on degraded forestland. Rehabilitated areas will be closed off to grazing by fencing for a period of time (2-3 years) to enable the seedlings to grow to above a height that could be damaged/eaten by the small ruminants.

37. The Project will support the OGM nurseries in Elaziğ and Muş. A timely and stable supply of high quality seedlings of desired species with appropriate provenance will be of paramount importance for the success of the large scale three planting.

38. Rehabilitation of degraded grazing land will be undertaken to reduce grazing pressure on forest rangelands/ grazing land. This will be achieved by: (i) Closure (fencing) to grazing for a period of time in order to rehabilitate vegetation; (ii) helping users to adopt rotational grazing as a routine practice; and (iii) supporting the establishment of community-based management and regulation of grazing access. The Project will conduct training and demonstration activities, introduce forage crop seeds for grazing land users on cost sharing basis and support investments in rangeland infrastructure such as watering points for livestock, scratch posts, and shades.

39. Livestock drinking water structures will provide access to water in grazing lands and so reduce animal travelling distances for drinking. The benefits derived are two-fold: (i) reduction in the risk of spreading animal diseases; and (ii) increased livestock productivity. The construction of livestock watering ponds in rangelands for direct use during the summer grazing period will be supported in villages where livestock production is the main activity and where water sources are scarce but site conditions are favourable to collect surface runoff. All investments in livestock watering facilities should include an environmental assessment and a basic financial analysis relating investment cost to the expected increase in production and revenues.

Component 3: Investments in Livelihood Improvement

40. This component's outcome is improved living conditions through support to small-scale crop and livestock production on private land. The Project will provide opportunities on a cost-sharing basis to raise income of MC communities reinforcing the adoption of rehabilitation activities. Hired Project Provincial Teams (PPTs) will assist villagers in the implementation of activities. The PPTs comprise a forest engineer, an agronomist and a livestock specialist. OIM will second a forester to each PTT to be a focal point for the liaison between OIM, PPT and local communities. The OIM officer will also be responsible for collection of accurate M&E data. The governors' offices in the Project provinces will provide necessary coordination and linkages between the Project and the resources of Provincial Directorates of Agriculture (PDAs) for extension and training support.

41. Provisions are made for training of the three PPTs on technical topics as well as in poverty targeting and gender issues at the beginning of their work and for refresher training in third and fifth year of implementation. Both PPTs and OGM staff will participate in training in participatory methods and gender/poverty sensitisation.

42. The investment menu will include: (i) Improvement of the productivity of wheat and barley; (ii) forage crop production; (iii) improvement of livestock stables; (iv) orchard establishment; (v) improving vegetable production; (vi) small-scale irrigation; and (vii) contracted seedling production; and (viii) promoting energy saving technologies.

43. The menu offered will vary according to the agro-ecological and socio-economic conditions in each village as well as farmers' resources and needs and wishes. The approach will be flexible and the scale, scope, timing/phasing and associated costs for all activities will be detailed in the agricultural sub-plans made in the negotiated MCPs.

44. Improve agronomic practices, by supporting farmers cultivating small plots with mainly barley and wheat considering the poor soil conditions and climatic constraints. Focus will be on soil fertility management and soil conservation through crop rotations, improved seeds/seedbed preparation, contour ploughing etc. Opportunities for integrating crop and forage production will be pursued to (i) improve crop rotations; and (ii) underpin the efforts in better livestock feeding and management.

45. Forage crop production will be encouraged and supported under both rain fed and irrigated conditions. Leguminous forage crops planted under rain fed conditions will improve soil fertility and reduce erosion on sloping land through maintaining a protective cover. For irrigated conditions, alfalfa and silage maize are possible priority crops particularly for villages where dairy cattle production is gradually developing.

46. Improved stables for sheep and cattle are an important element for a better livestock management, which will instigate a shift away towards a more sustainable production system. The component will support the upgrade of traditional stables including better feeding and hygiene.

47. Improving vegetable and orchard production present a considerable potential in many upland villages. There is a proven demand for fruits and vegetables in the region and as such be an important income generating activity for women and improve the family diet. The component will support investment in small modern orchards for production of soft and stone fruits (e.g. apple, pear and plum) and nuts (e.g. almond, walnut and chestnut). Vegetable production is also an activity popular among women and can be elevated by the right management under plastic tunnels and drip irrigation. The component will provide finance on a cost sharing basis and technical assistance.

48. Small-scale irrigation will be supported with off-farm water capture and conveyance and on-farm irrigation. Small-scale off-farm irrigation investments will ensure a reliable supply of water for irrigation and expand the irrigated area available to a village, if any, by improving irrigation efficiency. Boosting irrigation will underpin the efforts to improve orchard and vegetable production and will make use of the more steady water flow instigated by micro-catchment activities.

49. Contracted seedling production. The Project will support the establishment of small tree nurseries in the MC villages. The objective is to ensure a steady supply to private villagers and the OIM of quality multi-purpose tree and fruit tree seedlings. The OIM purchase will be made on contractual basis with a buy back guarantee supplementing the seedling supply from the nurseries in Elazig and Mus.

50. Promoting energy saving technologies to reduce pressure on the forests for fuel wood and reduce the burning of dried dung, which instead can be utilized to improve soil fertility. Energy savings will be made by reducing the overall demand for fuel and excessive reliance on fuel wood through the promotion of affordable renewable energy sources in the upland villages. The interventions comprise mainly solar water heaters, energy efficient stoves, and alternative small-scale energy-saving technologies.

D. Lessons Learned and Adherence to IFAD Policies

51. **Lessons Learned.** Country performance. IFAD has supported eight projects in Turkey since 1982. The overall record of implementation was mixed. Difficulties arose from the highly centralized and bureaucratic nature of government administration and a supply-driven attitude towards development. In the past, these problems were compounded by unstable and adverse macroeconomic conditions but recent stabilization and rapid growth of the economy accompanied by fiscal and structural reforms have improved markedly the overall climate for investment and development. Nevertheless, bureaucratic procedures continue to act as a constraint on the smooth and successful implementation of projects.

52. Specific problems have included delays in declaring projects effective, slow rates of disbursement, and difficulties in managing the flow of funds. In some cases, portfolio restructuring, partial loan cancellation or resource reallocation has been necessary, resulting in adjustments to loan agreements and Project administration arrangements. However, in the last five years these difficulties have been addressed through a series of measures including: Collaboration with UNDP for assistance in procurement and flow of funds; direct supervision and implementation support by IFAD; a more focused design of investments; and clearly defined modalities and institutional responsibility for Project implementation. These initiatives have resulted in a decrease in the time required for declaration of effectiveness and an accelerated disbursement for the three projects currently under implementation.

53. Previous IFAD-supported projects have featured temporary "semi-detached" Project management units that have not been integrated fully into Government structures. The potential for capacity building of the technical cadres cannot be realized with such configurations, given frequent changes of staff, the avoidance of creating new posts in the Government service and the problems associated with the role of contracted staff in a very large civil service, particularly with delegated financial powers. The approach taken in this Project is to locate Project management within an appropriate Government section with a temporary "operations unit" embedded in the Government service to coordinate Project implementation and to discharge those temporary additional duties related to the Project in hand — financial operations, reporting, monitoring and evaluation, and liaison.

54. It has been learned in Turkey, as elsewhere, that Project objectives should be realistic and based on activities that can be influenced directly by the executing authority without undue reliance on the performance of external agencies, unless such performance can be linked to clearly defined contractual obligations from a service provider. As a MIC, Turkey has a burgeoning private sector capable of providing Project services on contract, including delivery in remote rural areas given a viable business proposition. The potential role of non-governmental organizations as social and natural resource service providers is limited.

55. Earlier projects have shown that the interrelated issues of land condition, management and sustainable use require the availability of an accurate database. In many parts of the mountainous forest lands of Eastern Turkey, land tenure and ownership/titling issues of forest and/or private lands are not always clear. At the start-up of the MRWRP, the forest cadastre and management plans would be updated in each

of the MCs where Project activities would take place. The Project's handling of land tenure issues will be addressed by the inception review to take place within the first two years of the Project.

56. **Adherence to IFAD Policies.** The design of the MRWRP is aligned to all relevant IFAD strategies and policies, including: Strategic Framework 2011-15; Targeting Policy – Reaching the Poor; Gender Strategy; Engagement with Middle-Income Countries; Climate Change Strategy; Environment and Natural Resource Management Policy; Policy on Supervision and Implementation Support; and Environmental and Social Assessment Procedures.

57. The 2011 *Environment and Natural Resource Management Policy: Resilient livelihoods through the sustainable use of natural assets* have particular significance for the Project. The policy distils lessons learnt in previous IFAD initiatives that have sought to reduce rural poverty through interventions related to sustainable environmental management. The ten core principles of the IFAD ENRM Policy encapsulate both the core issues to be addressed and suggested approaches. In particular, the proposed MRWRP reflects IFAD's commitment to promote *recognition and greater awareness of the economic, social and cultural value of natural assets* (Principle 2) and *improved governance of natural assets for poor rural people by strengthening land tenure and community-led empowerment* (Principle 6).

58. Experiences from the World Bank implemented Eastern Anatolia Watershed Project (EAWP), points at the importance of addressing the different needs among families (livelihood strategies and access to resources) and within families (gender and age). Reliance on livestock, access to irrigation water, firewood, fertile soil etc. are important livelihoods parameters in the regards. Restrictions in the use of natural resources (grazing, wood collection, etc.) can have a serious impact on the village people if not off-set by alternative benefits. Also the need to assess both socio-economic and physical natural resources impact has been a weak spot in e.g. the EAWP.

59. In order to ensure that Project benefits reach IFAD's target group of the extremely poor and food insecure, target groups have been defined, a targeting strategy developed, and means of operationalizing this strategy integrated into MRWRP design and implementation modalities. The Project approach is geared to real conditions and cultural norms, including prevailing gender roles. Measures include direct consultation with women in intervention planning and implementation. The Project features proactive community mobilisation and the generation of participatory modalities of natural resource rehabilitation and post-improvement maintenance.

60. In the Turkish context and within the framework of current IFAD experience in the country, a number of measures and mechanisms supporting women's involvement would be implemented, including: Selection of service providers with proven capacity in working with women; separate sessions with women to ascertain their opinions and needs; preferential access for women to appropriate activities on a demand-driven basis; and integration of gender mainstreaming responsibilities into the terms of reference of all Project staff as a principle to be respected.

61. Gender-disaggregation will be applied in Project M&E and knowledge management systems whenever possible. Many Project activities will however benefit entire families and provisions are set aside to conduct separate studies on gender impact. The Project will also establish simple measures to assess efficacy of the various soil erosion and afforestation interventions, which as far as possible will be operated by villagers, hereby create local awareness as well as being inputs for the M&E system.

III. PROJECT IMPLEMENTATION

A. Approach

62. **Approach to Project Implementation.** Communities' involvement and ownership is facilitated by the Project's demand driven approach taking departure in the expressed wishes and needs of the people living in the targeted micro-catchments. Selection of activities to be carried out in the individual villages will be flexible and according to the communities' expressed needs as well as the physical and economic feasibility. The activities targeting improvement of the village communities' economy and livelihoods will be closely linked to, and depending on, the rehabilitation and care of natural resources.

63. **Selection.** Provincial OGM (OIM) makes an initial screening of the approximate 100 micro-catchments (MCs) in the three provinces and produces a long list of possible candidate MCs. The long list will form the basis for a further scrutiny of the micro-catchments ending up in a selection of the first nine micro-catchments to be targeted for the initial two years planning and implementation. The final selection will be done jointly by OIM and the regional Forest Directorate (OBM) based on physical as well as socio-economic criteria. Specific emphasis will be placed on poverty level and the potential to raise livelihood standards through Project activities. The initial 1½ years planning and initial implementation will guide the further selection of approximately 16 micro-catchments, reaching a total of approximately 25 MC's for the seven years Project.

64. **Planning.** A Micro-Catchment Planning Team (MCPT) will be contracted to work with the communities in the selected micro-catchments. From the outset, all villages in the micro-catchment are included in the planning process as natural resources catchments are interlinked. The planning exercises will be based on the PCPSBS approach facilitating the equal involvement of all groups in the villages, including women, youth and the most resource poor village dwellers.

65. The resulting MC plans (MCPs) would set out the optimal programme of investments in the rehabilitation of natural resources (soil, vegetation, pastures and water resources), small-scale agriculture and energy saving, all selected from a menu of possible interventions that would vary with agro-ecological and socioeconomic conditions in each village as well as farmers' resources and needs. The iterative process of balancing technical, socioeconomic and local political considerations may take several months. However, consensus is crucial in this negotiation as the intention is a shift from the prevailing unsustainable regimen to a genuine and perpetual co-management of local natural resource assets by Government and villagers.

66. Once agreed, the MC plan will be carried out jointly by the OIM (the provincial branch of the Forestry Directorate) and the village communities assisted by provincial Project teams (PPTs). Further, implementation is expected to include collaboration with other public authorities under the Governor of the Province e.g. the Department of Agriculture. The main investments in natural resources (erosion control, afforestation, pasture improvement and water ponds for livestock) are based on agreement with local communities. Villagers will accept new management practices of the micro-catchment area, e.g. keeping livestock away from areas enclosed for regeneration of vegetation. In return, the local population has the opportunity to benefit from short- and/or long-term payments for rehabilitating and protecting the environment and from the various investments in improved livelihood. Hired forest guards from the community will monitor that the agreements are adhered to, and village community is responsible for dealing with any noncompliance to the agreements set up in the Village's MC plan.

67. The investments in livelihood improvements will as far as possible complement the investments in natural resources rehabilitation; e.g. energy saving measures will

reduce the pressure on forest resources and forage production and improved stables will gradually change towards less free ranging small ruminants. Investments in livestock improvements will be made on a cost sharing basis.

68. **Project Duration and Phasing.** MRWRP would be implemented over seven years (2012-2018). The planning and implementation will take a stepwise approach: Including three micro-catchments the first year, six the second year and eight in both year three and four. The entire process of selection, planning and implementation in each MC will last between three to three and a half years, which allows for completion of the three latest selected MCs in the beginning of the seventh Project year. Main physical works will be executed in the first years and substantial maintenance and consolidation activities in the following two. The climate constrains the timetable; rehabilitation works, outdoor infrastructure development and agricultural activities are confined to the four-five spring/summer months. Three years is regarded as the minimum required to develop and consolidate community natural resource co-management arrangements. The seventh Project year will be used for a thorough documentation of lessons learned and a possible assistance to the design of Project replication in other parts of Eastern Turkey.

69. **Inclusiveness and Empowerment.** The upland villages in the Project area are among the poorest in Turkish society, dependent on state and private welfare support, culturally and socially cohesive, but individualistic as farmers/producers. The Project is oriented towards economic empowerment of the people in these villages. It is a process which will be initialised by the participatory planning process; enforced by the rehabilitation and stabilisation of land, water and vegetation; and interlinking with improved and more sustainable agricultural production. The benefits from rehabilitation of natural resources, will empower communities to engage in a more profitable and sustainable agricultural production and hereby improving their livelihood.

70. Most activities are gender neutral and deliver benefits to whole households. However, due to traditional gender roles in the villages, some activities will mainly target women (energy saving, horticulture) and others mainly men (livestock, erosion control, public works away from the homestead). However, changes in the production system instigated by the Project may change gender responsibilities and benefits, e.g. a gradual shift away from free ranging livestock to "cut and carry" feeding. The planning process will address these gender differences to ensure that activities affect women positively, and the monitoring and social surveys should notably pay attention to changes in women's workload and benefits from the Project.

B. Organisational Framework

71. **Implementing Agencies** at both central and local levels is the General Directorate of Forestry (OGM) within the recently reconfigured Ministry of Forestry and Water Affairs (MFWA). The mandate of the MFWA in relation to the goals, objectives and activities of the proposed Project remain unchanged and the new formation is expected to result in more effective and streamlined implementation arrangements.

72. OGM has carried over formidable expertise and implementation capacity for land rehabilitation and relations with the villages within or close to forest areas from the former Ministry of Environment and Forestry (MOEF). MFWA is headquartered in Ankara and has field implementation capacity in regional and provincial offices. Intra-governmental co-ordination, programme delivery and delegated financial responsibilities are managed by provincial authorities, including contracts with private sector service providers. Responsibility for field implementation of the proposed Project would lie with the Regional Directorate of Forestry (OBM) located in Elazığ.

73. The former MOEF was demonstrably a mature and competent administration with vision, clear internal management structures, strong technical cadres delivering well-proven environmental remediation and effective financial procedures. MOEF hosted two successful World Bank-supported watershed rehabilitation projects and is currently implementing a new large watershed Project supported by JICA.

74. **A Steering Committee (SC)** established within MFWA will be chaired by the Deputy Undersecretary for Forestry. Membership comprise the Director General of OGM and the Department Heads of (i) Afforestation; (ii) Soil Conservation and Watershed; (iii) Forest-Village Relations Department; (iv) Strategy Planning; (v) Data Processing; and (vi) Nursery and Seed Activities. The Deputy Project Manager will act as secretary and be responsible for the dissemination of the decisions and follow-up. The role of the Steering Committee is to provide overall policy guidance and oversight, approve the Annual Work Plans and Budgets and the Programme Implementation Plan, and ensure that overall Project operations are within the legal and technical framework agreed between the Government and IFAD.

75. **A Central Operations Unit (OU)** will be established within OGM in Ankara to support implementation of the Project. The OU comprises a Project Manager, a Central Focal Point (CFP), a secretary/translator and five technical staff members. The Deputy General Director of OGM assumes the position as Project Manager (PM) and the head of the Afforestation Department of OGM will be the Central Focal Point (CFP). The OU staff members are seconded by OGM and will in average use approximately 20% of their time on OU related work. A Deputy Project Manager will be hired externally and be posted close to the implementation at the regional Forestry Directorate (OBM) in Elazığ. The Deputy Project Manager will however work closely with the OU and have frequent duty travels to Ankara. The OU's main functions are: (i) to provide broad based management support to OBM in including planning, programming, budgeting, monitoring and documenting progress; (ii) elevating experiences and lessons learned through the steering committee to the policy level; and (iii) to report to the Ministerial level and general directorate level and IFAD.

76. **Implementation of Activities in the Provinces** is decentralised to the Forestry Directorate at provincial level (OIM) in close collaboration with the Forestry Directorate at regional level (OBM). A Field Operation Unit (FOU) will be established at the regional (OBM) level in Elazığ, with seconded staff from OBM and supported by the Deputy Project Manager. The principal functions of the FOU are: (i) to provide management support to the implementation at field level; (ii) to coordinate planning and reporting between OIMs the OBM and OGM in Ankara; and (iii) to handle day-to-day management and implementation of the Project. The FOU will take the lead in the procurement of all civil works, goods and services, and technical assistance that relate to the field activities.

77. **Strategic Partnerships.** MRWRP benefits from the practical experience of three ongoing IFAD-supported projects, and will pursue collaboration with the World Bank and JICA supported watershed Project hosted by MFWA. At an international level, the projects achievements are likely to be of interest to other countries working with rural poverty and natural resources management. To facilitate international exchange of experiences provisions are made for funding of international networking, twinning arrangements etc.

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

78. **Planning.** The Micro-Catchment Plans (MCPs) developed for each targeted MC and the Project Implementations Plan (PIP) forms the basis for all further planning. OGM supported by the Coordination Units (FOU/OU) prepares the Annual Work Plan and Budgets (AWPBs) in accordance with procedures agreed with IFAD and detailed in the PIM. The inputs for the AWPBs will be provided by OBM and the Deputy Project Manager

(DPM), in line with the Micro-Catchment Plans (MCP). The FOU/OU will assist in generating the AWPBs that would be submitted to OGM for review and formal approval in the Steering Committee and presented to IFAD for no objection.

79. These AWPBs will clearly describe which activities will be carried out the coming year. The AWPBs will link the proposed budgetary envelope with physical results to be achieved, taking into account previous years' achievements. The Field Operations Unit (FOU) will review and approve provincial AWPBs and send a consolidated version to the Operations Unit (OU) in Ankara. The OU's inserts its contributions and complete the AWPB. The Deputy Project Manager supports the AWPB preparation process at both the FOU and the OU level. Finally the Project Steering Committee reviews and approves the AWPB in time for Project activities to be included in the normal government budgeting process, and submits the AWPB to IFAD at least sixty days prior to the commencement of the fiscal year.

80. **Monitoring.** The monitoring and evaluation (M&E) function will be integrated in the management system, and be guided by the Project's logical framework. Information from a variety of sources will form the basis for an integrated management information system (MIS) focusing on continued analysis of, rather than generation of, information. The Logical Framework indicators combined with a selection of indicators from the MCPs form the basis of the monitoring system. OGM already has in place a robust, computerized system for tracking progress in terms of the physical works. Data on expenditures and activities carried out are entered into this system at provincial level and will form the backbone of the M&E system.

81. Erosion will be measured in all 25 MCs through *in situ* erosion measurement and sediment capture and will be combined with GPS marked photos in predestined locations of the catchment area. This will serve the dual purpose of a) obtaining data, which can document impact of NR rehabilitating activities directly in the MC areas and b) create awareness by involving communities in the installation, management and data collection. Data from the MC areas will be compared with data from the larger watershed or basin level. The data on this level will mainly be available from hydro-electrical dams and can be used for calibration, i.e. to detect extraordinary high or low water flow and sediment load. Extreme water flow will also be detected at MC level, and indicates extreme weather event, not only impact of improved MC physical properties. The possibility of collecting data at the intermediary level, an outlet from a full MC area or provincial level will be explored, but is difficult and may be too costly for the Project.

82. Participatory monitoring will make both communities and OGM staff more conscious of the impact of different measures to check erosion and improve the physical properties of MC areas. PPTs will collect data related to investments in improved livelihoods. These data, e.g. change in use of firewood, livestock health and vegetable productivity, will be used in village meetings, training events and other means to a) disseminate results in communities, and b) facilitate participatory monitoring where the community monitor progress in improving livelihood and reviewing assumptions

83. The M&E system comprises both performance and impact monitoring. All M&E data will be disaggregated by gender and province. The Logical Framework indicators combined with a selection of indicators from the MCPs form the basis of the monitoring system. During the start-up workshops, one in Ankara and one in each of the three provinces, further recommendations will be made on specific indicators and Means of Verification (MoVs). An early task of the M&E specialist would be to identify data sources and periodicity of reporting for the agreed indicators. An inception review, which will take place at the end of the first 18 months Project implementation, will as part of a general stock taking also assess the performance of the monitoring system, and possible make recommendation for adjustments.

84. **Learning and Knowledge Management.** The technical qualifications of OGM staff are well known in Turkey and the OGM's in-house research capacity will be used to assess the technical and economical feasibility and the impact of different techniques and approaches. This will enable the collection and sharing of opportunities within OGM and on a broader national and international level. There are currently several international initiatives on joint forest management, benefit sharing and climate of which OGM could benefit from interchange of experiences. The REDD+ (Reduction of Emissions from Deforestation and Forest Degradation) under the World Bank and UN-REDD are dealing with financing of avoided deforestation and replanting. The main learning for the MFWA would come from setting up a system for working with upland communities to co-manage the resources. The processes of MC planning and management should be documented so that it can be replicated in other areas. The annual planning workshops would provide a forum for documenting lessons learned and identifying promising areas for knowledge generation.

D. Financial Management, Procurement and Governance

85. An **assessment of financial management (FM)** of the General Directorate of Forestry (OGM) under the Ministry of Forestry and Water Affairs (MWFA) was conducted as part of the final design. This assessment builds on the previous assessment at the initial design and consultations with World Bank and UNDP staff. WB relies fully on the Government systems for Treasury and External Audit functions and the Treasury system is fully used for fund flows as it is assessed to be highly transparent, well-regulated and timely managed. Furthermore, the consultation with World Bank and UNDP staff in Ankara confirms that the OGM financial management is acceptable while reporting requirements need to be customised by IFAD to monitor Project activities on a sufficiently detailed level.

86. **Financial Management Arrangement.** The Strategic Planning and Budgeting Department (SPBD) of OGM operates under the MFWA but under the financial management framework of the Ministry of Finance with an annual budget ranging between USD 2-3 billion.¹

87. The budgeting unit in SPBD is staffed with 5 financial specialists to monitor regional level operations. All 27 regional directorates are authorised to carry out operations using the Central Budget. OGM has a unit in each regional directorate staffed with 1 accountant. The SPBD accounting system manages disbursements and monitoring of expenditures while the e-budget system is used for planning and allocation. Both systems allow for monitoring expenditures online.

88. The final design mission finds SPBD arrangements being acceptable in that they: (a) Enable the disbursement of funds for the rapid implementation of Project activities; (b) are capable of correctly and completely record all transactions and balances relating to the Project; (c) can facilitate the preparation of regular, timely and reliable financial statements and safeguard the Project's assets; and (d) are subject to audit arrangements that are acceptable to IFAD. Following this assessment, it has been determined that overall responsibility for financial management of the proposed Project will rest with the Operations Unit of OGM with the SPBD handling all disbursements and transfers to the regional and provincial directorates through the budgetary system.

89. **Planning and Budgeting.** The government budget cycle runs from January 1 to December 31. The budget will be prepared annually and reviewed bi-annually by the OU. OU will consolidate the Annual Work Plan and Budget (AWPB) prepared through a participatory process at the provincial level.

¹ The approved 2012 budget is USD 2.3 billion.

90. The OU will submit the consolidated AWPB to SPBD for inclusion in the Government's budget and to IFAD for review and no-objection prior to start of implementation. Although Project budgets are included in the OGM budget on a global basis, OU should maintain a shadow budget distinguished by expenditure activity, components and categories in the IFAD format. The detailed steps/processes, controls for the preparation and approval of the AWPB will be included in the Project Implementation Manual (PIM).

91. **Disbursement Arrangements & Flow of Funds.** The Government would establish a Designated Account in US Dollars (USD) at the Central Bank for proceeds from the IFAD loan/grant. The SPBD will be authorised to operate this account.² SPBD will channel the funds through its OGM corporate account based on approved Annual Work Plan and Budgets (AWPB), and track the funds through specially assigned codes.

92. For costs incurred at the Central level, the Operations Unit (OU) at OGM will be responsible for approving and releasing the payments. Payments for works, goods and services procured at provincial level would be executed by the Regional Directorate of Forestry (OBM), who is responsible for field implementation. Payments made at provincial level (OIMs) would be authorized by the Governor's Office, in line with the practice for Government-financed projects, against approved work plans and associated budgets.

93. **Reporting and Monitoring.** It is recommended to use report-based disbursements under which a forecast of Project expenditures will be agreed upon through the AWPB, covering the current and next FMR reporting period. The OU prepares FMRs on a semi-annual basis by using the accrual basis of accounting and will be used as a monitoring tool, i.e. summarising Project progress and provide budget versus actual variance analysis.

94. Annual financial statements will be prepared individually by the FOU's and consolidated by the OU. The annual financial statements for the Project are subject to annual audit by an external auditor.

95. It is anticipated that the Financial Management Manual prepared under the World Bank project would be utilised by the IFAD-financed Project. This includes formats for Financial Monitoring Reports (FMRs) that would be included in Project semi-annual reports to IFAD. Relevant guidance would be provided in the form of start-up training but also provided in detail in the Letter to the Borrower and PIM of the MRWRP.

96. **Audit Arrangements.** Financial statements would be prepared on an accrual basis of accounting in accordance with International Standards on Auditing (ISA). Treasury audit of annual financial statements for the Project will be in accordance with International Standards on Auditing and under Terms of Reference (ToR) agreed upon with the IFAD.

97. World Bank and UNDP endorse the quality of the Treasury's audit. Audits would also cover expenditures made by the provinces and include specific opinions on the financial management arrangements of each province. The audited financial statements and audit reports would be submitted to IFAD and the Government.

98. **The Financial Management Supervision Plan** will be aligned with risk-based supervision for financial management arrangements. At least one on-site fiduciary-focused visit would be carried out each year, and more, if deemed necessary.

² Only SPBD staff are authorised to operate the OGM accounts.

99. **Procurement Assessment.** The Public Procurement Law (PPL) was adopted in Turkey in 2002 in line with EC Public Procurement Directives. Since its adoption, Turkey's public procurement system has undergone several changes (almost each year since 2004) and overall procurement capacity has improved markedly. The Public Procurement Authority under the Ministry of Finance is recognised as a stable and strong institution and is credited with having largely helped to establish a modern public procurement system. IFAD undertook an assessment³ of the institutional capacity of the General Directorate of Forestry (OGM) of the Ministry of Forestry and Water Affairs (MFWA), which will be responsible to manage and oversee Project related procurement. Discussions with World Bank and UNDP staff during the mission's field work confirmed that the required capacity is available at the MFWA. In terms of Turkey's overall procurement capacity, recent assessments have been made under the OECD-funded programme "Support for Improvement in Governance and Management" (SIGMA) who found: that the current PPL "is generally well-structured, with a natural division between the various phases in the procurement process." The few concerns flagged by Sigma which are relevant to the MRWRP can be managed by tightening as necessary procurement procedures.

100. Even though IFAD did not partake in the assessment exercise, it stood to gain substantially from the findings and conclusions of above independent reviews. Coupled with the interviews, IFAD's new procurement assessment tool was the main instrument utilised in this validation exercise.

101. Under the PPL, investment projects financed by an international agency are not required to follow Turkish procurement procedures. However, based on this assessment, national procurement procedures will be followed in most of the cases – those deemed consistent with IFAD procurement guidelines and Procurement Handbook of September 2010 – with appropriate methods to be determined during procurement planning in accordance with the thresholds set forth in this document. The OGM's (and under it, the OBM and OIMs') procurement experience is mainly related to civil works, goods and equipment with limited experience in Consultancy Services. In addition to the intensive training IFAD plans to carry out at the start-up of this Project, IFAD Guidelines will be followed for the procurement of technical assistance and specialists.

102. According to the assessment's findings the OGM's procurement practices appear to be well organised at the central and the regional level. It is estimated that annual value of procurement by OBM ranges between USD 300 to 500 million. Specialised procurement training will however be necessary to develop the requisite skills and familiarity with IFAD procurement procedures and documentation.

103. **Procurement Arrangements.** For each contract to be financed by IFAD, proceeds, the types of procurement methods, the need for pre or post-qualification, estimated cost, prior review requirements and time-frame are agreed between the Borrower and IFAD in the Procurement Plan. As a general rule and excepting civil works, any procurement estimated to cost more than USD 75 000 will be subject to National Competitive Bidding.

104. All bidding documents for the procurement of goods, works and services shall be prepared by the procuring entity with the participation of the OBM and/ or OU/FOU specialist(s) as required. At the provincial level, the responsible team of the line agencies would prepare the procurement documents under the supervision of central management of the relevant agencies and OU. All the procurement documents would be cleared by the OU before any action is taken.

³ Desk reviews of literature and assessment reports from SIGMA and WB; Interviews with OGM staff and OBM staff and discussions with WB Country Office staff.

105. **Governance.** MRWRP activities would be implemented by the regional and provincial Government structures, contracted suppliers and service providers, and upland village communities. All financial and material transactions of the Project would be subject to Turkey's robust prevailing governance framework and comply with IFAD's exacting requirements of transparency and rectitude. In accordance with Article 3(c) of the PPL, government offices, provincial and municipal administrations have internal audit units and are also subject to external audits by the Inspection bodies and Supreme Accountancy of the GOT under the Turkish Court of Accounts (TCA).⁴

106. Good governance measures built into the Project will include (a) undertaking all necessary measures to create and sustain a corruption-free environment for activities under the Project; (b) instituting, maintaining and ensuring compliance with internal procedures and controls for activities under the Project, following international best practice standards for the purpose of preventing corruption, and shall require all relevant ministries, agents and contractors to refrain from engaging in any such activities; (c) complying with the requirements of IFAD's Policy on Preventing Fraud and Corruption in its Activities and Operations; and (d) ensuring that the Good Governance Framework, (to be provided at final design), is implemented in a timely manner.

107. Government shall also ensure that: (i) It is engaged actively in allowing potential Project beneficiaries and other stakeholders to channel and address any complaints they may have on the implementation of the Project; and (ii) after conducting necessary investigations, the Government shall report immediately to IFAD any malfeasance or maladministration that has occurred under the Project.

E. Supervision

108. The MRWRP would be supervised directly by IFAD. Supervision and implementation support would be based on IFAD's operational modalities and practices and would include loan/grant administration and Project implementation support. Supervision and implementation support would be a continuous process, involving continuous communication and engagement with the Government, the MRWRP Operations Unit and other relevant programme stakeholders. Several instruments would be applied to steer implementation: ongoing policy dialogue with Government; adjustment of AWPBs; revision/updating of implementation manuals; undertaking of supervision, implementation support and mid-term review missions. IFAD staff and consultants would attend the programme start-up workshop, and specialist consultants and staff would continue to be involved in the supervision and the implementation support.

109. The first implementation support mission would take place soon after programme commencement, and would include an M&E specialist. The frequency and composition of following supervision and implementation support missions would be determined in light of requirements and in accordance with the Government but would consist of at least one full-fledged annual supervision mission complemented by short and focused follow-up missions as appropriate.

110. The key Project features requiring special attention during supervision are: the proper conduct of the awareness raising and MC planning activities; the maintenance of flexibility in approach and modalities as the Project evolves; the establishment and financing of post-rehabilitation natural resource maintenance and protection

⁴ The Turkish Court of Accounts (TCA) is responsible for external audit. The legal framework governing its operations is based essentially on Law 832 on the Court of Accounts, enacted in 1967 (as amended). Law 5018 on Public Financial Management and Control (PFMC), in force since December 2005 (as amended), also governs some of the TCA's general responsibilities.

arrangements; and concentration on the achievement of medium- and long-term outcomes rather than the deployment of inputs.

111. An inception review will be launched between the first 18 months and two years of implementation. At that stage the Project will have gained sufficient experience from the selection of MC areas, MC- planning in the first three MCs, and the establishing of modalities for physical and socio-economic monitoring. The mission will assess the adequacy of institutional structures within OGM (OU and FOU), the MCPT and PPTs as well as the extent to which structures within village communities are adequate for the participatory planning and management being the cornerstone of the Project. The timing of this review will allow for timely adjustments of Project modalities and activities to reach Project targets at outcome and objective level. Appendix 5.4 lists of possible points to be addressed in by the inception review.

F. Risk Identification and Mitigation

112. At the Goal and Development Objective Level, the main potential risks for MRWRP include: Political instability; macro-economic stagnation and decline after several years of strong growth; extreme events/natural disaster; the scaling back of the ambitious national land rehabilitation programme; and a Government retreat from its pro-poor policies focused on reducing regional income disparities.

113. The prospects for continuing economic growth remain sound, although the world financial situation is currently critical. Turkey is moving towards EU accession with the adoption of measures to meet required technical and administrative standards for trade and to converge with stringent environmental protection protocols. It is expected that existing progressive forestry and NRM policies would continue to be improved and enforced. Turkey has the resolve and the means to tackle the severely degraded state of the forest lands in the mountains in the East of the country, and the attendant pockets of relatively extreme poverty. The socio-political advances and reforms of the past several years appear solid. Natural disasters, notably earth quakes are notorious for the eastern parts of Turkey and have detrimental impact on people and infrastructure, but Turkey has an experienced preparedness and is capable to minimise the impact of earthquakes. The Project area has also for years been troubled by political instability and insurgency, but the villages in the area have over the years built in some resilience to unrest. The problems of unrest seem to be contained in specific areas and the Project will target areas where the security situation is stable.

114. **The Main Risks at the Outcome Level** is (a) that the measures of erosion control and afforestation are not sufficient to reduce land degradation, flooding and sedimentation as much as predicted; (b) that MC rehabilitation combined with investments in agriculture, livestock and energy are not sufficient to improve livelihood; and (c) the vulnerable groups and women are not involved in planning and execution of Project activities. A number of mechanisms have been built into the Project design to mitigate against these risks, including:

- the adoption of an exhaustive facilitated planning approach in which an informed target community has to reach a consensus on Project activities and commit to specific plans;
- the emphasis on inclusion of women and vulnerable groups in the planning and executing of activities;
- the use of dedicated specialist teams in each province to provide intensive support to a manageable number of target communities in negotiating and implementing MCPs;
- the mobilization of highly-skilled technicians in planning and supervising civil works and infrastructural developments;

- the establishment of a robust monitoring system, linked to OGM in-house research capacity in erosion control;
- the emphasising NRM economics through studies and training to facilitate that the most cost-effective erosion control and afforestation techniques are applied; and
- the application of self-selection and meaningful co-financing arrangements for all private agricultural development and energy saving activities; and preferential hiring of local people for all Project-related jobs during and after natural resource remediation;

115. At the **Output Level**, in the public service, the region is regarded as a hardship posting and there remains a small risk that frequent staff turnover could undermine the intended dedicated team approach. The availability and quality of private sector service providers in construction and supply has improved markedly in recent years in the three target provinces, but there remain concerns about the recruitment of capable community development facilitators.

IV. PROJECT COSTS, FINANCING BENEFITS AND SUSTAINABILITY

A. Project Costs

116. Project costs have been derived from the data obtained during the final design mission in October 2011, from consultations with staff of OGM, Provincial Directorates of Agriculture (PDAs) and other practitioners working with forestry, agriculture and livelihood; and from interviews with village communities and from other donor agencies. The main assumptions underlying the cost derivation are as follow:

- **Project Period.** The proposed Project would be financed over a seven-year period. Project costs are based on October 2011 prices.
- **Inflation.** The Economist Intelligence Unit (EIU) and the Central Bank of the Republic of Turkey (CBRT) forecast that average local inflation is expected to be 5.2% in 2012 and stabilize around 5.5% in the medium term. For this analysis a local inflation annual rate of 5.5% and foreign inflation annual rate of 2.1% have been used for the entire Project's period. Both foreign and local inflation rates have been compounded at mid-year as shown in Table 1.
- **Exchange Rate.** In early November 2011, the Economist Intelligence Unit (EIU), November 2011 baseline forecast is that the lira will end in 2012 at its current level of TL 1.75-1.80:USD 1 and average TL 1.80:USD 1 in 2012.
- **Price and Physical Contingencies.** A physical contingency rate of 5% of the total base costs has been assumed for a limited portion of programme costs in particular with respect to civil works and operating costs. No provision for physical contingencies has been made for other goods and services as they have been estimated with reasonable certainty.
- **Taxes and Duties.** Most items procured under the Project will be purchased locally. Selected items will be procured through UNDP and will be exempted from VAT (18%). In line with the practice of externally financed projects in Turkey, the government will finance identifiable taxes and duties.
- **Basis for Cost Estimates.** Project costs are estimated as of October 2011 prices. Estimates for costs of civil works, equipment, salaries, local technical

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assistance, operation and maintenance were based on recent data provided by OGM. Professional staff at the OU will be contracted on an annual basis.

117. The total investment and incremental recurrent Project costs, including physical and price contingencies, is estimated at USD 45.1 million (TL 91.5 million). Table 1 below presents the Project costs by components. The Project has three components, as follows:

- (i) Natural Resource and Environmental Management;
- (ii) Investments in Natural Resources and Environmental Assets; and
- (iii) Investments in Improved Livelihood.

Table 1: Project Costs by Component

	(Local '000)			(US\$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign	Base
							Exchange	Costs
1. Natural Resource and Environmental Management	5 459.4	257.8	5 717.2	3 033.0	143.2	3 176.2	5	8
2. Investments in Natural Resources and Environmental Assets	30 124.9	-	30 124.9	16 736.1	-	16 736.1	-	43
3. Investments in Improved Livelihood	31 181.3	-	31 181.3	17 322.9	-	17 322.9	-	45
4. Operations Unit	2 198.9	190.9	2 389.8	1 221.6	106.1	1 327.6	8	3
Total BASELINE COSTS	68 964.5	448.7	69 413.1	38 313.6	249.3	38 562.9	1	100
Physical Contingencies	3 001.4	29.3	3 030.7	1 667.5	16.3	1 683.7	1	4
Price Contingencies	14 938.3	60.1	14 998.4	2 856.3	11.6	2 868.0	-	7
Total PROJECT COSTS	86 904.2	538.1	87 442.3	42 837.4	277.2	43 114.6	1	112

Note: Arithmetic discrepancies due to rounding.

118. Investment costs make up fully 96.4% of the total projected baseline costs whereas recurrent costs amount to 3.6%. Three main expenditure categories account for 88% of the total: civil works 53.5%, equipment and goods 27.7% and technical assistance 6.3%. The complete set of summary tables as well as detailed cost tables can be found in Annex 9 and in Working Paper 2.

B. Project Financing

119. On current estimates, an IFAD loan of USD 31.4 million (73% of the total Project costs) will finance 75% (USD 2.7 million) of the Natural Resource and Environmental Management component, 75% (USD 14.9 million) of the Investments in Natural Resources and Environmental Assets component, 69% (USD 12.9 million) of Investments in improved livelihood component and 81% (USD 1.2 million) of the Operations Unit. IFAD grant of USD 492 325 will be used for TA and studies.

120. The Government contribution will finance taxes and duties as well as 7% (USD 1.3 million) of the Investments in Natural Resources and Environmental Assets component, 1% (USD 135 000) of the Investments in Improved Livelihood component and 9% (USD 135 000) of the Operations Unit.

121. Approximately USD 2.9 million (7% of total Project costs) will be provided by the primary beneficiaries (participating farmers in the Project area), mainly as contributions to the financing of Investments in improved livelihood.

122. Table 2 below provides a summary by programme components of the proposed financing arrangement; other summary financing tables are provided in Appendix 1.

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Table 2: Financing Plan by Components

(US\$ '000)	IFAD		IFAD Grant		Gov: Budget		GOVT: Taxes		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Natural Resource and Environmental Management	2 706.3	75.2	360.2	10.0	-	-	531.7	14.8	-	-	3 598.1	8.3
2. Investments in Natural Resources and Environmental Assets	14 540.9	75.4	-	-	1 314.0	6.8	3 370.6	17.5	72.1	0.4	19 297.6	44.8
3. Investments in Improved Livelihood	12 952.5	69.1	-	-	135.2	0.7	2 851.4	15.2	2 806.1	15.0	18 745.2	43.5
4. Operations Unit	1 200.0	81.4	132.2	9.0	135.2	9.2	6.3	0.4	-	-	1 473.6	3.4
Total PROJECT COSTS	31 399.6	72.8	492.3	1.1	1 584.3	3.7	6 760.0	15.7	2 878.2	6.7	43 114.6	100.0

C. Summary Benefits and Economic Analysis

123. The economic analysis is made to assess the Project activities are profitable and therefore sustainable. On the basis of the data collected during the field visits, eight illustrative models were developed for the main income-generating activities to be promoted under the Project: (i) Increased wheat production; (ii) increased rainfed forage production; (iii) increased irrigated forage production; (iv) improved animal housing and husbandry; (v) improved grazing lands and livestock water ponds; (vi) vegetable cultivation under plastic tunnels, (vii) establishment of a new orchard; and (viii) water solar heaters and improved cooking stoves.

124. **Benefits Stream.** The analysis identifies all the possible quantifiable incremental benefits generated by the MRWRP's implementation. The benefits stream corresponds to: (i) The smallholders' benefits analysed in the financial analysis – i.e. increased income from agricultural and livestock production in the micro-catchments as well as in the downstream area; (ii) reduced household expenditures and workload (through investments in alternative energy resources comprising solar water heaters, energy efficient stoves and house insulation); (iii) reduced erosion as measured by the productive value of less soil losses; and (iv) reduced floods and landslides damages. The Project specifically aims at providing benefits to the women and the poorest in the villages by identifying the needs of different groups in the participatory planning process, which forms the basis for all Project activities.

125. Economic valuation of soil erosion depends on the perspective of the analysis. Controlling soil erosion and water run-off have both positive on-site and off-site effects. Loss of soil productivity is a main on-site effect, while increasing water holding capacity in the MC both (a) improves land productivity on-site; and (b) regulates water flow on-site and off-site. Reduction in flooding incidents, infrastructure damages and sedimentation of waterways and reservoirs are all important off site effects. Despite the importance of the soil and water conservation and erosion control works, methodological difficulties and the absence of reliable data prevent a satisfactory quantification of all benefits. The details from the analysis presented in Annex 10 includes a quantification of the benefits from reduced soil losses as well as flood control costs, gradual improvements in soil quality and water availability within the micro-catchments and thus increases in agricultural yields. But other benefits, e.g. biodiversity, recreational value and carbon sequestration, require studies and assumptions, which are beyond the scope of this analysis. Carbon sequestration will however be a subject for a study as part of the Project and will shed light on possible additional benefits from improved catchment management.

126. **Costs Stream.** The analysis includes the MRWRP's costs including investment costs for all Project components as well as their replacement (for infrastructure investments office and computer equipment/materials, etc.) and recurrent costs (mainly operation and maintenance for transportation, equipment and materials). Manual labour in the rehabilitation costs of the component two has been shadow-priced as indicated in Chapter II. All the replacement and recurrent costs related to the crops and activity

models are already taken into account in the calculation of the models' profit margins for each model.

127. **Economic Analysis.** MRWRP's overall Economic Internal Rate of Return (EIRR) is estimated at 8% over twenty years. The sensitivity analysis shows that this base rate is slightly more sensitive to shortfalls in benefits than cost increases of equal magnitude. A 20% cost increase or decrease of benefits results in both cases in the reduction of EIRR from 8% to 5%, whereas a 40% cost increase/benefit decrease generates an EIRR fall to 4% and 3% respectively.

D. Sustainability

128. The Turkish Government has the capacity to design and deliver effective remediation of the severely degraded upland watersheds of Eastern Turkey, and thereby improve the livelihoods of poor resident communities through more stable water flow and more productive soil and vegetation. The large Project investments in natural resource rehabilitation are to be managed by an existing competent Government institution, with a first class technical and administrative record. MRWRP is embedded in the Government structures and has no separate existence or need for an "exit strategy".

129. Furthermore, with or without large-scale natural resource rehabilitation works in the vicinity, Government can continue to support economically non-viable villages with *ad hoc* infrastructural improvements to living standards and perpetual welfare transfers.

130. The challenge – and the entry point for the present Project design – comes not from technical or cost issues, but rather from the need to combine environmental protection with livelihood improvements. This constitutes a classical watershed management dilemma, which can only be overcome when both physical and socioeconomic conditions are thoroughly analysed and addressed accordingly. In this context, timing constitute an important factor as investments and management practices take place in the short term, whereas benefits from rehabilitation are generated in the medium to long term perspective.

131. In this light, the sustainability of the flow of MRWRP benefits, assuming technically appropriate investments, depends on a voluntary gradual change in communal behaviour in managing shared natural resources, including those not directly subject to Project interventions. Clearly, the use of natural resources in the upper watersheds has been unsustainable for decades or even centuries. The communities, who have lived in dire poverty for generations, have had little choice but to base their livelihoods on unsustainable use of land and vegetation, which in turn further aggravates their poverty. The mission of this Project will be to break the vicious cycle of poverty and natural resource degradation.

132. The Project seeks to halt and reverse the deterioration in the physical state and economic carrying capacity of upland MCs by moving towards community-led co-management arrangements and aligning public and private interests in the shared resources. The approach taken is to develop the competence and confidence of communities to take on management responsibility for their local natural resource assets, while at the same time building up the non-technical capacity and institutional know-how of Government services to collaborate with communities as partners.

133. Beyond agreements and goodwill, the issue for people is incentives; villagers looking after shared natural resources on behalf of their neighbours or the State need to reap benefits, also in the short term perspective. Thus, the Project will contribute to Government's investigations into Payments for Environmental Services (including carbon accounting) and the use of renewable energy sources, both through the development of MC level modalities and consultations with leading experts. Sustainability on the medium

term however, should be pursued by linking a gradually changing livelihood strategy, moving as much as possible towards the sustainable use of natural resources, e.g. vegetables production depending on a steady water supply for irrigation generated by the better "sponge" capacity of the improved watershed.

ANNEXES

ANNEX 1
COUNTRY AND RURAL CONTEXT BACKGROUND

1. **Economy.**⁵ Turkey is categorized as a Middle-Income Country. In 2009, Gross Domestic Product (GDP) was USD 614.6 billion and Gross National Income (GNI) per capita was USD 8 720. The 2009 sector shares of GDP were agriculture 9.4%, industry 25.9% and services 64.7%. Growth, which had been running at an annual average of 7% during the period 2003-2007, fell to 0.9% in 2008 and -4.7% in 2009. The overall decline in growth reflected the impact of the global financial and economic crises. However, Turkey's economy has recovered from the global financial and economic crises of 2007-2008, with GDP growth expected to reach about 6 % in 2011 and unemployment falling to pre-crisis levels of around 10%. Unemployment and underemployment is higher in rural areas and among youth (24%). Female labour force participation (LFP) in Turkey is multidimensional involving strong economic and cultural factors. In 2009, the LFP rate was 24%. Unpaid employment among women is below 38% while the share of women employed as wage earners is approximately 43%, twice that of the 1980's.

2. Official forestlands in Turkey total 20.7 million ha, accounting for 26% of the country's area. About 7 million people, or 10% of the national population, are living in about 21 000 forest villages,⁶ most of which are located in the uplands. The average gross income per capita income of these areas is only USD 400 compared to a national average of USD 8 720 in 2009. Forest village households, generally located in mountainous areas, rely mostly on mixed farming; mainly livestock-raising with some field crops and horticulture. Very small plot sizes, averaging 2.5 ha as compared to the national average of 6.4 ha for rural households, limits crop production of some cereals, and are seldom sufficient to meet household consumption. Other factors contributing to the incidence and depth of poverty among forest village populations include remoteness and lack of infrastructure that contribute to poor market access and job opportunities and to goods and services, including health and education.

3. Policy and strategy context. Government's overall approach to Turkey's economic and social development is set out in the Long-term Strategy 2001-2023.⁷ Government is pursuing high sustained growth, human resource development and employment in high technology industry, infrastructure improvement and regional development, coupled with transfer payments to poorer segments of society. The strategy aims to increase the effectiveness of Turkey as a regional power in the 2010s and as an effective state at global level in the 2020s. This is to be achieved through transforming into an information society and achieving economic as well as social restructuring in the process of attaining full membership of the EU. The National Programme of Turkey for the Adoption of the EU Acquis (NPAA) was published in December 2008.

4. Within this overall framework, the Ninth Development Plan 2007-2013 sets out a series of 'Basic Principles' and 'Development Axes'. The principles include: (i) an integrated approach is the basis in economic, social and cultural areas; (ii) societal contribution and ownership are to be ensured by strengthening social dialogue and participation; (iii) a human-focused development and management approach is the basis; (iv) in the development process, a competitive market, effective public administration and democratic civil society will function as the institutions that complement each other; (v) transparency, accountability, participation, efficiency and

⁵ World Bank Development Indicators Database 2010. (Atlas Method for the GNI per capita figures).

⁶ Further sub-classified as "in forest" or "near forest".

⁷ Long Term Strategy and Eighth Five-Year Development Plan. State Planning Organisation, Ankara 2001.

citizen satisfaction will be the main criteria in providing public services; (vi) the Government will withdraw from production of commercial goods and services and strengthen its policy-making, regulating and supervising functions; (vii) in policy formulation, prioritization will be carried out by taking resource constraints into account; (viii) the subsidiarity principle will be followed⁸ - social cohesion and structure will be strengthened in the framework of common heritage and shared values; and (ix) natural resources, cultural assets and the environment will be protected, considering future generations.

5. The development axes include increasing competitiveness, increasing employment; strengthening human development and social solidarity; ensuring regional development; and increasing quality and effectiveness in public services.

6. **The National Rural Development Strategy 2006 (NRDS)** constitutes the basis for a National Rural Development Plan (NRDP) (2010-2013) prepared as one of the prerequisites for receiving EU funds under the Instrument for Pre-Accession – Rural Development (EU/IPA-RD). The NRDS and Plan guide the allocation of national funds and those of other international financial and assistance institutions related to rural development. The implementation of NRDS is geared towards achieving four strategic objectives: (i) Economic development and increasing job opportunities – through competitive agriculture and food sectors and diversification of the rural economy; (ii) strengthening human resources, organisational level and local development capacity – including combating poverty and improving the employability of disadvantaged groups; (iii) improving rural physical infrastructure services and life quality; and (iv) protection and improvement of the rural environment through adoption of environmentally friendly agricultural practices, protection and sustainable use of forest resources and the management and improvement of protected areas.

7. The above fourth strategic objective of the NRDS is specifically relevant for the proposed Project. It includes three priority areas: developing environmentally friendly agricultural practices through three measures: (i) protecting soil and water resources; (ii) preventing environmental pollution stemming from agricultural activities; and (iii) expanding environmentally friendly practices; ensuring sustainable use of forest resources through: (i) improving forest-village relationships; (ii) maintaining and rehabilitating soil and water resources within forest areas; (iii) developing capacity in combating forest fires; and (iv) ensuring sustainable use of natural resources; and managing and developing protected areas.

8. **The National Forest Programme 2004-2023 (NFP)** defines the main principles as: (i) sustainability; (ii) conservation of biodiversity; (iii) multifunctional management/utilization of forests; (iv) participation; (v) fair sharing of benefits; (vi) respect for the rights of local people, protection of their cultures and traditions; (vii) transparency and openness; (viii) co-ordination, co-operation and integration in the sector and among related sectors; (ix) cost/benefit effectiveness; and (x) global responsibility.

9. **The National Action Programme on Combating Desertification 2006 (NAPCD)** aims to determine the leading factors to desertification and the necessary measures to be taken to prevent and/or to reduce the negative impacts of desertification and drought in Turkey and as such addresses a wide range of natural and man-made issues including land use, erosion, deforestation, rangeland degradation, water loss, salinity and alkalinity, pesticide use, and soil pollution.

⁸ This principle reflects the EU principle that decision-making be devolved to the lowest functionally feasible level.

10. Turkey became Party to the **United Nations Framework Convention on Climate Change (UNFCCC)** in May 2004 and Government passed a law in February 2009 to accede to the Kyoto Protocol. In May 2010, the now re-named Ministry of Environment and Forestry published the National Climate Change Strategy (2010-20). It includes strategies to: (i) Actively participate in the negotiations carried out for establishment of a comprehensive and functional international co-operation mechanism, within efforts to combat and adapt to global climate change; (ii) prepare the National Climate Change Action Plan, with a dynamic approach within the overall framework of the National Climate Change Strategy, the Ninth Development Plan and other national policy and strategy documents; (iii) initiate organisational restructuring on climate change in concerned institutions; (iv) establish the necessary infrastructure, so that the greenhouse gas emissions inventories can be developed in a sounder manner; and (v) develop climate change policies in co-operation with all stakeholders.

11. The Government's **Medium Term Programme (2010-2012)** aims at the resumption of a robust and sustainable growth period for Turkey under the current international conjuncture. The programme indicates that the objective of the agricultural sector is to develop a well-organized and highly competitive structure by taking food security and safety concerns into account along with the sustainable use of natural resources. Within this framework: Forests will be protected and exploited considering health and needs of society within the approach of sustainable management; afforestation, rehabilitation and urban forestry will be extended; and training and public-awareness activities having more emphasis on ecosystems will be intensified.

Appendix 1: Country Data Sheet

Republic of Turkey

Land area (km² thousand) 2008 ^{1/}	770	GNI per capita (USD) 2008 ^{1/}	9,020
Total population (million) 2008 ^{1/}	73.91	GDP per capita growth (annual %) 2008 ^{1/}	0
Population density (people per km²) 2008 ^{1/}	96	Inflation, consumer prices (annual %) 2008 ^{1/}	10
Local currency Turkish Lira (TRY)		Exchange rate: USD 1.00 = TRY 1.565	
Social Indicators		Economic Indicators	
Population growth (annual %) 2008 ^{1/}	1.2	GDP (USD million) 2008 ^{1/}	734 853
Crude birth rate (per thousand people) 2008 ^{1/}	18	GDP growth (annual %) ^{1/}	
Crude death rate (per thousand people) 2008 ^{1/}	6	2000	6.8
Infant mortality rate (per thousand live births) 2008 ^{1/}	20	2008	0.9
Life expectancy at birth (years) 2008 ^{1/}	72	Sectoral distribution of GDP 2008 ^{1/}	
Total labour force (million) 2008 ^{1/}	25.76	% agriculture	9
Female labour force as % of total 2008 ^{1/}	26	% industry	28
Education		% manufacturing	18
School enrolment, primary (% gross) 2007 ^{1/}	112	% services	63
Adult illiteracy rate (% age 15 and above) 2007 ^{1/}	11	Consumption 2008 ^{1/}	
Nutrition		General government final consumption expenditure (as % of GDP)	13
Daily calorie supply per capita	n/a	Household final consumption expenditure, etc. (as % of GDP)	70
Malnutrition prevalence, height for age (% of children under 5) 2008 ^{1/}	n/a	Gross domestic savings (as % of GDP)	17
Malnutrition prevalence, weight for age (% of children under 5) 2008 ^{1/}	n/a	Balance of Payments (USD million)	
Health		Merchandise exports 2008 ^{1/}	131 975
Health expenditure, total (as % of GDP) 2007 ^{1/}	5	Merchandise imports 2008 ^{1/}	201 960
Physicians (per thousand people) ^{1/}	2	Balance of merchandise trade	-69 985
Population using improved water sources (%) 2006 ^{1/}	97	Current account balances (USD million)	
Population using adequate sanitation facilities (%) 2006 ^{1/}	88	before official transfers 2008 ^{1/}	-43 973
Agriculture and Food		after official transfers 2008 ^{1/}	-41 289
Food imports (% of merchandise imports) 2008 ^{1/}	4	Foreign direct investment, net 2008 ^{1/}	15 414
Fertilizer consumption (hundreds of grams per ha of arable land) 2007 ^{1/}	1 000.4	Government Finance	
Food production index (1999-01=100) 2007 ^{1/}	101	Cash surplus/deficit (as % of GDP) 2008 ^{1/}	-2
Cereal yield (kg per ha) 2008 ^{1/}	2 601	Total expense (% of GDP) ^{a/} 2008 ^{1/}	23
Land Use		Present value of external debt (as % of GNI) 2008 ^{1/}	40
Arable land as % of land area 2007 ^{1/}	29	Total debt service (% of GNI) 2008 ^{1/}	7
Forest area as % of total land area 2007 ^{1/}	13	Lending interest rate (%) 2008 ^{1/}	n/a
Agricultural irrigated land as % of total agric. land 2007 ^{1/}	13.2	Deposit interest rate (%) 2008 ^{1/}	22.9

^{a/} Indicator replaces "Total expenditure" used previously.

^{1/} World Bank, World Development Indicators database CD ROM 2010-2011.

ANNEX 2

POVERTY, TARGETING AND GENDER

1. **Poverty Status.** The proportion of the national population living on less than USD 1 per day has been zero since 2006 and the food poverty rate decreased to 0.54% in 2008. However, there continues to be entrenched pockets of rural poverty. Regional disparities in levels of economic activity and income are strong; among OECD countries, only Mexico has a more unequal distribution of income. The rural poverty rate is 35% as opposed to the urban rate of 9.4%, and the poverty rate in rural agricultural communities is 38%. The eight poorest provinces, out of a total of 81, are all located in the east of the country. The average per capita GDP of these provinces is less than 30% of the national average; within these provinces, there is further inequality.
2. The substantial socio-economic development disparities between urban and rural areas in Turkey arise principally from the ongoing structural transformation of the Turkish economy, in which the contribution of industry and services has steadily increased while that of the agricultural sector has proportionately declined. Economic structural change has been accompanied by considerable migration, both from rural to urban areas and from eastern to western regions of the country, as people have sought to benefit from new employment opportunities and better social and economic infrastructure and services. Thus, 75% of Turkey's population lived in rural villages in the 1950s, this percentage dropping to 56% in 1980 and further to 35% in 2000. Although the rate of migration slowed in the period 1995-2000, seasonal or permanent migration from rural to urban areas remains high among the male active labour force and is an important part of the livelihood coping strategies of poor rural people, not least those in the Project target area within the provinces of Elazığ, Bingöl and Muş.
3. Poverty is particularly concentrated and deep among the 7.7 million inhabitants in the 20 726 so-called "forest villages", defined as villages which are bordering the forest, surrounded by forest or have designated forest lands within their administrative borders. Official forestlands in Turkey total 20.7 million hectares (ha), accounting for 26% of the country's area. The designation "forest" means that the land was historically registered as forestry land in the first half of the twentieth century. However, many of the forest villagers have little or practically no forest left. The average gross annual per capita income of these areas is only USD 400 compared to a national average of USD 5 780 in 2004. The consumption level of the richest quintile is four times higher than that of the poorest quintile. In 2008, according to the Household Budget Survey, the poorest quintile spent 36% of their income on food.
4. Turkey and Millennium Development Goals (MDGs): Turkey is well on its way to meeting the MDGs. However, structural inequalities remain a challenge, especially those related to geographical and gender disparities. The poverty rate in Central Eastern Anatolia is 36.8% when compared to a national threshold of TRY 3 146 as opposed to a national rate of 16.7%. Further, there are pronounced intraregional disparities as well as the interregional ones, with Eastern Anatolia the second most unequal in terms of income distribution within the province.
5. **Poverty in the Project Area.** The province/district centres are growing at a rate of between 28% (Elazığ) and 44% (Muş). The village populations in Muş are also increasing at around 7%, (most probably due to a return of villagers following a period of pronounced out migration due to the security situation), while those of Bingöl and Elazığ are declining at a rate of 22% and 8% respectively (see subsequent section for more on migration). All three provinces are poor, but forest villages are amongst the poorest. GDP per capita is less than 30% of the national average and the rural per capita level of agricultural production is 22% lower. The proportion of women in employment is only 42% of the

national average. UNDP's Human Development Report 2004 gives a Human Development Index ranking placing for Elazığ, Bingöl and Muş of 53rd, 77th and 79th respectively out of the 81 provinces.

6. Large households (HHs), low education levels and rural residence are the main correlates of rural poverty. Average HH size is greater (5.21, 6.45 and 8.19 for Elazığ, Bingöl and Muş respectively) than the national average of 4.5. Larger/increasing HH size has a close correlation with poverty. The median ages in Elazığ and Bingöl are considerably lower than the national average (23 and 18 against 28 years). Life expectancy is lower (59-63) than the most developed province (73.8). Male and female literacy is significantly lower. The 2007 unemployment rate was significantly higher: 16.4-16.8% as opposed to a national rate of 14%. Of those employed, the proportion working in agriculture in Elazığ/Bingöl is approximately 40% and in Muş 46% (2007). The rural non-agricultural unemployment rate has risen to 16.1% compared to an urban rate of 13.6%.

7. Other factors contributing to the incidence and depth of poverty among forest village populations include: remoteness and lack of infrastructure, which contribute in one direction to poor access to markets and job opportunities and in the other direction to poor access to goods and services, including health, education and rural finance. These factors tend to impact even more strongly on the socio-economic status of women, aggravating the weight of their domestic responsibilities.

8. **Gender.** Turkey is working towards the achievement of MDG 3 on gender equality but is still far behind most of Europe on enabling women to claim equal social and economic rights. Turkey is a strongly patriarchal society, where women's economic opportunities and social autonomy are constrained. Progress has been made with enrolment in primary schools, and the net enrolment rate has nearly reached the MDG of 100% (98.5% boys, 97.8% girls). However, two thirds of those who do not go to primary school are girls. The Government has some programmes to encourage female participation in school through conditional cash transfers. Girls living in rural areas in the eastern regions of the country are most disadvantaged. Enrolment for girls in secondary schools is considerably lower. The quality of education is not high. Turkey is one of the lowest ranked among the OECD countries. Further investment is being made to improve the quality of education.

9. Unpaid employment among women is below 38% while the share of women employed as wage earners is approximately 43%, almost twice as much as in the 1980's. In 2009, female participation in the labour force rate was 24%. Studies suggest that reaching the female LFP target of the Ninth Development Plan (from the current 24% to 29%) could contribute to reducing poverty by up to 15% if all new entrants would take full-time jobs.

10. Nationally, 6.5 of the households have female heads, of which, 32% of women-headed HHs are estimated to be below the poverty line compared to 27% of male-headed HHs. Provincial-level data with respect to women-headed HHs in the proposed Project area are not available. However, women-headed HHs are likely to be very rare in view of the prevalent practices of widows or divorcées either remaining as part of their deceased husbands' families or returning to their own families.

11. The Gender Development Index (GDI) places the provinces of Elazığ, Bingöl and Muş as 52nd, 76th and 80th of Turkey's 81 provinces, which corresponds well with the national HDI ranking of the three provinces. The likelihood of women being illiterate is two to three times higher than for men, and men earn a third to a quarter more than women, when in employment. As of 1993, no women were in appointed governmental positions in any of the three provinces and, as of 2000, women filled 3% or less of the total of managerial or technical positions.

12. Cultural norms in the proposed Project area mean that rural women tend to lead their lives within the protective environment of their homes and families. Typically, rural women's work comprises domestic chores, animal husbandry with particular focus on dairy products (which they might sell or barter to itinerant traders), vegetable and fruit production and processing, and labour-intensive farm fieldwork such as weeding and harvesting. While poor economic and transport infrastructure limits economic opportunities for the population of all forest villagers, these factors are exacerbated by cultural norms restricting women's ability to travel to other towns or villages. Although being physically restricted, women have access to television, as almost all HHs had a set and women admitted to watching TV more than men.

13. **Village Administration.** Each village has an elected headman, who also receives a Government stipend, and a council of elders (elected by the village assembly, which comprises every villager over 21). The imam and schoolteacher are also on the council. Women are not part of the council and have no formal role in village administration, although during the Project mission, women commonly stated that they discussed issues with their husbands. The point was made repeatedly that discussions with the consultant were the first time that women's views had been sought separately, rather than the assumption being made that women would feed their views in and learn of activities through men.

14. **Livelihood Strategies.** The principal livelihood strategy is to combine smallholder subsistence agriculture with income derived from migration and some level of state support. Forest village HHs, generally located in mountainous areas, rely mostly on mixed farming, that is, livestock raising and some horticulture, combined with remittances from migrant labour. Very small plot sizes, averaging 2.5 ha as compared to the national average for rural HHs of 6.4 ha, allow production of some cereals but seldom sufficient even for HH consumption. In addition, HHs have access to state-owned forests and rangelands, on which they graze their livestock in an unregulated way. The natural resource base is prone to erosion and degradation, exacerbated by overgrazing and deforestation.

15. Deforestation to meet increasing timber, fuel and fodder demands, together with overgrazing of rangeland, farming of steep slopes, and the lack of effective soil conservation practices on agricultural land, has reduced significantly the carrying capacity of rangelands and the fertility of agricultural land, and thus affected negatively HHs' ability to derive a livelihood from agriculture. It has also resulted in sedimentation and decreased water quality, as well as increasing run off leading to flash flooding and landslides with consequences for a wider downstream population than those depending on the land for their livelihoods. This land degradation has been ongoing for centuries and is not only a recent event. However, population growth has exacerbated the problem; this population increase is now slowing down.

16. **Agriculture.** The small size of landholdings, problems with tenure, fragmentation, inadequate irrigation and degraded rangeland grazing for livestock contribute to the lack of productivity and potential profitability. The landholdings can be fragmented due to inheritance patterns and registration of land is not universal. The proportion of landless HHs appeared to be low, although no official data were available. Typical smallholdings include a mix of field crops, vegetables, fruit trees, and a few large stock, small stock and fowl. Production is almost entirely for HH or village consumption. The principal field crop is wheat. Fodder production is mostly unimproved grass for hay or occasionally silage, and collection of fodder from forests. Vegetables were principally cucumber, tomato, pepper and onion, while fruit trees include apple, pear, mulberry and walnut. Livestock ownership usually amounts to 1-3 cows, 10-15 sheep and goats and a handful of chickens, geese, ducks or turkeys. In Muş, several villages visited had two or three HHs who owned considerably more sheep (up to 300). Apiculture is significant in a few areas. Farm

enterprise mixes vary with principal factors being HH labour, the availability of land and low-technology small-scale irrigation, and elevation.

17. Data show an overall declining trend in livestock production. Numbers of sheep in Bingöl and Muş have nearly halved between 2003 and 2009, while those in Elazığ have decreased markedly. The main reasons for the decline in production are: (i) Shortage of young males available in the villages for herding due to rural outmigration; (ii) reluctance of rural women to be involved in sheep production due to its labour-intensive nature and their often-articulated preference for cattle that can be kept in stables next to the home, making them easier to look after when male relatives were away as labour migrants; (iii) rangeland degradation decreasing stock carrying capacity and requiring increasing reliance on fodder; and (iv) rising input prices because of the necessity to buy fodder to feed animals in barns during the six-month winter. (Due to the shortage of tillable land and lack of irrigation, little improved fodder is grown). A major reason for continuing to hold a few sheep is as a store of value; a sheep can be sold to raise money when needed. Two or three HHs would get together to employ shepherds, sometimes from outside the village. Most houses produced only enough for their own needs. Fridges and freezers are common, allowing food storage for winter months, as well as any traditional food processing techniques such as drying.

18. **Role of Women in Agricultural Livelihoods.** Rural women generally work as unpaid family workers and perform several agricultural operations. Farming is a culturally accepted type of employment for women in Turkey. The role of women in the smallholder farming systems is centred on weeding, harvesting, milking and milk processing, and vegetable growing and processing. Among households working in agriculture, female employment is not only acceptable but also promoted and encouraged among women living in rural areas.

19. There is no strong gender differentiation in terms of agricultural tasks. However, some operations are most commonly handled by men, such as soil tillage by machinery, pruning, grafting. Shortage of skilled labour in these activities is met by involving kin, friends and/or employing an outsider, rather than involving women in the family. In general, mechanized operations are considered as men's work. Women usually, together with children, provide most of the manual labour. The intensive non-mechanized labour as well as the labour assistance required by most mechanical operations. Women provide regular labour input during the cropping season (weeding and hoeing) and their contributions increase in peak seasons. In livestock production, women's role is significant for most of the tasks. All the above is valid also for Elazığ, Bingöl and Muş.

20. Women tend to play a much greater role in villages and households where and when men are absent due to seasonal migration. Despite their active role women, however, tend not be involved in key production decisions, in buying and selling inputs and outputs. In the following paragraphs, women's involvement in crop and livestock production and processing in the Project provinces are described in detail.

21. **Small Grains.** Wheat and barley production in the Project area is somewhat mechanized (soil preparation, seeding, fertilizing) and handled mostly by men. Women are involved in seed preparation (e.g. sorting, sieving and weeding-out). Harvest is undertaken by both genders by using sickles where land size and topography is not suitable for combined harvesters. Collection of the harvested material, piling in the field for drying, carrying to the threshing site, threshing and sacking are done also collectively.

22. **Forage Crop (mainly alfalfa and some sainfoin) and Hay Production.** Both alfalfa and sainfoin production is poorly mechanized; almost every operation, except soil preparation, is manual and handled by men. Forage crops are produced under irrigation through earth canals, and surface irrigation is handled by men. Harvest is usually manual (using scythe) and is considered as a male task. Piling for drying in the field and collection

of the dried material, loading and unloading of the trailer, carrying to the storage site and piling it again are done collectively by men, women, and children. Where grass mowers are available, the role of women in harvesting is limited.

23. **Vegetable Production.** Traditionally considered to be women's work. The production is undertaken almost solely in open fields and in small plots that can be handled by the female members of the family. Irrigation is achieved usually by using utility water through hoses and buckets. However, in some villages, particularly in Elazığ, the production is carried out under small plastic tunnels.

24. **Fruit Production.** Generally, in MC villages there are very few orchards in the modern sense. Most trees are scattered around with minimal maintenance except supplemental irrigation through earth canals. Men will be operating the irrigation, but the main part of the cultivation will be carried out by women. In viticulture, which is common in Elazığ, some operations are highly specialized (like pruning) and performed by men. Hoeing is usually done by both sexes. Harvesting is mainly done by women.

25. **Potato and Dry Bean Production.** Although the production is somewhat mechanized, women are involved in almost all operations including seed preparation, seeding, hoeing, and harvesting.

26. **Livestock Production.** Since livestock ownership in the upland villages usually amounts to 1-3 cows, 10-15 sheep and goats, and a handful of chickens, geese, ducks or turkeys. In general, production is carried out by women and men together, although women are generally responsible for hand milking, handling of newly born and young stock and pregnant animals, and cleaning of stables. In small ruminant production except milking, most tasks such as feeding, watering, cleaning, and sheering are performed collectively. Grazing livestock in rangelands and meadows located further from the village (2-3 km) is men's responsibility but around settlement areas, children take care of grazing animals. From interviews, both men and women claim that they take the largest share of livestock management and thus labour. During veterinary services, both genders are involved. It is reported by veterinarians/zoo technicians and extension specialists that women are much more keen on livestock health issues and open to learning than men.

27. Processing of crop and livestock products at home is a traditional activity in the Project provinces and is a female responsibility. The production is mostly for domestic consumption and surplus is usually sent to those migrated out and settled in other parts of the country. The contribution of processing to a poor household's economy and food security is much higher than perceived. Particularly in long severe winter days, it provides diversification and brings more nutritional balance into daily diets of the rural poor. Drying of fruits and vegetables, jam/jelly and paste making and canning are common ways of processing and are undertaken by women.

28. **Processing of Milk.** As in other areas of Turkey, liquid milk itself is rarely consumed as a beverage. Consumption is largely based on traditionally processed products at home. Dairy products have a long cultural tradition and are part of the local daily diet. Even the poorest in villages and remote areas consume dairy products daily. The consumption of milk products is mainly (90%) composed of: (i) yoghurt; (ii) ayran (salted liquid yoghurt that is a beverage consumed during the meals but also used as a refreshment drink); and (iii) white cheese (feta type). It is the women's task to produce the above at home.

29. **Migration.** Over the last 15 years, a significant flux of rural to urban migration has been taking place in Turkey as a result of high unemployment, unstable political and social conditions and changes in agricultural structures. The migrants are however not easily absorbed in the host cities, due to a shortage of jobs, limited education and skills, and housing opportunities.

30. The workload posed on women increases when men migrate seasonably to western cities (Istanbul, Ankara and Izmir) and occasionally abroad to the Gulf. Men go for work in construction, which is at the time of the year coinciding with the highest workload in agriculture. There are mixed results with some finding it difficult to find sufficient work and only making enough to cover their own costs, and others saving TRY 3-5 000 to send home to their families. Opportunities have been decreasing with the global economic crisis. When working, men frequently live at the construction sites. They have no insurance to cover them against injury and are often working under dangerous and unregulated conditions. Furthermore, national reports suggest that the new poor in Turkey are the rural people who migrate from the less developed areas into the provinces and metropolitan cities throughout Turkey.

31. **State Support.** The majority of forest villagers have "Green Cards", which entitle them to free health care and 0.5 mt/HH of imported coal for the winter. Villagers also receive child benefit, pensions and disability allowance (where appropriate). Education is provided for free by the state. The majority do not benefit from the support schemes provided by the Ministry of Food, Agriculture and Livestock. The major reasons are: (i) they have not applied to be registered in the National Farmer Registry System and/or TURKVET (for livestock registry); and (ii) or their agricultural operations are too small to qualify for support.

32. **Targeting Rationale and Approach.** Given the geographic, climatic and environmental situation of the villages in the Murat watershed, improved agriculture cannot be considered the only means of reducing rural poverty in the area. A broader perspective on poverty reduction needs to be taken, recognizing the importance of increasing the quality of life in the villages, improving nutrition through support for diversified food production, expanding off-farm income-generating opportunities (both short term through the provision of public works employment and longer term through e.g. guarding and managing of tree plantations, and reducing energy costs through provision of appropriate technology and a shift to renewable energy sources. Selective investments in agriculture and forest management are likely to have some impact on poverty.

33. The Project's primary target group would be poor women and men smallholders, living in forest villages in the identified MCs within Elazığ, Bingöl and Muş provinces. They would be supported through erosion control and afforestation measures to improve their natural resource base, and thereby their subsistence base, including their food security and nutrition, and offer increased income-generating opportunities through ancillary measures to improve the productivity of their livestock and horticulture activities. A secondary target group would be other key stakeholders in the locality who would benefit from improvements to the watershed through less erosion and sedimentation in the river, less pollution through sewage in the river, and reduced flooding and landslide risk through support for anti-erosion activities. A tertiary target group are the general population living downstream, who would benefit from reduced risk of flooding, less sedimentation in the water and less pollution through sewage in the water. The direct benefits and beneficiaries of the Project are presented in Table 1.

34. **Geographic Targeting and Self-targeting.** The main targeting mechanism would be geographic targeting to poor regions and districts. As previously mentioned, forest villagers are amongst the poorest in Turkey. Within these regions, targeting would be on a Micro-Catchment (MC) basis. MCs within the Murat Watershed would be selected based on a set of criteria. These include the degree of poverty, the level of erosion and the potential to improve livelihood through restoring the natural resource base. The greatest degree of erosion, with the associated risks of floods, landslides and rock falls, tends to be correlated with the slope steepness and the quality and quantity of vegetation cover. These are mainly found in the upper levels of the watershed and are closely associated with poverty: the steeper the slope, the higher the level of erosion, the poorer the soil and the lower the

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carrying capacity of the land for livestock and potential for other forms of agriculture. They are also associated with greater remoteness, meaning relatively poor access to markets, education and health facilities.

Table 1: Direct Benefits and Beneficiaries of the Project

Activity	Benefit	Beneficiaries
<i>Investments in natural resources (on public land)</i>		
Soil conservation and rehabilitation of degraded forests.	<ul style="list-style-type: none"> • Reduced flooding and disaster risks in the lower reach and floodplain. • Reduced cost of water treatment for human consumption downstream as a result of reduced water turbidity. • Restored ecological balance and landscape. • Increased agricultural productivity in the upper watershed. • Long-term improved wood production. • Employment for several months in each year. 	<p>All villagers, upstream and downstream.</p> <p>All villagers, particularly women and youth and landless.</p>
Rehabilitation of grazing land.	<ul style="list-style-type: none"> • Improved livestock production. • Potential short term negative impact of restricted grazing. 	All villagers that keep livestock (mixed farming prevails).
Livestock drinking water structures in the grazing lands.	<ul style="list-style-type: none"> • Improved livestock productivity through meeting clean drinking water requirement sufficiently without travelling long distances, particularly in summer. • Reducing disease contamination due to drinking polluted water from lakes, springs, pools. 	All villagers that keep livestock (mixed farming prevails).
<i>Investments in livelihood improvement (on private land)</i>		
On-farm investments for crops.	<ul style="list-style-type: none"> • Increased income from wheat, barley, tree crops, vegetables produced under plastic tunnels and in open fields. • Improved nutritional status of households. • More sustainable use of land, soil and water. 	All households with land.
Small scale irrigation.	<ul style="list-style-type: none"> • Improved economy of the households. • Improved agricultural productivity. • Improved livestock productivity. 	Land users with water rights and users of newly developed water sources.
Contracted seedling production.	<ul style="list-style-type: none"> • Increased income. • Employment throughout the year as waged labour. 	Seedling producing households. Women.
Promoting energy saving technologies.	<ul style="list-style-type: none"> • Improved and more cost effective heating and cooking. • Decreased time and money spent on fuel • Decreased demand for fuel and reliance on fuel wood. • Improved personal and household hygiene. • Energy efficient (insulated) houses. 	All villagers particularly women. All villagers, particularly children, disabled and elderly.
Agricultural advice and skills transfer.	<ul style="list-style-type: none"> • Increased milk and meat yield/animal through better nutrition and husbandry. • Increased crop yield/ha through improved agronomic practices. • Increased income. • More sustainable use of natural resources. 	Men and women farmers and youth participating in training.

35. Within the above framework, investments will be demand driven and self-targeting. In the past, the Ministry has often encountered resistance to needed rehabilitation activities as villagers are apprehensive about having parts of their customary grazing in forest and rangeland restricted. Thus, it is pertinent that village communities are actively participating in the decision making, to develop a genuine sense of ownership towards the activities suited for their physical and socio-economic situation.

36. **Awareness Raising.** The Project will finance awareness-raising activities for the target beneficiaries (men, women and youth). As women perform a significant role within the rural economy, the facilitators would carry out specific activities with women's groups and including village-to-village visits. Following awareness raising, villages in a Micro Catchment (five on average) would be approached and if the majority are willing to participate, direct targeting would then apply in terms of assessing and prioritizing applications on the basis of established eligibility criteria.

37. For investments for energy saving technologies for livelihood improvement where demand may outstrip available funds, selection would be determined on HH size as a proxy for poverty.

38. **Participatory Tool.** In the villages, the participatory tool that will be used is the "Beneficiary Centred-Problem Census-Problem Solving (BCPCPS) process that is non-threatening, focused discussion that uses small group dynamics to elicit: (i) perceptions of the causes of natural resource degradation; (ii) a complete and ranked census of the real and perceived problems of the village; and (iii) the communities' proposed solutions to these problems. No problem is rejected and all solutions are considered. The final ranking of problems and preferred solutions are theirs. The process provides a setting in which all members of the community have equal voice irrespective of gender, age and social status. Particular efforts are made to encourage women's participation, so as to assure that gender issues are mainstreamed into MC development planning and implementation. In villages where local culture does not allow undertaking the process with mixed groups, separate meetings will be held with women. *The BCPCPS will when required be supplemented by additional participatory tools e.g. from the IFAD methodology.*

39. For the on-farm activities that the villagers selected from the menu of activities agricultural advisory services would be available through Provincial Project Teams (PPTs) to all HHs within participating villages. Separate training courses would be delivered to women's groups as well as youth but not only on a demand-driven basis. Women will benefit from farmer exposure visits (together with their husbands, brothers or fathers as the culture allows).

40. It is likely that incentives would be required to encourage livestock owners to agree to restricting access to grazing. As the greatest damage to natural resources is caused by the largest livestock owners, some of the wealthier villagers would benefit more from that element. However, it should be noted that all of these villages are considerably poorer than the national average. As well as seeking to provide sufficient incentives for the largest livestock holders to co-operate and participate in the Project, which is critical for success, attention would be given to ensuring that any landless livestock owners can also benefit. The landless can also benefit from private afforestation activities, as seedlings are provided on a co-financing basis by MFWA to plant income-producing crops on forestry land. Project facilitators would ensure that the landless understand this component and have full opportunity to access it.

41. **Community Empowerment and Institutional Capacity Development.** Lessons have been learned from previous projects in rural development and watershed management in Eastern Anatolia. Existing administrative or community processes need to be challenged to meet the needs of women and poorer HHs. The governors' offices in the Project provinces will provide necessary coordination and linkages between the Project and

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the resources of Provincial Directorates of Agriculture (PDAs) for extension and training support. Given the absence of any community-based initiatives in the area, the limitations on achieving successful participatory co-management within the scope of one project must be recognized. Villagers at present are passive and wait for activities to be conducted on their behalf. Efforts need to be made to convert them into active agents who are able to bring about changes for themselves.

ANNEX 3

COUNTRY PERFORMANCE AND LESSONS LEARNED

Country Performance

1. IFAD has supported eight projects in Turkey since 1982. The overall record of implementation has been mixed. Difficulties have arisen from the highly centralized and bureaucratic nature of government administration and a supply-driven attitude towards development. In the past, these problems were compounded by unstable and adverse macroeconomic conditions. The stabilization and rapid growth of the economy in the past few years and the curbing of inflation through fiscal and structural reforms have improved markedly the overall climate for investment and development. Nevertheless, lengthy and complex bureaucratic procedures continue to act as a constraint on the smooth and successful implementation of projects.

2. Specific problems experienced by IFAD and other donors such as the World Bank, have included unacceptably long delays in declaring projects effective, slow rates of disbursement, and difficulties in maintaining the flow of funds – including counterpart funds. In some cases, portfolio restructuring, partial loan cancellation or resource reallocation has been necessary, resulting in adjustments to loan agreements and Project administration arrangements during the course of Project implementation.

3. However, in the last five years these difficulties have been addressed through a series of measures including: A close collaboration with UNDP for assistance in procurement and flow of funds; direct supervision and implementation support by IFAD; a more focused design of investments; and a clear alignment of institutional responsibility for Project implementation. These initiatives have resulted in a decrease in the time required for declaration of effectiveness and an accelerated disbursement for the three projects currently under implementation.

4. The (former) Ministry of Agriculture and Rural Affairs – MARA, acting where appropriate through its Provincial Directorates of Agriculture, has been the main implementation partner for the IFAD portfolio to date and considerable experience has been built up over nearly thirty years of working together. With its mandate for interventions in agriculture and the wider aspects of rural affairs, MARA has been regarded hitherto as the natural host for all IFAD-sponsored operations.

5. However, recent discussions with various Government agencies have pointed to the need and opportunity to work with poverty-reducing agricultural and rural development agencies other than MARA. In particular, the General Directorate of Forestry (OGM) within the reorganised Ministry of Forestry and Water Affairs (MFWA) is well suited to implement projects in the notably poor upland areas of Eastern Turkey that are agriculturally marginal and generally classified as forest land. Moreover, the OGM has strong implementation capacity and an in-country reputation for being efficient and focused as well as having gained international recognition for the forest rehabilitation work that it is carrying out on a very large scale. Working with MFWA would represent an innovative and complementary expansion of IFAD support to rural poverty reduction in Turkey. MFWA's mandate and experience would provide an essential natural resource platform for the development of poor forest villagers and upland farmer populations.

Lessons from IFAD's Experience in the Country

6. **Flow of Funds and Procurement.** Cumulative experience from IFAD's portfolio indicates that all future Project designs should be explicit in specifying effective arrangements for the flow of funds for implementation as well as procedures for the

procurement of goods and services. In a situation of budgetary austerity and strict control over the use of foreign loan funds, timely access to counterpart funding has proved difficult to achieve. The national budget process has precluded access to development funds in the first quarter of a calendar year, a feature that has had substantial adverse repercussions to date on disbursements. (The IFAD Office of Evaluation's mid-term evaluation of the Ordu-Giresun Rural Development Project estimated the "disbursement lag" to be at 35% relative to the typical IFAD disbursement model.)

7. To facilitate the timely flow of funds and accelerate procurement activities, a pilot initiative was initiated in 2005 in which UNDP has acted under contract as a third party to facilitate the administration of the IFAD-sponsored Sivas-Erzincan Development Project. This mechanism has proved appropriate and effective in the circumstances but is clearly suboptimal with regard to national institutional development and additional overhead costs.

42. **Functional Design.** There is a need to avoid over-complexity in Project design and consequent institutional arrangements that depend on inter-agency co-ordination. With the exception of the former Agricultural Extension and Applied Research Project, the development strategy for IFAD has emphasized an integrated, area-based approach, which has been shown to be difficult to implement in the Turkish context. The strategy has led to the involvement of multiple implementing organizations, each with its own responsibility and budget. Efficient interagency co-ordination and even interdepartmental collaboration within the same agency have proved problematic, resulting in serial implementation delays. (The appraisal report for the Sivas-Erzincan Development Project refers to "time overruns" of between 22% and 33% for IFAD-funded projects.) To the extent possible in the design of future projects, the oversight and management of implementation should be entrusted to one department or branch within one ministry.

43. **Integrated Management Arrangements.** The previous and ongoing IFAD-supported projects have featured temporary "semi-detached" Project management units that have not been integrated fully into Government structures. The potential for capacity building of the technical cadres cannot be realized with such configurations, given frequent changes of staff, the avoidance of creating new posts in the government service and the problems associated with the role of contracted staff in a very large civil service, particularly with delegated financial powers. The alternative approach, taken in the present design, is to embed Project management within an appropriate Government section capacitated as needed for the extra work entailed.

44. **Institutional Capacity.** It has been learned in Turkey, as elsewhere, that objectives should be set realistically and based on activities that can be influenced more or less directly by the executing authority without undue reliance on the performance of external agencies, unless such performance can be linked to clearly defined contractual obligations from a service provider. As a MIC, Turkey has a burgeoning private sector capable of providing Project services on contract, including delivery in remote rural areas given a viable business proposition. NGO's however, appears to have a limited potential role as social and natural resource service providers.

45. **Land Use and Administration.** Earlier projects have shown that the interrelated issues of land condition, management and sustainable use turn on the availability of an accurate database. In the MRWRP Project area, land registration of agricultural land has been completed for most villages. In forestlands which includes most rangeland belongs almost entirely to the state and are "gazetted" where all transfer of ownership is banned according to Turkish law. The General Directorate of Forestry (OGM) manages the forest areas and resources on behalf of the state according to the rules, principles and guidelines set by the forestry legislation. At the start-up of the MRWRP, the forest cadastre and management plans would be updated in each of the MCs where Project activities will take place.

46. **Lessons Learned from other Projects.** The MRWRP builds on the experience gained in the World Bank financed projects "Eastern Anatolia Watershed Rehabilitation Project (1993-2001)" and the "Anatolia Watershed Rehabilitation Project (2004-2012)". Both Project designs have embraced a participatory approach similar to the MRWRP. Natural resource conservation and rehabilitation were coupled with income raising activities for the local community as well as training local people in natural resource preservation and sustainable management activities were implemented. Capacity building activities for the agencies were also carried out.

47. The main five lessons learned from the Eastern Anatolia Watershed Rehabilitation Project are:

- Pre-existing administrative or community processes, with risks of elite capture, often need to be challenged to accommodate the needs of women and the poorer households.
- Generally it takes more than the span of one project to develop and sustain new processes and skills to support community-driven development.
- Policies related to community forest management rights and Responsibilities need careful analysis and possibly enabling legislative action in advance of a natural resources management project.
- In a project with substantial environmental objectives and often complex treatment trade-offs it is important to measure at least local environmental impacts.
- In watershed treatments there are important issues of depth versus coverage, with potential trade-offs between high cost/high impact treatments on smaller land areas and low-cost low impact treatments on larger land areas.

48. These main lessons are dealt with in the MRWRP design, as well as other important issues such as poverty focus and gender sensitization. Genuine participatory planning and implementation is key for the Project success and is the motive for employing a multidisciplinary MC Planning Team. The team will comprise both multidisciplinary as well as socio-economic capabilities and approach the community together and segregated in different gender and wealth groups.

49. **The Project's ambitions** are not to change traditional authority and power structures in the communities – this requires a much longer process for which Project interventions can only be the start. The Project will be able to improve livelihoods for the weaker strata of the in the involved villages and introduce new ways of decision-making. Project interventions will target livelihoods and natural resource management and in this process seeds will be sown for a more just and democratic structure in the villages.

50. Impact monitoring forms a vital element in the Project, both in relation to livelihood benefits as well as the efficacy of the various rehabilitation and land management activities. The knowledge generation will feed into and sharpen the OGM in terms of intervention efficacy and efficiency.

51. Finally, management of livestock in particular sheep and goat population is notorious for being one of the main obstacles in sustainable management of the MC area and especially in relation to vegetation rehabilitation. It is often difficult to reach agreement with owners on managing large herds, and to respect enclosures. This Project design therefore reinforces the focus on livestock and on offering attractive alternatives to free ranging.

ANNEX 4

DETAILED PROJECT DESCRIPTION

1. At the request of the Government, the proposed Project will support and develop further the campaign to rehabilitate and manage properly the economically significant natural resources in upland watersheds, according to MFWA established criteria, as a means to eliminating residual poverty in upland communities.
2. The overall goal of the Project is reduced poverty among the targeted upland communities of Elazığ, Bingöl and Muş provinces located in the Murat river watershed. The Development Objective is "improved natural resources management in the upper catchment areas in the Murat Watershed, reducing poverty in participating communities".
3. The Project will adopt a demand-driven approach to increase the participation of communities in the co-management of the rehabilitation and care of natural resources through negotiated local consensus at the village level and the creation of economic incentives for work done in the public domain on shared natural assets. The Project will be implemented over a period of seven years in the upland districts and villages of Elazığ, Bingöl and Muş provinces in Eastern Anatolia.
4. The three complementary components comprise: (i) Natural Resource and Environmental Management; (ii) Investments in Natural Resources; and (iii) Investments in Livelihood Improvement.

Component 1: Natural Resource and Environmental Management

5. The first of three components is concentrated on assisting the Turkish Government's institutions effort to make planning and management more people oriented and to build ownership and sustainability into its ambitious programme for investments in the upper watersheds of Eastern Turkey. Past inadequate forest management of fragile forests and rangelands have contributed to the depleted and deteriorating state of the landscape, both close to human settlements and at higher altitudes. The Project will seek to promote participatory co-management modalities under which the private economic interests of the village communities are aligned with the sustainable use and improvement of public/shared natural resources.
6. The experience gained through identifying, planning, implementing and further maintaining productive natural resources in the selected micro-catchments is expected to contribute to the realization of national environmental goals. A gradual change in the effectiveness of land use management is a necessary condition for reversing the deterioration of the natural resource base. Expensive rehabilitation works will not be sustainable in terms of physical conditions or poverty reduction without far greater involvement of the local communities.
7. Basins, watersheds and catchments are land areas that drain to a hydro network. Basins and watersheds are the larger units, which can be subdivided into catchments and further into micro-catchments. The Project will adopt a participatory, demand driven approach based on the micro-catchment (**MC**) area as the smallest unit of intervention. The Project aims at working in one fourth (approximately 25 MCs) of the estimated 100 MCs of the Murat Watershed. The interventions will be selected and implemented based on site-specific participatory rehabilitation and investment plans prepared for each MC.
8. MC selection and planning processes are summarized below. The detailed methodology is set out as guidelines in Working Paper 1: Natural Resource Rehabilitation

and Poverty Reduction. Details of the planning process will be included in the Project Implementation Manual.

9. **MC Selection.** The selection will comprise a three-step process. The Project will ensure that the process is objective and transparent.

10. First Step. The General Forestry Directorate at the provincial level (OIM) will screen the MCs in their respective area. The screening will be on based maps and on existing statistical data available at the Governor's office. The OIM will produce a long list of eligible MCs in their respective areas: (i) level of poverty; (ii) magnitude of the degradation; (iii) availability of local labour (in terms of quantity and age); accessibility; and (iv) any evident social friction within the MC area.

11. Second Step. The long lists from the three OIMs will be presented to the General Forestry Department at regional level (OBM). The long list will be reviewed and including joint OIM/OBM field visits to the MCs presented. The review will reveal to what extent the results obtained in the first screening are valid. Further it will guide the final screening and selection in defining which observations and selection criteria are the most important.

12. Third Step. The available information and field observations for the long listed MCs in each province will be used by the OBM to evaluate and rank the MCs on a 1-5 scale. The criteria applied in step 1 are still valid and will be coupled with (i) the potential for reversing degradation in the MC; (ii) the potential for livelihood improvement through Project activities notably improved agriculture; and (iii) the communities' interest of participating in the Project. Further, the benefit of synergy between communities should be considered and giving preference to selection of neighbouring MCs.

13. For each province, the short list of MCs will be comprised of those ranking in the top 25% of the initial screened MCs. For each province, the top three will be selected for the planning in the first and the second year. The one MC to be targeted for the first year planning in each of the three provinces should (i) have the most easy access of the three MCs, considering the initial difficulties in implementing such a participatory and, integrated Project that will need frequent visits and close supervision/monitoring; and (ii) have high potential for success taking the demonstration effect into consideration. The experience gained in these first MCs will shed light on potential issues and risks and will allow both the central and field managers to take necessary actions for more efficient and effective implementation in succeeding MCs and years.

14. **Awareness Raising.** The component will finance awareness-raising activities for the target beneficiaries (men, women and youth) and other stakeholders (including local administrations, provincial agencies, OGM field staff and school children) regarding the Project's approach and terms of participation in MC development.

15. Before starting MC planning, it is particularly important for the MC communities to make informed decisions about committing themselves to work with OGM to rehabilitate their degraded natural resources (in the short term) and manage them sustainably (in the medium and long term). This be facilitated by the awareness campaign and village-to-village visits. These visits will be organized to challenge villagers pre-conceived notions and predispositions regarding mainly forestry activities by exposing them to other MCs in the region that were rehabilitated earlier by this or other projects. Such activities will help to increase transparency in Project implementation and encourage beneficiaries to participate and articulate demands for Project services. It will also complement and improve the effectiveness and ownership of the investments undertaken under Components 2 and 3.

16. **MC Planning.** For each MC, an integrated plan will be prepared in a participatory manner with the resident communities for the rehabilitation and subsequent management of the natural resources and the improvement of livelihoods of the resident households. The

plan is "participatory" because it is prepared based on communication, collaboration and agreements of the resident communities and "integrated" because it includes sub-plans for several sectors; forest land, grazing land, agricultural land, water and energy. These sub-plans are interlinked where each of the activities included have dual impact upon both natural resources and rural livelihood.

17. For each MC, plans will be prepared for each of the villages located in the MC. These plans will constitute the building blocks of an "integrated" Micro-catchment Plan and mechanisms for coordination between villages in the MC area will be established. All MCPs will be facilitated by the MC Planning Teams (MCPTs) that will be multi-disciplinary service providers comprising at least one specialist for forestry, crop production, livestock production, rural infrastructure, rural sociology, and economics based on the guidelines in the PIM. The respective Provincial Forestry Directorates (OIMs) in Elazığ, Bingöl and Muş will monitor and provide support to the MCPTs in preparing the MC plans. The plans will be reviewed and approved by the Regional Forestry Directorate (OBM) and sent to OGM/Ankara for final endorsement and serve as the basis for all investments in MCs and detailed AWPBs.

18. The scale, scope, labour needs, co-financing arrangements, timing/phasing and associated costs for all activities will be detailed in the MC plans. Once negotiated, the MCP will constitute the formal agreement for the implementation of activities and define the modalities for a) community participation in implementation and b) community participation in MC management and decision processes. Each plan will include an MC activity map and associated maps to include soil, erosion, topography and vegetation, and ten pre-determined chapters: (i) overview of the MC; (ii) current status of the natural resources, land-use, crop and livestock production; reasons for selection of the MC; (iii) participatory process and priority problems as identified by the communities; (iv) forestry sub-plan; (v) grazing land sub-plan; (vi) agricultural sub-plan; (vii) water sub-plan; (viii) energy sub-plan; (ix) costs; and x) agreements and arrangements.

19. **Menu of Activities.** A menu comprising possible activities for improving natural resources and livelihoods will be presented to the communities for their selection. The activities selected, depending on the technical feasibilities and agreements reached with the MC communities, will be included in the MC plans and the associated scale, scope, labour needs, co-financing arrangements, timing/phasing and costs will be detailed. The menu will be flexible and if necessary be revised during implementation.

20. **The Participatory Tool.** The MC planning, *implementation and monitoring will be participatory*. To achieve this the participatory tool called "*Beneficiary Centred - Problem Census - Problem Solving (BCPCPS)*" will be used. The appropriate tools of IFAD's methodology will fill the gaps in the BCPCPS process when relevant. During the planning process, focus group discussions and community consultation will also be undertaken, when needed.

21. The BCPCPS provides the setting in which all members of the community have an equal voice irrespective of gender, age and social status. Particular efforts are made to encourage women's participation, so as to assure that gender issues are mainstreamed into MC development planning and implementation. In villages where local culture does not allow undertaking the process with mixed groups, separate meetings will be held with women.

22. "*Beneficiary Centred - Problem Census - Problem Solving (BCPCPS)*" is a non-threatening, focused discussion that uses small group dynamics to elicit: (i) perception of the causes of natural resource degradation; (ii) a complete and ranked census of problems of individual households, villages and locality as a whole, and (iii) the communities' proposed solutions to these problems. No problem is rejected and all solutions are considered. The final ranking of problems and preferred solutions are theirs. The Project's

contribution is limited to facilitating the BCPCPS approach. Project staff only explains the process, and neither take part in the discussion nor make promises. In the "solutions" sessions, the participants' proposed solutions will be collected, evaluated and decided according to socio-economic, technical and financial viability criteria.

23. The final solutions will then be detailed in the micro catchment plan in terms of scope, scale, phasing/timing, cost, cost-sharing, and labour needs. The draft plan will be publicly displayed in the participating villages for one week. Objections will be handled by the MCPT and, if necessary, revisions will be made to the plan. The village headmen of the participating villages, the MCPT and the OBM will sign the final draft. A copy will be sent to OGM. If any changes are requested by OGM, the plan will be returned for further consultation with the MC communities. Once negotiated and signed, the MCP will become binding on the parties and implementation will proceed. The detailed methodology is set out as guidelines in Working Paper 1: Natural Resource Rehabilitation and Poverty Reduction. Details of the planning process will be included in the Project Implementation Manual.

24. The Project will supplement the technical ability of OGM with capacity building on the facilitation of participatory planning processes, including sufficient resources for community awareness-raising, mobilization, training and peer group visits, and development of village-based MC plans. OGM staff will receive training in participatory methods and gender/poverty sensitisation together with the Provincial Project Teams who will implement the investments in improved livelihood

25. A subsidiary activity in support of the MC planning process will be the support of priority studies and high-level technical advice, including natural resource economics, carbon sequestration, multi-functional forest management plans, and renewable energy sources.

Component 2: Investments in Natural Resources and Environmental Assets

26. The component will make investments through activities as identified in the MCPs for rehabilitation and protection of degraded areas in public land (gazetted forest land including rangelands). Reversing degradation and checking of erosion will establish the base for a sustainable economic development and poverty reduction in the upland communities. Natural resources rehabilitative measures to be implemented by village communities under the direction of the forestry directorate at provincial level (OIM) and regional level (OBM in Elaziğ). In any given MC, one or more interventions could be selected based on the micro-catchment planning process and (i) magnitude of the erosion; cost of intervention versus rehabilitation effectiveness and benefits for the community; (ii) soil type; (iii) steepness of slopes; (iv) type and density of vegetation cover; (v) rainfall characteristics; (vi) land use; (vii) cost and foremost; and (viii) the agreement of the resident communities.

27. The investments for the management of **land, vegetation and water** will include: (i) soil conservation investments; (ii) rehabilitation of degraded forests; (iii) rehabilitation and sustainable management of degraded grazing land/rangelands; (iv) livestock water ponds; and (v) the development of two public nurseries. The labour requirements for the activities will be locally sourced to the extent possible on a first right of refusal basis. Both traditionally as well as due to the nature of the work, OGM gives preference to the hiring of village women except for manual earth moving.

28. Soil conservation investments will include the following interventions: (i) erosion control and slope stabilization measures such as gully rehabilitation; (ii) shallow/manual terracing for improved moisture retention; (iii) plantations of forest and fruit-bearing tree species as agreed with communities; and (iv) closure of specific and agreed areas to grazing for a period of time to enable the vegetation to regenerate. Selection of

interventions will be based on the set priorities from the planning process as well as physical and economic criteria. The variability in different MCs calls for different types of interventions. However, controlling water flow is key, and the regeneration of vegetation and stabilisation of waterways and gullies is often the most cost-effective means to reduce erosion, flooding and landslides.

29. The interventions for rehabilitation of the degraded forests will include: (i) oak coppice rehabilitation; and (ii) tree planting (afforestation) on the degraded forestland. Oak coppice rehabilitation will be achieved by: (i) throat cutting of the stem to enable the tree to regenerate; (ii) supplemental seeding with acorns; and (iii) supplemental planting with oak seedlings. In afforestation, the species will be selected based on various factors including: (i) soil type and depth; (ii) type of bedrock; (iii) climatic conditions; and (iv) degree of erosion; and v) local preferences. The rehabilitated areas will be closed off to grazing by fencing for a period of time (2-3 years) to enable the seedlings to grow to above a height that could be damaged/eaten by the small ruminants.

30. To be successful in afforestation activities, the timely and stable supply of high quality seedlings of desired species with appropriate provenance are required. The Project will support the OGM nurseries in Elazığ and Muş.

31. Rehabilitation of degraded grazing land: will be undertaken to reduce grazing pressure on forest rangelands/ grazing land. This will be achieved by: (i) closure of the area (fencing) to grazing for a period of time in order to increase the carrying capacity in terms of both biomass and Biodiversity; (ii) helping the users to adopt rotational grazing as a routine practice; and (iii) supporting the establishment of community-based management of grazing access. Training and demonstration activities will be provided for shepherds and livestock owners. Forage crop seeds for grazing land users will be provided on cost sharing basis to introduce and/or support the forage production on agricultural land to avoid any negative impact on livestock feeding due to the temporary closure of the rangelands. The Project will also support investments in rangeland infrastructure such as watering points for livestock, scratch posts, and shades. Provisions are also made to construct simple shelters/pens in the rangeland for protection of shepherds and the livestock against theft, bad weather and wild animals. The troughs and shade shelters will be installed as one per 300 ha and scratch posts as one per 50 ha. These are expected to be an incentive for livestock owners to agree to the rehabilitation activities.

32. Livestock drinking water structures will provide access to water in grazing lands and so reduce animal travelling distances for drinking. The benefits derived are two-fold: (i) reduction in the risk of spreading animal diseases; and (ii) increased productivity. The structures will be: (i) water troughs (mainly) that sited strategically; and (ii) watering ponds. The troughs will be poured-in-place concrete (mostly) or prefabricated sheet metal with dimensions of about 10 x 1 x 0.6 metres.

33. The construction of livestock watering ponds in rangelands for direct use during the summer grazing period will be supported priority will be given to villages where livestock production is the main activity, where water sources are scarce and site conditions are favourable for additional water collection in relation to e.g. gully rehabilitation. Only a few will be constructed in the Project area. Typical ponds will be of the watershed (or embankment) type with a maximum total embankment height of five metres and riprap protection on the upstream slope. Ponds should be fenced and include a control structure with a drainpipe through the embankment used to supply water to a set of troughs in order to avoid direct livestock access. Investments in ponds should include formal arrangements for communal use of the facility. The detailed design may also include catchment vegetation rehabilitation to reduce siltation. A geologic note, an environmental impact assessment note and a brief hydrological study assessing the recharge regime will also be part of the feasibility analysis. All investments in livestock watering facilities should include

a basic financial analysis relating investment cost to the expected increase in production and revenues.

Component 3: Investments in Livelihood Improvement

34. The outcome of this component is to improve living conditions through support to small-scale crop and livestock production on private land. The Project will provide opportunities on a cost-sharing basis to raise income of MC communities reinforcing the adoption of rehabilitation activities. The component will be implemented by OGM through contracted multi-disciplinary Provincial Project Teams (PPTs) comprising a forest engineer, an agronomist and a livestock specialist. OIM will second a forester to each PTT to be a focal point for the liaison between OIM, PPT and local communities. The OIM officer will also be responsible for collection of accurate M&E data. The governors' offices in the Project provinces will provide necessary coordination and linkages between the Project and the resources of Provincial Directorates of Agriculture (PDAs) for extension and training support.

35. Provisions are made for training of the three PPTs on technical topics as well as in poverty targeting and gender issues at the beginning of their work and for refresher training in third and fifth year of implementation. Both PPTs and OGM staff will participate in training in participatory methods and gender/poverty sensitisation.

36. The investment menu will include: (i) improvement of the productivity of wheat and barley; (ii) forage crop production; (iii) improvement of stables; (iv) orchard establishment; (v) improving vegetable production; (vi) small-scale irrigation; (vii) contracted seedling production; and (viii) promoting energy saving technologies.

37. The menu offered will vary according to the agro-ecological and socio-economic conditions in each village as well as farmers' resources and needs. The approach will be flexible and activities may be adjusted according to specific conditions, needs and wishes. The scale, scope, timing/phasing and associated costs for all activities will be detailed in the agricultural sub plans made in the negotiated MCPs.

38. Poor crop productivity and low profitability of wheat and barley production will be addressed by assisting smallholders to adopt better agronomic practices under prevailing agro-ecological conditions to match cropping patterns to the productive and physical limitations of agricultural lands. This will help to reduce soil erosion and associated soil fertility loss in fragile land where annual cropping has been practiced for years. The agronomic practices will include improved soil cultivation and seedbed preparation (on contour for erosion prevention), improved timing of planting, and quality seeds (certified) of higher yielding varieties resulting in production of satisfactory grain yields and quality hay. The component will introduce rotations with nitrogen fixing crops, one could be the Hungarian vetch (*Vicia pannonica*), to improve soil fertility and fodder quality. Crop rotations will improve soil fertility and land productivity, hereby use the land more effectively and reduce pressure on marginal agricultural land and range land.

39. Forage crop production will be encouraged in the MC villages under both rainfed and irrigated conditions. For rainfed conditions, winter vetch or spring vetch by replacing fallow that leaves land idle and unprotected (exposed to water and wind erosion) for about 12 months. Sainfoin (a hardy leguminous crop of the *Onobrychis* species) will be introduced to the plots on slopes with effective erosion control measures to avoid the annual disturbance (soil tillage for annual grain production) of the earth that increases soil and land degradation. In areas of higher annual precipitation (about 750-800 mm), silage maize will be promoted. For irrigated conditions, alfalfa and silage maize will be priority crops particularly for villages where dairy cattle production is gradually developing.

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40. The improvement of livestock stable conditions will address one of the major issues in livestock production (sheep and cattle) by financing materials and equipment to upgrade traditional stables. Measures will include ventilation and chimney windbreak, lighting, improved feed and watering units, paint/whitewash, disinfectant and spraying on a cost-sharing basis. All these will decrease the parasite and disease incidence in the stables and improve stable/barn hygiene.

41. Orchard establishment. Although the agro-ecological conditions are appropriate for fruit production in a number of upland villages, there is no orchard established with appropriate geometry and technique. Individual trees of out dated varieties are scattered on the farmers' fields and backyards and kept poorly. The component will support investment in small modern orchards for production of soft and stone fruits (e.g. apple, pear and plum) and nuts (e.g. almond, walnut or chestnut).

42. Improving vegetable production. Vegetable production that will be supported under plastic tunnels and open fields is appropriate for the MC villages where good agricultural land is limited and household labour is available. There is a proven demand for fruits and vegetables in the region. However, poverty, lack of technical information and skills, finance issues, and out dated varieties and practices limit production. Where climatic conditions allow, the Project will finance plastic tunnels (500 m²) and drip irrigation with initial skills transfer and advice.

43. Small-scale irrigation. Support will be provided for off-farm and on-farm irrigation investments. Small-scale off-farm irrigation investments will ensure a reliable supply of water for irrigation and expand the irrigated area available to a village, if any, by improving irrigation efficiency.

44. The investments will include: (i) small water storage ponds (off-farm) for multiple users; (ii) improvement and rehabilitation in the water conveyance systems (off-farm) by conversion to concrete canals or where feasible to PVC pipe; and (iii) on-farm drip irrigation. Given the sloping nature of the irrigated areas, drainage is not expected to be an issue requiring additional investment or to create any negative environmental impact.

45. The water storage ponds will enable farmers to: (i) store water from small springs/streams (with a discharge less than 15 litres/second) to be used in periods of water shortage; and (ii) engage in production of more profitable crops. The ponds will be concrete and about 400 m³ in size with requisite inlet and outlet structures and fittings. In selecting the water source to be developed, the main criterion - in addition to technical feasibility - will be the number of households that will benefit. In the case of civil works for irrigation, arrangements for in-kind contributions by the beneficiaries will be negotiated during the preparation of each MC Plan. The remote location of these investments predicates civil works designs that require minimal use of heavy machinery. Further guidance regarding the design parameters will be provided in the PIM.

46. The rehabilitation of the existing irrigation infrastructure will be undertaken by: (i) replacing damaged and poorly functioning parts of existing open canals with pipes (PVC or glass fibre); and (ii) concrete lining of earth canals to reduce water conveyance losses and modification of the canal profile (trapezoidal instead of rectangular).

47. Project support will be provided also for on-farm low-pressure drip emitters for horticultural and forage crops complementing and benefitting from off-farm Project investments in water harvesting. A typical installation will include the rehabilitation of the intake, the construction of a reinforced concrete tank and the installation of an underground LD/HDPE pipeline (including valve boxes for air valves, washouts and hydrants). The valve boxes will be made of steam-cured pre cast units. Due to the harsh weather conditions in the Project area, specific minimum pipe laying depths are required.

48. Contracted seedling production. The Project will support the establishment of small tree nurseries in the MC villages. The objective is to ensure a steady supply to private villagers and the OIM of quality multi-purpose tree and fruit tree seedlings. The OIM purchase will be made on contractual basis with a buy back guarantee supplementing the seedling supply from the nurseries in Elazig and Mus.

49. Promoting energy saving technologies. The activity is designed to reduce the overall demand for fuel and excessive reliance on fuel wood and to promote the use of affordable renewable energy sources in the upland villages. The interventions comprise mainly solar water heaters, energy efficient stoves, and alternative small-scale energy-saving technologies.

50. The houses in the Project villages are heated with simple and inefficient stoves burning wood, coal and dung. The number of stoves depends on the size of the house, number in the household and the building type (wood, stucco, stone). Households also use wood to heat water for washing and bathing purposes. Considering the large households, building types and long harsh winters, the demand for fuel wood is very high. In upland villages, due to insufficient or lack of affordable alternative energy sources, a household of four annually consumes at least 2-3 mt of fuel wood, and consequently a village of fifty households uses a minimum of 100 mt a year. It is estimated that in the Project area, about 300 000 tons of fuel wood is used every year, which corresponds to about 100 000 ha of oak coppice. On the other hand, at least 6 kW of expensive electricity is needed to provide 150 litres of hot water daily for a household of four.

51. The Project will introduce new and up-scale existing modalities of energy conservation in order to reduce pressure on the forests for fuel wood and reduce the burning of dried dung which instead can be utilized to improve soil fertility. The investments that will be supported include solar heating and energy efficient stoves to reduce use of fuel wood, and house insulation to improve the efficiency of these measures.

Impacts and Linkages

52. Investments under Component 3 address both poverty (directly) and natural resource degradation (both directly and indirectly).

53. **Impact on poverty.** some activities reduce poverty directly by increasing the household income and others by decreasing the expenditures: activities increasing income: *crop production:* wheat/barley and forage crop production with some degree of mechanization on relatively larger plots will have direct effect on income as a result of improvements in crop yields and total production. Vegetable and fruit production will also provide income, but from smaller plots by utilizing family labour where income per unit of cultivated area will be higher. Investments for small-scale irrigation (water storage ponds, rehabilitation of earth canals and on-farm drip irrigation) will directly improve earning capacity of the households. All of these will also have positive impact on the nutritional status of families. Contracted seedling production will not only generate income but may create models/opportunities for future small-scale businesses. *Livestock production:* forage crop production on agricultural land that integrates crop and livestock production, improvement of livestock stables will improve the livestock productivity and contribute to the household income. Activities decreasing expenditures: investments in energy efficiency comprises solar water heaters, energy efficient stoves and house insulation, which in combination have supplementing impacts.

54. Knowledge and skills required for these investments will be provided through farmer training courses, on-farm demonstrations and farmer exposure visits. Separate training courses will be provided to women farmers systematically throughout Project implementation not just on a "demand driven basis". Youth will be given priority in all training programs. Women will also benefit from farmer exposure that will be organized for

couples and youth. Depending on the activities included in the MC plans, the PPTs analyze the capacity building needs for the implementing community members and technical assistance.

55. **Impact on Natural Resource Degradation.** The impact of the Project activities executed in component 2 and 3 is both direct and indirect. Direct impacts are derived from: (i) improvements of grain yield through better agricultural practices; (ii) fallow reduction (protecting land from wind and water erosion for about 12 months by creating vegetation cover); (iii) expanding forage crop production with nitrogen fixing leguminous crops (increasing soil organic matter content, improving soil strength by increased aggregate stability and increasing water retention capacity); (iv) establishment of fruit orchards, if done particularly on slopes replacing annual cropping mainly wheat (stabilizing slopes and reducing surface runoff); (v) improving small-scale irrigation (improving water use efficiency through reducing conveyance losses, adopting water efficient methods like drip irrigation); (vi) contracted seedling production (establishing good ground cover reducing erosion, and by steady supply of seedlings enabling successful afforestation); and (vii) alternative energy sources (reducing fuel wood consumption resulting in improved land cover). For all crop production, soil tillage parallel to contours will be encouraged. This will stop development of small furrows on the slopes that cause significant topsoil, soil fertility loss and lead to gullying. Indirect impacts are created by: (i) expanding forage crop production (reducing pressure on forest land and grazing land); (ii) leguminous forage production (increasing water supply by increasing water retention in soil, improving soil fertility); and (iii) establishing good ground cover with cereals, forage crops, vegetables and fruit trees (improving water quality by reducing sedimentation).

56. Components 2 and 3 activities are interlinked and target the causes of poverty and natural resource degradation rather than the symptoms,. Interventions under Component 2 have impact on the activities under Component 3 by protecting agricultural land from flooding and landslides, improving water supply and quality for irrigation, contributing to livestock productivity by improving vegetative cover and providing small, but useful structures in grazing lands thus increasing drinking water availability. Component 2 also effects livelihood of the villages by providing temporary employment, reducing flood and land slide risks, and allowing communities to benefit from fruit bearing trees and plant material obtained from oak coppice rehabilitation and support beekeeping by improving the flora.

ANNEX 5

INSTITUTIONAL ASPECTS AND IMPLEMENTATION ARRANGEMENTS

Project Management

1. **The Management of Implementation** of the MRWRP is streamlined and simple. The task rests with one general directorate, the General Directorate of Forestry⁹ (OGM) being fully responsible for all aspects of implementation of all components. The national counterpart of IFAD will be OGM for the purposes of Project implementation. OGM is organised with mandated delegated from the national level to 27 Regional Directorates (OBM) and further to 81 Provincial Directorates (OIM).

2. A **Central Operations Unit (OU)** responsible for assisting in the overall and day-to-day management and implementation of the Project will be established within OGM in Ankara. The principal functions of the OU will be: (i) to provide broad based management support including planning, programming, budgeting, monitoring and documenting progress; (ii) elevating experiences and lessons learned through the steering committee to the policy level; and (iii) to report to the Ministerial level and general directorate level and IFAD.

3. At the central level the OU comprises a Project Manager, a Central Focal Point (CFP), a secretary/translator and five technical staff members. The Deputy General Director of OGM assumes the position as Project Manager (PM) and the head of the Afforestation Department of OGM will be the Central Focal Point (CFP). The OU staff members are seconded by OGM and comprise a senior forest engineer, a procurement specialist,¹⁰ a monitoring and evaluation (M&E) Specialist, a procurement officer and a finance officer. Seconded staff will in average use approximately 20% of their time on OU related work. Further a secretary/translator will be contracted for administrative support. Appropriate office premises and infrastructure for the OU will be provided by the General Directorate of Forestry (OGM). Table 1 shows the recruitment modalities for OU staff.

Table 1: Composition of Central Operation Unit (OU) in Ankara

Position in Project	Position in OGM	Type of recruitment
Project Manager (PM)	Deputy General Director	Seconded
Central Focal Point (CFP)	Department Head	Seconded
Technical Staff <ul style="list-style-type: none"> ▪ Senior Forestry Engineer ▪ Procurement Specialist ▪ M&E Specialist ▪ Procurement Officer ▪ Finance Officer 	All OGM forest engineers and administrative staff	Seconded
Secretary / Translator	-	Contracted

4. The OU will receive technical support through the Afforestation and Soil Conservation and Watershed Department (Components 1 and 2) and the Forest-Village Relations Department (Component 3). Both departments are integral parts of OGM reporting to the General Director.

5. The implementation of activities in the provinces is decentralised to the Forestry Directorate at provincial level (OIM) working in close collaboration with the Forestry Directorate at regional level (OBM). A Field Operation Unit (FOU) will be established at the

⁹ Under the Ministry of Forestry and Water Affairs (MFWA).

¹⁰ See Annex 8 Procurement.

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regional (OBM) level in Elazığ, with seconded staff from OBM and supported by a Deputy Project Manager hired through a national competitive recruitment process and based on prior review by IFAD. The principal functions of the FOU are: (i) to provide management support at the field level; (ii) to coordinate the planning and reporting between OIMs the OBM and OGM in Ankara; and (iii) to handle day-to-day management and implementation of the Project. The FOU will take the lead in the procurement of all civil works, goods and services, and technical assistance that relate to the field activities.

6. The FOU comprises a Field Project Manager, the externally recruited Deputy Project Manager (DPM), Focal Points in each province and the required administrative staff. The Deputy Regional Director of OBM in Elazığ assumes the position as Field Project Manager (FPM) supported by the (DPM). The DPM will be stationed in Elazığ but will have frequent assignments with the OU in Ankara. The DPM reports both to the Project Manager in Ankara and to the Field Project Manager in Elazığ. The staff of the FOU comprise a senior forest engineer, a procurement officer,¹¹ a monitoring and evaluation (M&E) officer, and a finance officer, all staff seconded form OBM with an average time allocation for the FOU of approximately 20 %. The Provincial Focal Points (PFPs) are seconded forest engineers and remain stationed at the OIMs in Elazığ, Bingöl and Muş. The PFPs task is to ensure coordination between their respective OIMs, and Deputy Project Manager (DPM) in Elazığ. Table 2 shows the recruitment modalities for FOU staff. ToR for the DPM is provided as Appendix 2.

Table 2: Composition of FOU/Elazığ

Position in Project	Position in OBM	Type of recruitment
Field Project Manager (FPM)	Deputy Regional Director	Seconded
Deputy Project Manager	Assistance to FOU and OU	Contracted
Provincial Focal Points (PFPs)	OIM forest engineers	Seconded
Administrative Staff <ul style="list-style-type: none"> ▪ Senior Forestry Engineer ▪ M&E Officer ▪ Procurement Officer ▪ Finance Officer 	All OBM forest engineers and administrative staff	Seconded

7. A Steering Committee (SC) established within MFWA will be chaired by the Deputy Undersecretary for Forestry. Membership comprise the Director General of OGM and the Department Heads of (i) Afforestation; (ii) Soil Conservation and Watershed; (iii) Forest-Village Relations Department; (iv) Strategy Planning; (v) Data Processing; and (vi) Nursery and Seed Activities. The Deputy Project Manager will act as secretary and be responsible for the dissemination of the decisions and follow-up. The role of the Steering Committee is to provide overall policy guidance and oversight, approve the Annual Work Plans and Budgets and the Programme Implementation Plan, and, ensure that overall Project operations are within the legal and technical framework agreed between the Government and IFAD.

8. The OGM will prepare a Project Implementation Manual (PIM), with technical assistance if needed. The Ministry of Forest and Water Affairs (former Ministry of Environment and Forestry has extensive experience in preparing, implementing and monitoring international donor-funded projects and OGM will draw upon this experience in preparing the PIM.

9. OGM supported by the Coordination Units (FOU/FOU) prepares the Annual Work Plan and Budgets (AWPBs) in accordance with procedures agreed with IFAD and detailed in the PIM. The inputs for the AWPBs will be provided by OBM and the Deputy Project Manager (DPM), in line with the Micro-Catchment Plans (MCP) that are prepared for the respective

¹¹ See Annex 8 Procurement.

Project implementation areas and years. The FOU/OU will assist in generating the AWPBs that would be submitted to OGM for review and approval and to IFAD for no objection.

10. The proposed Organizational Chart is appended to this Annex.

Implementation of Component 1: Natural Resource and Environmental Management

11. The OBM through the FOU will be responsible for the management of the component including: (i) procurement of all service providers in the field; (ii) planning and execution of the workshops, study tours and exchange visits under the Component; and (iii) organizing and delivering the sensitization and awareness raising programs. The FOU will hire the multi-disciplinary Micro Catchment Planning Teams (MCPTs) through a national competitive (NCB) process. A draft ToR of the planning teams is provided as Appendix 3 and will also be available in the PIM.

12. The respective OIMs in Elazığ, Bingöl and Muş will monitor and provide support to the MCPTs in preparing the MC plans. The plans will be reviewed and approved by OBM and sent to OGM for final endorsement and serve as the basis for all investments in an MC(s) and detailed in the AWPB(s).

13. The ToRs and procurement guidelines for these activities will be detailed in the PIM.

Implementation of Component 2: Investments in Natural Resources

14. The OIMs in Elazığ, Bingöl and Muş will be responsible for the implementation of the component and will report to the OBM. The forestry-related activities, including those that relate to the rangeland investments under this component will be implemented according to the MC plans that have been finalized under Component 1.

15. The OIM will hire the service providers, e.g. the village administrations or local contractors, for the rehabilitation and afforestation activities or other small civil works in accordance with the guidelines in the Project Implementation Manual (PIM). All work related to rehabilitation, afforestation and the maintenance and guarding of same is expected to be undertaken by the resident villagers (hired under the village administration or individually) in the respective MCs. In case sufficient labour is not available, the OIM will contract the work to eligible service providers that will be competitively recruited as described in the PIM.

16. The seedlings and seeds used in the afforestation works will be procured by the OIMs from the OGM nurseries in Elazığ and Muş as sole source supplier. Other public nurseries and private producers that are capable of supplying the desired seedlings may be contracted in accordance with the needs determined in the MC plans with respect to timing, quantity and quality. Procurement details will be available in the PIM.

17. The civil works for livestock drinking water and ancillary facilities will be competitively contracted at the provincial level by the OIMs. Provincial Project Teams (PPTs) will be responsible for the monitoring of these works and the reporting to the Provincial Focal Points (PFPs). These contracts should cover the design and construction of the small-scale irrigation rehabilitation and related investments such as irrigation ponds, water conveyance systems, livestock drinking facilities in the range and grazing lands and the small works for the livestock manure storage demonstrations. The OIM/OBM will make arrangements with the relevant Governors' office and Government agencies in the provinces, e.g. Agricultural Department (PDA) to receive technical support on an as-needed-and as-agreed basis.

18. The FOU, together with the OIM and technical assistance as necessary, shall determine the locations of erosion measurement plots in sloping land, stick measurements in selected gullies and the sediment measurement stations to be installed at the outlets of selected MCs. The OBM will procure the related goods that will be installed by the suppliers. The FOU will be responsible to ensure that the measurement process is initiated in accordance with prevailing practices and as described in the PIM. The information collected will be collated and reported to the OU by the FOU.

Implementation of Component 3: Investments in Improved Livelihood

19. The OIMs in Elazığ, Bingöl and Muş will be responsible for the implementation of the component and will report to the OBM. The contracted **PPTs** will provide the requisite support according to approved MC plans. Each PPT would comprise a forest engineer, an agronomist and a livestock specialist that the OBM will hire on a competitive basis. Their requisite transport and office infrastructure will be provided by the Project. The PFPs will be responsible for ensuring optimal coordination between OIM and OBM.

20. A forester will be seconded to the PPT to provide guidance in interacting with the OIM and the local communities and while maintaining responsibility for accurate collection of implementation data and other relevant information to be used as input to the Project M&E system. Such data would be sent by the PFP to the DPM at the OBM for evaluation and dissemination. Provision for appropriate office premises and vehicles for the PPTs have been made in the Project.

21. The PPTs are responsible for developing action plans related to the various activities under the component based on the MC plans. Working in close collaboration with the PPTs, the OIMs will contract service providers as needed to implement the activities and investments under the component. Using the MC Plans as reference, the PPTs will plan, implement and monitor the impact of: (i) the farmer training program; (ii) the demonstrations; and (iii) farmer exposure visits; and (iv) farmer exchange visits under Component 1.

22. As relevant, the PPTs will also: (i) assist the Micro-Catchment Planning Teams (MCPTs) by providing technical and logistical support to the preparation of MC plans and in the participatory planning process in the upland villages); and (ii) provide input to the MC plans to ensure congruity with the norms and approaches outlined in the PIM. They will spearhead the awareness-raising campaign, and working closely with the service provider(s) develop the village visit plans, arrange venues through the village administrations, and ensure the participation of the women and the elders.

23. The responsibility for the procurement of the inputs for the component rests with the OIM in accordance with procedures set forth in the PIM. The PPTs will organize the delivery and distribution of the various inputs to the beneficiaries and monitor their use to ensure the planned outputs of the component.

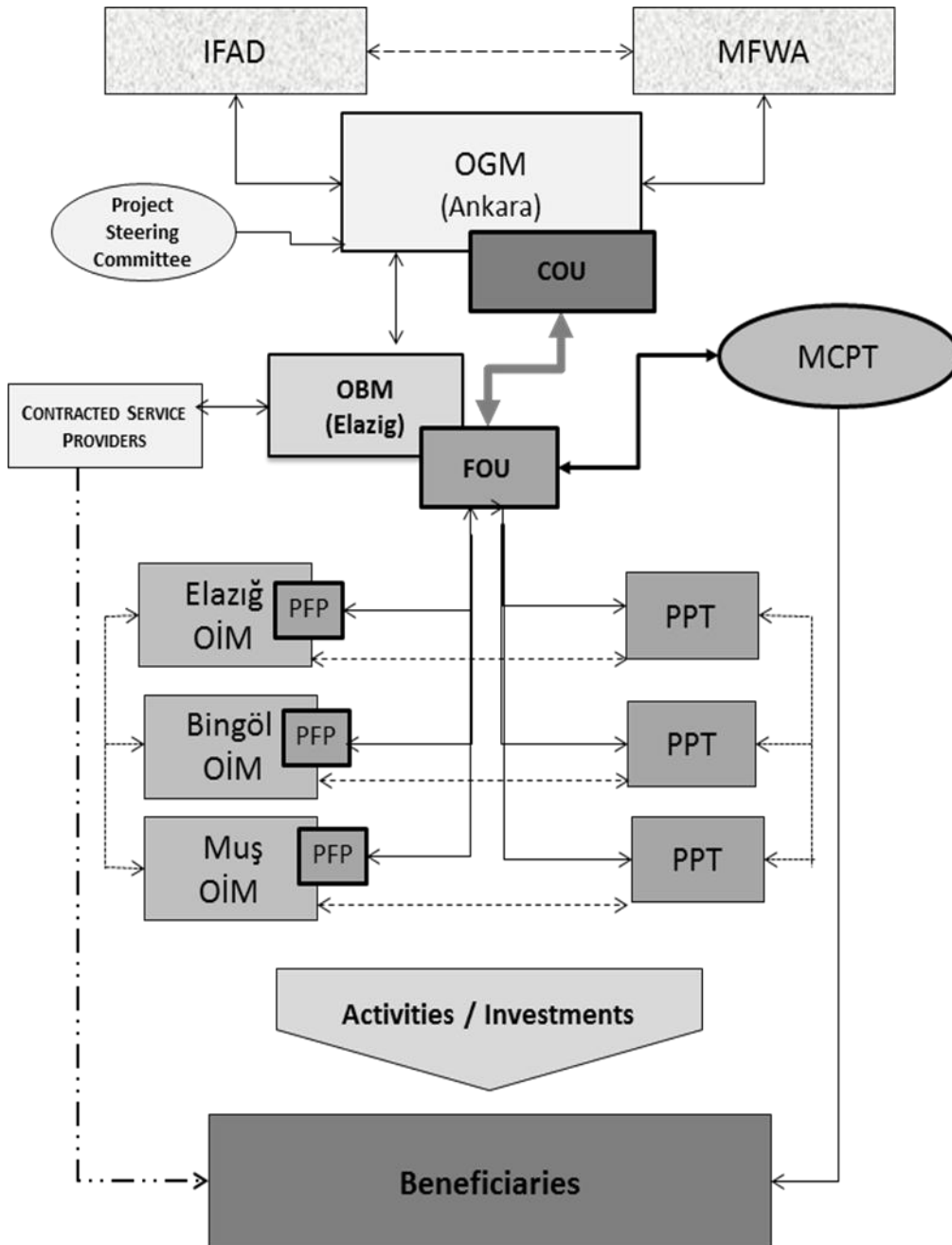
24. Efficiency and diversification in energy sources will be handled by the OIMs, specifically by their section chief for Forest-Village Relations Department. The OIM will assist the beneficiaries in procuring the solar heating panels for hot water, energy efficient stoves and building insulation. The suppliers will be responsible for the delivery and installation of solar heating panels.

Other Key Institutions

25. There will be close collaboration with existing local elected and appointed Government bodies such as the provincial and district Sub-Governors Offices and municipal mayors. Strong links will be established with the Provincial Directorate of the Ministry of Food, Agriculture and Livestock (previously Ministry of Agriculture and Rural Affairs).

26. The village headmen and councils of the elderly of the MC villages play key roles in the preparation of the MC plans by providing guidance regarding the local economic and social setting as well as facilitating the participatory decision-making processes in the finalization, approval and implementation of these plans.

Appendix 1: Organisational Chart



Appendix 2: Terms of Reference of Key Project Staff

Deputy Manager of MRWRP Operations Unit

Draft Terms of Reference

(to be detailed in PIM)

Duration of Assignment: Following successful completion of six-month probationary period; renewable one-year contracts up to a total of seven years, if performance is satisfactory.

Duty Station: Based in Elazığ, with regular travel to Ankara and within the Project area (Elazığ, Bingöl, Muş) as required for co-ordination, monitoring, reporting and oversight.

Qualifications and Experience

1. A higher degree in Agricultural Economics, Economics, Business Administration, Forestry, Agriculture, Public Administration or related discipline relevant to the Murat River Watershed Rehabilitation Project (MRWRP) with sound knowledge of contemporary issues in the rural economy of Turkey and natural resource management. A minimum of five years at a senior technical or management level in a relevant public institution, private sector or an international organization, with proven skills in the management and co-ordination of internationally financed development programmes.
2. The candidate would be expected to have a creative, energetic and pragmatic approach to problem solving and an appreciation of the respective roles of the public and private sectors in rural economic development and natural resource management. Computer literacy would be requisite and good command of spoken and written English would be an advantage.

Job Description

3. The Deputy Project Manager will report to the Field Project Manager of the Field Operations Unit (FOU) as the immediate supervisor and to the Project Manager of the Central Operations Unit (COU) in Ankara and would be responsible to:

- Provide support to COU;
- Provide oversight and guidance to the Regional Directorate of OGM (OBM) in Elazığ and Provincial Forestry Offices (OIMs) in Elazığ, Bingöl and Muş on all matters pertaining to the smooth implementation of the Project, in accordance with procedures and obligations specified in the IFAD Financing Agreement and implementation arrangements detailed in the Project Operations Manual;
- Act as secretary for the Project Steering Committee (SC) and arrange for dissemination of the decisions taken and follow-up;
- Oversee the recruitment and activities of Project staff, consultants, and consulting service providers (Micro catchment planning teams (MCPTs), provincial Project teams (PPTs) those for special studies and surveys, and similar) in accordance with the conditions of the IFAD Loan Agreement; the related Terms of Reference; and the requirements of Annual Work Programmes and Budgets (AWPBs);
- Provide guidance to the Provincial Focal Points (PFPs);

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- Oversee the preparation of the participatory micro catchment (MC) plans;
- Ensure timely review and approval of the MC plans and sending them to OGM for final endorsement and required budget allocation;
- Ensure timely and effective implementation of the endorsed MC plans;
- Oversee the work of the PPTs;
- In close collaboration with the OBM and the PPTs in Elazığ, Bingöl and Muş, and IFAD, prepare the Annual Work Plan and Budget (AWPB) in relation to the Project design and available financing, and oversee the implementation of the activities as per the approved AWPB;
- Oversee the preparation, introduction and utilisation of a Results-oriented Management Information System for the Project, and ensure timely collection, analysis and utilisation of monitoring information;
- In addition to the internal documentation (including technical reports, financial documentation and accounts, and procurement requests) prepared at the provincial level, co-ordinate the submission of other internal documentation (payments, background documents, financial reports, replenishment requests) as per the requirements of OGM Ankara, and/or IFAD as appropriate and in accordance with the Loan Agreement and the arrangements specified in the Operations Manual;
- Ensure implementation of the participatory, iterative, multi-faceted approaches of the Project that are crucial to maintaining its focus on poverty reduction and natural resource rehabilitation; and
- Receive and arrange for the reproduction and circulation of reports, studies and other Project documentation from consultants as appropriate.

4. With specific reference to administration and financial management of MRWRP funding:

- Ensure the completion of the procurement process and full compliance with IFAD procurement guidelines;
- Coordinate the contract administration of the specialists hired for PPTs and assess their performance on a regular basis;
- Secure the submission of a detailed expenditure report on quarterly advance payments; and
- Ensure timely endorsement of Withdrawal Applications and submit them to IFAD and Treasury.

Provincial Project Team (PPT)
Draft Terms of Reference
(to be detailed in PIM)

Duration of Assignment: Following successful completion of six-month probationary period; renewable one-year contracts up to a total of seven years, if performance is satisfactory.

Duty Station: Three teams based in Elazığ, Bingöl and Muş with regular visits to Regional Forestry Directorate (OBM) in Elazığ as required reporting and coordination and monitoring.

Composition of the Team

1. Each team will comprise a forest engineer, a crop production specialist (agronomist with capacity in the fields of land and water management), a livestock production specialist (zotechnician or veterinarian).

Qualifications and Experience

2. Every member will be expected to have as a minimum a Bachelors degree in his or her relevant field(s). The Team Leader and will be expected to have proven 5-10 year field experience. Experience in community forestry projects (participation/gender issues) will be an advantage. Computer literacy will be required.

3. The candidate PPT members will be expected to have at least 5 years of proven experience in their respective fields, and capable of adopting creative but pragmatic approach to problem-solving and an appreciation of the participatory approaches in natural resource management and livelihood improvement. Computer literacy will be required.

Job Description

4. Each team will provide requisite support to Provincial Directorate of Forestry (OIM) according to the approved MC plans.

5. Each Team Leader will ensure that the Project is implemented in accordance with the design and agreement with Turkish Government (MFWA/OGM) and IFAD; and provide guidance in interacting with the OIM and the MC communities and while maintaining responsibility for collection of relevant data and information to be used as input to the Project M&E System.

6. Each team will spearhead the awareness-raising campaign before the MC Planning process is started and working closely with the service provider(s) develop the village visit plans, arrange venues through the village administrations, and ensure the participation of women and the elderly.

7. Each team will assist the MC Planning teams by providing technical and logistical support in conducting the BCPCPS process and preparation of the MC plans to ensure congruity with the norms and approaches outlined in the PIM.

8. Each team will develop action plans for each village based on the agreed MC plans for efficient and effective implementation of Component 3 and to a certain extent Component 1 (regarding farmer exchange visits) and Component 2 (regarding rehabilitation of degraded grazing lands). If needed, OIMs will contract service providers as needed to implement action plan.

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9. Each team is responsible for implementing the Project activities included in the MC plans through a multi-sectoral, client-focused, coordinated, demand-driven and participatory advisory services. Within this framework each team is expected to:

- Conduct a situation analysis in each of the villages included in an MC:
 - altitude, length of growing period, annual precipitation and distribution, no. of days of snow cover, soil depth, texture, land capability class;
 - production patterns: agronomic practices and related calendar in crop production, livestock husbandry practices, yields, total production;
 - if relevant, marketing opportunities and channels;
 - farmers' resources: Total land/hh, no. of plots/hh, type of livestock owned, no. of livestock/household, mechanization;
 - natural resources : available water, forest, rangelands and their traditional uses by the community or outsiders (nomadic livestock production); and
 - availability of household labour, seasonal migration patterns;
- identify yield limiting factors (environmental factors, input availability and provision, required knowledge and skills etc.) jointly with the farmers;
- identify marketing problems jointly with the community, if relevant;
- identify production practices causing natural resource degradation jointly with the community;
- improve irrigation efficiency;
- erosion control and fertility management in agricultural fields:
- identify potential solutions and opportunities jointly with the community;
- to address problems, provide and facilitate advice, build partnerships with provincial directorate of agriculture and research institutes of Ministry of Food, Agriculture and Livestock and other relevant government agencies, universities, local input dealers, private sector, local municipalities, farmer organizations, markets (inputs and outputs) and credit institutions;
- identify farmers' training needs;
- design, provide and facilitate training programs (formal, informal and hands-on);
- design, provide and facilitate training programs (formal, informal and hands-on) for women and youth systematically throughout Project implementation and not just on a "demand driven basis";
- design, provide and facilitate on-farm demonstration programs and follow-up on-farm advice;
- design and implement a series of farmer exposure visits in collaboration with public and private agencies and lead farmers; and follow-up dissemination of information; and
- provide technical and business information on new business opportunities and diversification alternatives to raise incomes and broaden the rural economic base, if relevant.

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10. The Team will assist the Provincial Focal Points (PFP) in compiling data for monitoring. Such data will be sent to the Deputy Project manager at the Regional Directorate of Forestry (OBM) in Elazığ for evaluation and dissemination.

11. The Team will be responsible also for organizing the delivery and distribution of the various inputs to the beneficiaries and monitor their use to ensure the planned outputs of the component.

12. The nature and scope of the PPTs role may be expected to change in terms of detail as the Project evolves and new/adjusted functions become necessary following 18-month and Mid-term Reviews.

Appendix 3: Micro-catchment Planning Guidelines

Consultancy Services for micro-catchment planning *(Draft – to be detailed in PIM)*

Terms of Reference

Duration of Assignment: Approximately 4 months field work and 2 months report writing. Maximum 6 months.

Location: The boundaries of the micro-catchment (MC) are provided in the attached 1/25 000 map.

Composition of the Micro Catchment Planning Team (MCPT)

1. While the composition of the Micro Catchment (MC) Planning Team (MCPT) is flexible in terms of the size and would be decided by the Consultancy Contractor (CC) as a minimum the following specialists shall be made available as MCPT members: forester, crop production specialist (agronomist), livestock production specialist, rural sociologist, rural infrastructure engineer, and economist.

Qualifications and Experience

2. Every member would be expected to have as a minimum a Bachelors degree in his or her relevant field(s). The Team Leader would be expected to have 5-10 year field experience in forest and/or natural resource management planning and investment implementation including beneficiary participation and gender issues. The candidate MCPT's members will be expected to have proven experience, and capable of adopting creative but pragmatic approach to problem-solving and an appreciation of the respective roles of the private and public sectors in natural resource management and rural income generation.

Job Description

3. The team will be responsible to prepare integrated (MC) Plan(s) in a participatory manner as detailed in subsequent sections of this ToR for the pre-identified areas where the Murat River Watershed Rehabilitation Project is being implemented. The MCs are the units of implementation, being the smallest hydrological unit of the Project. Information regarding the components and the overall availability of funds for these would be provided to the Contactor.

4. The MC(s) have been identified by the Regional Directorate of General Directorate of Forestry (OBM) in Elazığ, and preliminary demographic natural resource-related data are available. The MCPT will work closely with the Provincial Project Teams (PPTs) and will be provided with background information related to the Project, area, and the MC(s) where they would be responsible for planning.

5. The modality of *Beneficiary Centred – Problem Census – Problem Solving* (BCPCPS (SOR-SAP-COZ; in Turkish) will be used and a handbook on BCPCPS will be provided to the contactor together with the IFAD methodology (participatory mapping). A summary of BCPCPS is provided in the below sections.

6. MCPT will be supported by Provincial Project Teams (PPTs) in terms of technical and logistical support in the BCPCPS process and in the preparation of the MC plans.

7. Respective OIMs in Elazığ, Bingöl and Muş will monitor and provide support to the MCPT in preparing the MC plans. The plans will be reviewed and approved by OBM and sent to

OGM for final endorsement and serve as the basis for all investments in an MC(s) and detailed in the AWPB(s).

Expected Output

8. A fully-costed time-bound MC Plan for (TBD.....) in the Province(s) of (TBD.....) in accordance with the Guidelines. The plans for the activities will cover a maximum of 36 months implementation period for the investments.

Preparation of MC Plans

9. The below is a summary of the guidelines for the MC planning activities. The full set of Guidelines will be provided to the Contracted MCPT.

10. The scale, scope, labour needs, cost sharing arrangements, timing, phasing, and associated activities will be detailed in the plans.

11. The overarching principle of the planning is to maintain a ratio of approximately 70% - 30% between natural resource rehabilitation and livelihood improvements. The allocation of funds will be broadly distributed where rehabilitation activities will comprise a minimum of 60% and maximum of maximum 80% of the total funds to be allocated for an MC. The remaining amount will be used for livelihood improvement activities (crop and livestock interventions and irrigation, social infrastructure and energy-related investments, etc.). In any MC, Project investments may be carried out only in some parts and in some villages on clearly established priorities agreed with the communities.

12. Each plan must include the below 10 mandatory chapters with each related maps and an MC activity map summary tables:

- Chapter I. Overview of the MC;
- Chapter II. Current status in the MC (regarding natural resources and socio-economic structure) and justification for selection of the MCs;
- Chapter III. Participatory process and priority problems as identified by the community and their perception of reasons of degradation; and
- Sub-plans:
 - Chapter IV. Forest land;
 - Chapter V. Grazing land;
 - Chapter VI. Agricultural land;
 - Chapter VII. Water;
 - Chapter VIII. Energy;
 - Chapter IX. Costs; and
 - Chapter X. Agreements and Arrangements.

Sub-Plans (Chapters IV-VIII)

13. Each MC plan will include sub-plans for forestry land, pasture land, agricultural land, water and energy, hence the "integrated" nomenclature.

- a. *Forestry sub-plan*: covers the gazetted forestland and includes rehabilitation of eroded areas and improvements in degraded forest, including oak coppice.
- b. *Grazing land sub-plan*: covers investments for communal grazing lands interventions including infrastructure for livestock and regarding sustainable management.

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- c. *Agricultural sub-plan*: covers private agricultural land and includes crop (grain, forage and horticultural crops, and greenhouse production, etc.) and livestock interventions.
- d. *Water/irrigation sub-plan*: covers: (i) water storage ponds; (ii) rehabilitation of earth canals; and (iii) on-farm drip irrigation.
- e. *Energy use sub-plan*: covers energy saving and renewable technologies for home use.

14. **Planning Process.** The MC planning comprises the 12 steps listed below.

15. Initial visit to the MC(s): Joint visit to MC by with PPTs. A technical visit to get familiar with the setting; collection and recording of detailed data on natural resources, location, topography, distances, elevation etc.; does not require contact with the communities.

16. Informing the local communities about MRWRP: Visits to the local agencies in the province, district and the MC villages to introduce the objective of the Project and introduce the MCPC to the MC communities to brief them about the Project;

17. Compilation of data and information: Includes collection of available data and maps, verification and updating, and/or supplementing as needed with surveys and interviews. Best estimates or educated guesses should be used for data that are not available instead of delaying the work. Outputs would be recorded in Chapter II.

18. Problem identification: The methodology to be used is the "Beneficiary Centred-Problem Census-Problem Solving (BCPCPS)"; the detailed Handbook would be provided. The process involves focused discussions that use small group dynamics¹² to elicit a complete and ranked census of the real and perceived problems of villages in order to identify underlying reasons for problems.

19. Contact groups will be identified and work with the MCPT. A "Village Identity Card", "Grazing – Rangeland Description Form" and a "Livelihood Improvement Beneficiary Form" will be developed for each village (outlines to be provided in BCPCPS Handbook) including spatial, demographic, topographic, geographic, economic, education and health-related information. Baseline data needed for each village in targeted MCs will be further detailed in the PIM, but will at a minimum include: number of households; composition of households, i.e. members and gender; number of family migrant family members and duration of migration, dwelling (including type of roofing, construction material, number of rooms per household, household assets owned), geographic size of the village and location from provincial capital; existence of public goods (e.g. sanitation/drinking water systems, community centre) and private enterprises (e.g. tea house, store, repair shop). Socio-economic data should be collected, once the village has agreed to participate in the Project. All activities and outputs will be recorded in Chapter III.

- a. Analysis of the problems by MCPT and PPTs. Additional visits to MC or survey/Rapid Rural Appraisal may be necessary. Results shared with MC community and problems jointly prioritized. Current Status tables of Chapter II will be completed.
- b. Solution identification: MC residents suggest solutions to jointly prioritized problems. MCPT would assist to tabulate and explain cost implications. Cost-

¹² Consistent with small group theory; once the group agrees to take specific actions arising from the problem census, the majority of the members become committed and social mechanisms that normally operate in the MC situation ensure that all villagers (males and females) attending the discussion group are committed to the action.

- sharing arrangements would be discussed. MCPT would review solutions and screen based on: (i) correspondence with the problems; (ii) multiple effects (positive effect on both natural resources and rural livelihood); (iii) number of beneficiaries; (iv) cost of activities; and (v) demonstration effect.
- c. Preparation of the first Draft MC Plan: Results of (vi) will be incorporated into a Draft MC Plan by MCPT and shared with community. Winners, losers and trade-offs shall be clearly explained. Results recorded in Chapter VIII: Agreements and Arrangements.
 - d. Preparation of the draft Map of Activities: All activities will be marked on the MC Map with different colours/patterns corresponding to activities on forestland, grazing and range land, agricultural land (if possible by type of activity, i.e. horticulture, forage crops, agro-forestry and field crops) and small scale irrigation. Results will be recorded in Chapter VIII: Agreements and Arrangements.
 - e. Public display of Draft MC Plan in MC village(s): Plan and map displayed publicly (in village school, commune office, mosque, health centre, coffee shop in the MC villages) for about a week. Community members review draft plan and map; as needed request clarification, raise objections or make comments that are collected/recorded by the village headmen with the assistance of contact groups. Results will be recorded in Chapter VIII: Agreements and Arrangements.
 - f. Preparation of the final Draft MC Plan: Final draft after comments/objections negotiated, finalized; first draft amended. Additional meeting as needed. Results recorded in Chapter VIII: Agreements and Arrangements.

Technical Aspects of the MC Plan(s)

17. The plans shall include details of all technical interventions and investments with due consideration of the intervention scope of the Project for each Project component.

18. Investments are expected to utilize best-practice examples for investments in, including sustainable management and maintenance of:

- (i). Soil conservation investments: gully stabilization, shallow manual terracing, planting herbaceous species in grooves;
- (ii). Rehabilitation of degraded forests: afforestation, oak coppice rehabilitation and closure of degraded areas;
- (iii). Rehabilitation of degraded grazing land: temporary closure (fencing, shade, scratching posts, saltlick) and rotational grazing, livestock drinking water for communal use, simple livestock shelters;
- (iv). Public nursery development;
- (v). Livelihood investments on private land: cereal production, horticultural production, livestock production, small scale irrigation, contracted seedling production; and
- (vi). Energy saving technologies for home use.

19. The MC plans are also expected address training needs of the resident beneficiary communities with respect to natural resource and livelihood improvement activities in the MC. A training program that incorporates individual and community needs with special emphasis on the women and youth will be developed and costed.

Appendix 4: Inception Review

To assess adequacy and recommend possible adjustments of Project structures and modalities IFAD will launch a review within the first two years of implementation.

Points to be included in the ToR for the Inception review:

Assessment of Planning Process:

- Capacity and adequacy of composition of the MC planning team;
- To what extent existing governance structures in village communities are capable of coping with participatory planning and management modalities;
- Flexibility in the planning process especially in relation to the activity menu;
- Relevance of items in the activity menu to the needs and wishes expressed by the communities;
- Planning for investments in NRM, cost-effectiveness and relevance to local communities;
- The involvement of women and different social groups in the Project planning and to what extent they will be involved in execution of activities and access to benefits;
- Assessment of initial Implementation;
- Capacity and composition of Provincial Project Teams;
- Adequacy of the modalities established for OIM/PPT collaboration on implementation and monitoring; and
- Monitoring system data collection/ management/processing and knowledge dissemination.

Studies, Training and Workshops:

Assessment of studies, training and workshops planned and carried out.

Appendix 5: Capacity Building Plan

An MRWRP institutional capacity building plan will be drafted/added at start-up.

ANNEX 6

PLANNING, M&E, LEARNING AND KNOWLEDGE MANAGEMENT

Planning

1. The main instrument for planning Project interventions will be the Micro-Catchment Plans (MCPs) developed for each targeted MC. These plans will set implementation milestones and include indicators for outputs. Based on the MCPs, the OIMs submits a consolidated annual work plan and budget (AWPB) to the Field Operations Unit (FOU) for review and approval. These AWPBs provide a detailed description of activities to be carried out during the coming year, and the sources and uses of funds. The provincial AWPB will clearly link the proposed budgetary envelope with results to be achieved, and take into account utilisation and achievement of plans from previous years. In order to ensure that adequate funds are budgeted, these plans will be submitted prior to the annual country budgeting process, i.e. late August.

2. The FOU submits the consolidated AWPB for the whole Project to the Operations Unit in Ankara (OU) for the Project Steering Committee's final approval and the subsequent submission to IFAD. In particular, the OU will ensure that activities proposed by the provinces are eligible for financing under the Project and that proposed plans take into account the extent to which previous AWPB have been achieved, and are realistic in terms of time frames and availability of staff and resources. The approval by the Steering Committee will be given in time for Project activities to be included in the normal government budgeting process and sent to IFAD at least sixty days prior to the commencement of the fiscal year.

3. A 12-month procurement plan (18 months for the first year) defining the items to be procured in the subsequent year will be included in each AWPB.

Progress Reporting

4. The OU submits six-monthly progress and annual progress reports in English to IFAD and OGM. These reports provide information on the progress in implementation, spending and achievements. A brief summary of activities undertaken and results achieved in each MC will also be provided. The progress reports include regular information on Project outputs broken down by province and to the extent possible, outcomes, and where appropriate reference to the baseline situation. The progress reports will assess performance by province, including in relation to physical achievements versus planned as well resource utilisation. The annual progress reports include a table by component, clearly indicating planned and actual targets for key indicators agreed between the Government, IFAD and the OGM.

Monitoring and Evaluation (M&E)

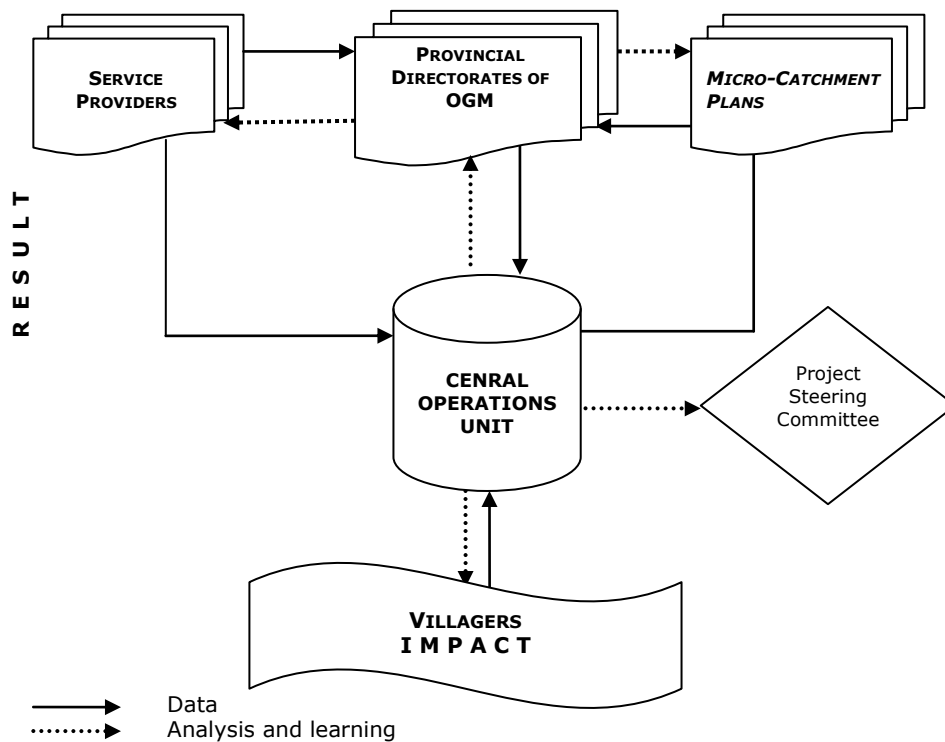
5. The monitoring and evaluation (M&E) function will be guided by the Project's logical framework and integrated in the Project's reporting to assess impact of implemented activities. Information from a variety of sources including the socio-economic and physical baselines as derived from the MCPs, will form the basis for an integrated management information system (MIS) focusing on continued analysis of, rather than generation of, information. The analysis of Project results will be used to manage Project activities so as to be more responsive to the beneficiaries' needs and priorities vis-à-vis the Project's objectives, which in turn will lead to enhanced achievement of impact.

6. The Project M&E system will be based on existing structures for reporting of primary or 1st level results (e.g. ha of land afforested, ha of land rehabilitated, grazing land rehabilitated, livestock drinking water points established) and on activities directly

targeting improved livelihoods in the villages (farmers trained in improved livestock production practices, crop and vegetable production, etc.). To that end, the Project M&E function will focus on analysing key results indicators, rather than on the collection of data, although data collection will serve as an input to the M&E. All Project stakeholders, (including national, regional and provincial OGM staff and communities) have a role in monitoring and/or assessing Project implementation. Provision has been made in the Project design both to assess the impact on villagers' livelihoods and to measure efficiency and impact of erosion mitigation investments. The Project area will be visited regularly by OBM and Ankara based OGM staff in order to provide them with first hand opportunities to interact with villagers and assess progress.

7. The relationships among programme entities are set out in
8. Figure 1, which depicts the linkages within the proposed information system.

Figure 1: Measuring Results and Impact - Information and Feedback Flows



9. The M&E system comprises both performance and impact monitoring. All M&E data will be disaggregated by gender and province. The Logical Framework indicators combined with a selection of indicators from the MCPs form the basis of the monitoring system. During the start-up workshops, one in Ankara and one in each of the three provinces, further recommendations will be made on specific indicators and Means of Verification (MoVs). The methodology that will be used to analyze such indicators and MoVs will also include information regarding their source, baseline values and periodicity of reporting. In large part, baseline values for each MC will be defined in the MCPs. The existing GIS system at OGM will be utilised as a mainframe for visualising baseline and monitoring data, which will detail the extent of environmental degradation at baseline. OGM has in-house capacity to measure erosion following internationally recognised methods and this experience will be made operational in the erosion control monitoring.

10. **Micro-catchment communities** will participate in the monitoring of surface and rill/gully erosion through the set-up of simple field trials consisting of rectangular erosion plots on level land, and using metal sticks to measure the development of rill and gullies. Participatory monitoring will also be applied in the collection of data from sediment traps at the waterways draining run-off areas within and at the border of the micro catchment. Participatory monitoring can be very cost effective and at the same time raise community awareness.

11. The participatory monitoring may be supplemented by data collected at larger watershed area, possible at provincial level, and at the macro watershed/basin level. The macro level data is routinely collected by the hydro electrical dam authorities, and will serve as a reference to measure the data collected at micro-catchment and possible watershed level.

12. **At the annual Planning Workshops**, findings from M&E, various studies, and field trials will guide decisions on the future scope and course of the Project. The workshops will be a forum for revising elements of the Project's logical framework such as indicators and MoVs, and to discuss implications of the results achieved in the previous year(s) with respect to set milestones and the Project's objective and long-term goal. This analysis will provide the basis to: (i) Review the overall implementation progress and poverty focus; (ii) identify successes and means for replication; and (iii) analyse problems encountered in the course of implementation and agree on corrective actions.

13. OGM already possesses a robust, computerized system for tracking progress in terms of physical works. Data on expenditures and activities carried out are entered into this system at provincial level. These data form the backbone of the M&E system, and to the extent possible be supplemented with existing government data as well as data from erosion monitoring and social surveys carried out during the Project's implementation. An early task of the M&E specialist will be to identify data sources and periodicity of reporting for the agreed indicators.

14. Contracts with service providers will clearly stipulate the results to be achieved, whether in terms of land and water improvements, agricultural production or with respect to people trained. Final payment to service providers should be contingent both on acceptance of the works or services rendered and on receipt of a report quantifying the results achieved. Such reports will be made public in the villages and certified by the village headmen. Data on training will be disaggregated by gender, age group and type of training provided. If information from service providers cannot be accommodated in the existing computer system, the data will be stored in Excel or similar commercial computer application.

15. **An inception review** will take place after the first 18 months of implementation to assess the (i) effectiveness of institutional modalities; (ii) planning and implementation interactions; and (iii) monitoring system. A Mid-Term Review is planned to be conducted at the end of three years of implementation. It will cover: (i) an assessment of achievement of Project outcomes, physical and financial progress as measured against design and the AWPBs; (ii) performance and management of contracted implementing partners and an assessment of the efficacy of technical assistance and training programmes; and (iii) institutional implications, in particular related to sustainability of the Project achievements and potential for scaling up or replicating the Project approach. These Reviews' findings will inform decision-making on possible adjustments to the content, targeting and financing of the Programme components.

16. In the final year of implementation, as part of the preparation of the IFAD-required Project Completion Report (PCR), M&E data collected during implementation will form the basis for an overall assessment of Project achievements, particularly in terms of documented improvements to the natural resource base as well as changes in the

livelihoods of villagers living in the targeted MC areas. The PCR process will include a stakeholder workshop in each province to provide an opportunity for stakeholders themselves to evaluate performance, to promote accountability, to identify and elaborate upon factors that will improve sustainability, and to lay out key successes and shortcomings. Equal representation of different interest groups should be promoted and female representation in the stakeholder workshop is a must. If required, female stakeholders may have a distinct evaluation process.

17. **Assessment of the Project's impact** will be based on monitoring data including in annual reporting. Monitoring data will be compared with data contained in the MTPs on pre-programme erosion level and living conditions. An impact study in selected villages from previous years' implementation will be carried out at the last year of the Project to allow for a post-Project comparison. Only villages where Project activities had commenced by PY 4 will be used for comparative purposes. As proxy, the post-Project impact review will cover at least one MC not supported by the Project in each of the three provinces.

18. The main categories of information to be collected during the planning phase and used to assess Project impact are detailed in the MC Plan guidelines. These include but are not be limited to:

- (a) Socio-economic characteristics: number of households in the village, composition of the households, employment and migration data, household income and expenditure patterns (in particular for food and energy);
- (b) Physical characteristics: location of village (longitude and latitude), distance from and access to provincial centre, housing and roofing material, sanitation and drinking water;
- (c) Agriculture and livestock: Number of livestock owned by villagers (type and average per household), size of grazing/rangeland, number of functioning livestock drinking points and shade structures, livestock productivity, rainfed area (by crop), irrigated area (by crop), size of household plots (irrigated and rainfed), crop yields; and
- (d) Natural resources: state of forested area, eroded land, grazing/rangeland. GIS maps will be prepared at completion for the selected MC and compared to those prepared during the planning phase. These provide evidence of improvements to natural resources. As a complimentary modality, photos with marked with date/time and GPS coordinates should be taken at specified time intervals to accompany written information and linked into the GIS system.

19. Provisions are made for the use of innovative monitoring measures such as cameras with integrated GPS function possible combined with aerial photos, which can be used to detect physical changes in the MC, landslides, gully formation and vegetative cover. Photos should be taken in few locations with characteristics typical for the MC. Photos should as far as possible be taken at the same time of the year.

20. **Staffing.** The Project Manager will be responsible for ensuring that a responsive M&E system is established and regular monitoring and progress reporting is in place for Project activities. The M&E Specialist of the OU together with the M&E officer of the FOU will have day-to-day responsibility for collecting and analysing data and preparing, as required but at minimum quarterly reports, on progress and results achieved and implementation issues arising from monitoring activities. These reports will be directed at Project management, but may be shared with the Project Steering Committee. Within the OU, provision for supplementary studies has been made, the findings of which will feed into M&E arrangements over the course of implementation. Provision has also made for

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computer training of staff to enhance their skills in using computer application to support analysis.

ANNEX 7

FINANCIAL MANAGEMEN AND DISBURSEMENT ARRANGEMENTS

Financial Management Assessment

1. An assessment of financial management (FM) of the General Directorate of Forestry (OGM) under the Ministry of Forestry and Water Affairs (MWFA) was conducted which included interviews with officials of OGM's Strategic Planning and Budgeting Department and the World Bank (WB) Office in Ankara. This assessment builds on the preliminary assessment that was conducted during the initial design of the former Ministry of Environment and Forestry (MOEF).¹³ It was based largely on the experience of the WB under the Anatolia Watershed Project, implemented by the AGM¹⁴ under the former MOEF.
2. Under the Anatolia Watershed Project, the WB carried out a Project financial management assessment in 2002 and developed an action plan to improve capacity at the former MOEF which has been implemented fully. As part of the action plan, capacity to bring financial management up to acceptable standards was built in the Ministry. A single computerized accounting and reporting system, *Say2000i*, developed in house and maintained by the Ministry of Finance' General Directorate of Public Accounting is in use by the Turkish Public Sector. This ensures that the accounting remains uniform and efficient.
3. In 2009, the WB carried out a Public Financial Management Performance (PFMP) Benchmarking Study jointly with the Turkish Authorities using the Public Expenditure Financial Accountability (PEFA) methodology and the 28 PEFA indicators covering the country's Public Financial Management (PFM) systems at the Central Government Level. Overall, the study determined that Turkey scores generally well in budgeting, accounting and treasury management while improvements are required in policy-based budgeting and capturing of commitments. Where deemed appropriate, the internal control environment for implementation of WB projects, is fully used. The Bank is supporting the capacity building activities to strengthen internal audit functions. WB relies fully on Government systems for Treasury and External Audit functions and the Treasury system is fully used for fund flows. Turkey's budgeting system is assessed as highly transparent, well-regulated and timely managed.
4. The main weakness identified is that the periodic financial statements are not sufficiently detailed to monitor Project activities on component/ category basis but rather by budget classification.
5. Discussions with World Bank staff in Ankara as well as with staff at UNDP confirmed that capacity at the OGM was satisfactory and that financial management was acceptable while reporting requirements would have to be customised by IFAD accordingly. Implementing agencies under the WB financed projects prepare spread sheets separately to distinguish between components and categories.

Financial Management Arrangement

6. The Strategic Planning and Budgeting Department (SPBD) of OGM operates under the MFWA but under the financial management framework of the Ministry of Finance with an annual budget ranging between USD 2-3 billion.¹⁵ The SPBD had not previously handled any donor-financed project but with the dissolution of AGM in 2011, the WB financed

¹³ The restructuring of the Line Ministries has not affected the staffing and existing structures.

¹⁴ Formerly Afforestation and Erosion Control replaced by OGM.

¹⁵ The approved 2012 budget is USD 2.3 billion.

project and new JICA funded projects will be placed under the financial management of the SPBD in 2012.

7. The budgeting unit in SPBD is staffed with five financial specialists to monitor regional level operations. All 27 regional directorates are authorised to carry out operations using the Central Budget. OGM has a unit in each regional directorate staffed with 1 accountant. Once the provincial directorates account for the expense, they submit it to the regional directorate for payment. The regional accountant enters the payments into the accounting system and the regional director approves them. In turn, the regional directorates submit requests for replenishment to OGM on a monthly basis. Drawing from experience, the level of budgetary allocations to the regional directorates can be fairly accurately estimated. The SPBD uses the *Say2000i* accounting system to manage disbursements and monitoring of expenditures while the e-budget system is used for planning and allocation. Both systems allow for monitoring expenditures online.

8. These arrangements were deemed acceptable in that they: (a) enable the disbursement of funds for the rapid implementation of Project activities; (b) are capable of correctly and completely record all transactions and balances relating to the Project; and (c) can facilitate the preparation of regular, timely and reliable financial statements and safeguard the Project's assets; and (d) are subject to audit arrangements that are acceptable to IFAD. Following this assessment, it has been determined that overall responsibility for financial management of the proposed Project will rest with the Operations Unit of OGM with the SPBD handling all disbursements and transfers to the regional and provincial directorates through the budgetary system.

Planning and Budgeting

9. The Government budget cycle runs from 1 January to 31 December. The budget will be prepared annually and reviewed bi-annually by the OU. Annual work plans and budget (AWPB) will be prepared following a bottom up approach, to identify priorities activities/sub-projects for financing from the Project and will be consolidated by the OU under the specific components and expenditure category.

10. A mid-year review of the annual work plan/budget will be conducted by the OU to review Project progress and whether any amendments are warranted. The mid-year review will also provide the opportunity to begin the budgeting process for the next year.

11. The OU will submit the consolidated AWPB to SPBD for inclusion in the Government's budget and to IFAD for review and No-objection prior to start of implementation. Although Project budgets are included in the OGM budget on a global basis, OU should maintain a shadow budget distinguished by expenditure activity, components and categories in the IFAD format.

12. The detailed steps/processes, controls for the preparation and approval of the AWPB will be included in the Project Implementation Manual (PIM). Actual expenditures will be compared with the budget monthly, quarterly and annually. Explanations will need to be provided for significant variations from budget. Approvals for any significant variations of actual versus budget expenditure will be anticipated and obtained in advance.

Disbursement Arrangements & Flow of Funds

13. The Government would establish a Designated Account in US Dollars (USD) at the Central Bank for proceeds from the IFAD loan/grant. The SPBD will be authorised to operate this account¹⁶. SPBD will channel the funds through its OGM corporate account based on approved Annual Work Plan and Budgets (AWPB), and track the funds through

¹⁶ Only SPBD staff are authorised to operate the OGM accounts.

specially assigned codes. The *Say2000i* accounting system tracks all payments, receipts and balances made by the accounting offices¹⁷ on a daily cash basis.

14. For costs incurred at the Central level, the Operations Unit (OU) at OGM will be responsible for approving and releasing the payments. Payments for works, goods and services procured at provincial level would be executed by the Regional Directorate of Forestry (OBM), who is responsible for field implementation. Payments made at provincial level (OIMs) would be authorized by the Governor's Office, in line with the practice for Government-financed projects, against approved work plans and associated budgets.

15. The diagram in Appendix 1 below sets out the basic principles for the flow of funds.

Reporting and Monitoring

16. It is recommended to use Report-based disbursements which offers more flexibility. Under the report-based disbursement arrangements, a forecast of Project expenditures will be agreed upon through the AWPB, covering the current and next FMR reporting period. Thereafter, aggregate disbursement requests not exceeding this forecast amount will be payable upon demand by the OU at OGM. Supporting documentation for these disbursements will be submitted with the subsequent FMR and reviewed by IFAD to confirm eligible expenditures during the period covered by the FMR. The FMR also gives a new forecast for the next two FMR reporting periods.

17. The FMRs will be prepared on a semi-annual basis by the OU using the accrual basis of accounting. As the FMRs will be used as a monitoring tool, they will summarize the Project progress and provide budget versus actual variance analysis; financial statements on sources and uses of funds; Project financial position; expenditures and physical progress compared with plans; procurement and contract monitoring reports. Such reports will be prepared on a timely basis and be submitted to IFAD by the OU within 45 days after the end of each 6 months starting from when the first disbursement is made. The formats will be elaborated in the PIM.

18. Annual financial statements will be prepared individually by the FOU's and consolidated by the OU. The annual financial statements for the Project are subject to annual audit by an external auditor.

19. It is anticipated that the Financial Management Manual prepared under the World Bank project will be utilised by the IFAD-financed Project. This includes formats for Financial Monitoring Reports (FMRs) that would be included in Project semi-annual reports to IFAD. Relevant guidance will be provided in the form of start-up training but also provided in detail in the Letter to the Borrower and PIM of the MRWRP.

20. Full documentation in support of FMRs would be retained by the OGM for at least ten years after the Financing Closing Date. This information would be made available for review during supervision by IFAD staff and for annual audits which would be required to comment specifically on the propriety of FMR disbursements and the quality of the associated record-keeping.

Audit Arrangements

21. Financial statements would be prepared on an accrual basis of accounting in accordance with International Standards on Auditing (ISA) that reflect receipts, payments (by disbursement category) and fund balance for the current reporting period and the cumulative period from the commencement of the Project.

¹⁸ Desk reviews of literature and assessment reports from SIGMA and WB; Interviews with OGM staff and OBM staff and discussions with WB Country Office staff.

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22. Annual financial statements for the Project will be audited by the Treasury in accordance with International Standards on Auditing and under Terms of Reference (ToR) agreed upon with the IFAD. World Bank and UNDP confirmed the thoroughness and quality of audits carried out by Treasury. Audits will also cover expenditures made by the provinces and include specific opinions on the financial management arrangements of each province.

23. The auditors would issue separate opinions covering the financial statements, FMRs, and the management of the designated account, including accounts in provinces. Appendix 7.2 -IFAD's generic template for Auditors TORs is included for guidance.

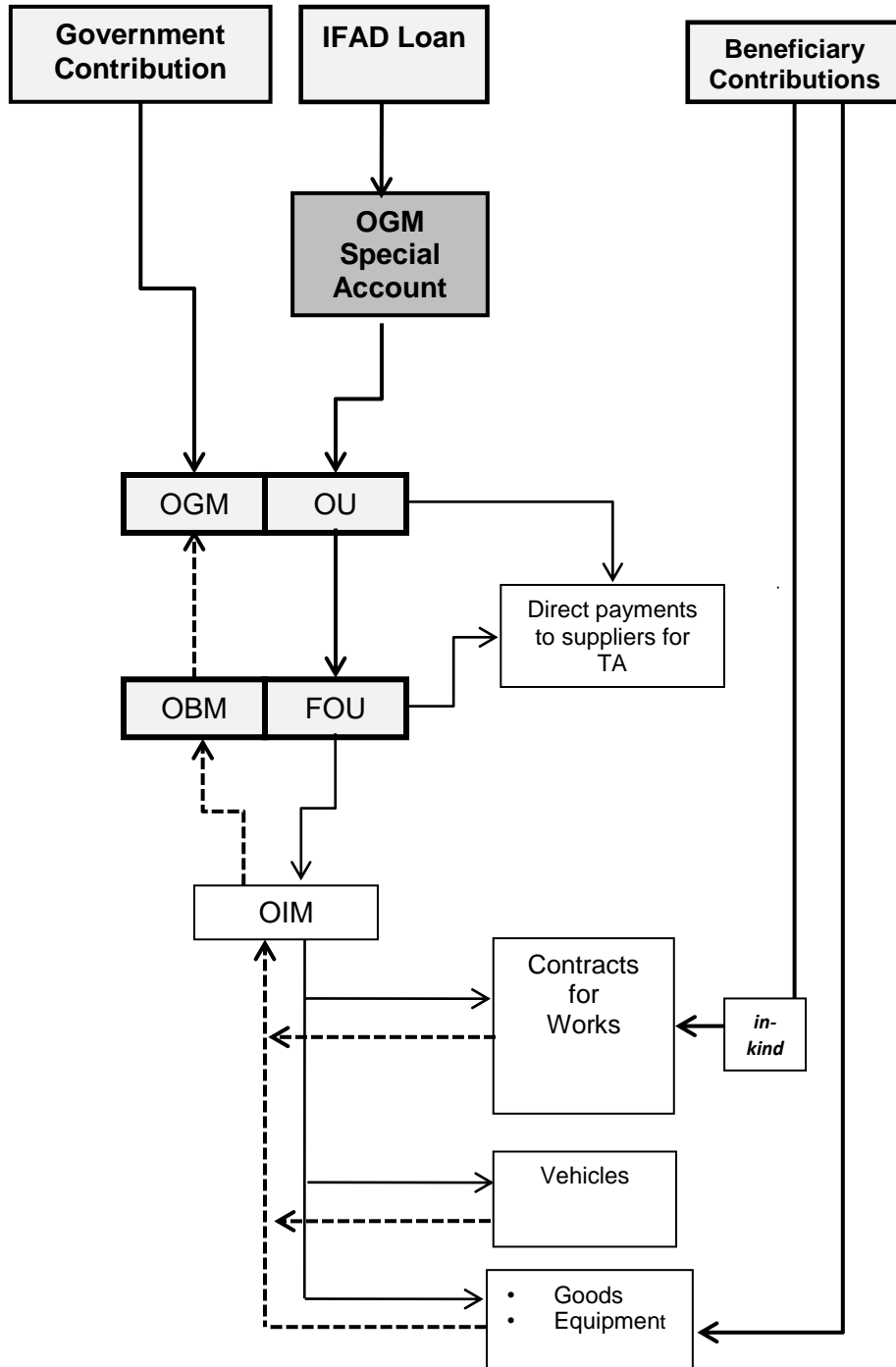
24. The audited financial statements and audit reports would be submitted to IFAD and the Government. For IFAD, audit reports would be submitted within six months after the end of each fiscal year and after the financing closing date. In addition, management letters outlining any internal control weaknesses shall be issued by the auditor.

Financial Management Supervision Plan

25. The supervision plan will be aligned with risk-based supervision for financial management arrangements. At least one on-site fiduciary-focused visit will be carried out each year, and more, if deemed necessary.

Appendix 1: Flow of Funds Chart

MRWSP Flow of Funds



Funds Flow: ———>
 Control/Monitor: - - ->

Appendix 2: Terms of Reference for Auditors

ANNEX 8

PROCUREMENT

A. Summary of Procurement Assessment

1. The Public Procurement Law (PPL) was adopted in Turkey in 2002 in line with EC Public Procurement Directives. Since its adoption, Turkey's public procurement system has undergone several changes (almost each year since 2004) and overall procurement capacity has improved markedly. The Public Procurement Authority under the Ministry of Finance, is recognised as a stable and strong institution and is credited with having largely helped to establish a modern public procurement system.

2. As part of the final design for the Murat River Watershed Rehabilitation Project (MRWRP), IFAD undertook an assessment¹⁸ of the institutional capacity of the General Directorate of Forestry (OGM) of the Ministry of Forestry and Water Affairs (MFWA), which will be responsible to manage and oversee project related procurement. This arrangement was explored following successful experience reported by the World Bank under the Eastern Anatolia Watershed Development Project and the Anatolia Watershed Development Project managed by the former Ministry of Environment and Forestry (MOEF). Discussions with World Bank and UNDP staff during the mission's field work confirmed that the required capacity was available at the successor Ministry of Forestry and Water Affairs (MFWA). This departs from the previous arrangement in which procurement for IFAD financed projects was handled by UNDP Ankara Office to overcome the difficulties and delays previously encountered with the former Ministry of Agriculture and Rural Affairs (MARA).

3. In terms of Turkey's overall procurement capacity, recent assessments have been made under the OECD-funded programme Support for Improvement in Governance and Management (SIGMA). The 2009 Assessment, more detailed than the update published in 2010, found:

Turkey's public procurement system has significantly improved since the adoption of the PPL in 2002. Generally, the systems of public procurement and concessions/PPPs in place are of a high standard. This can largely be explained by Turkey's history of practicing market-based and competition-based techniques for contracting the supply of goods, works and public service delivery, either in the form of traditional public procurement or in the form of concessions/PPPs.

4. Public procurement in Turkey is currently governed by the Public Procurement Law (PPL, Law 4734) and the Public Procurement Contract Law (Law 4735), both of which were adopted in 2002. SIGMA found that the current PPL "is generally well-structured, with a natural division between the various phases in the procurement process." The current PPL was modelled on the former EU public procurement legislation and there are many similarities. SIGMA identified a number of concerns where the current law is different from that of the EU and made recommendations to align better the Turkish PPL with that of the EU. The issues identified as being of most relevance to the MRWRP include greater tolerance for direct procurement, technical specifications and standards, criteria for contract award and the existence of national preferences and some restrictions on participation of foreign countries. The first three can be managed by tightening as necessary procurement procedures and the last is largely irrelevant to this project.

¹⁸ Desk reviews of literature and assessment reports from SIGMA and WB; Interviews with OGM staff and OBM staff and discussions with WB Country Office staff.

5. Even though IFAD did not partake in the assessment exercise, it stood to gain substantially from the findings and conclusions of these independent reviews. Coupled with the interviews, IFAD's new procurement assessment tool was the main instrument utilised in this validation exercise.

6. Under the PPL, investment projects financed by an international agency are not required to follow Turkish procurement procedures. However, based on this assessment, national procurement procedures will be followed in most of the cases - those deemed consistent with IFAD procurement guidelines and Procurement Handbook of September 2010 - with appropriate methods to be determined during procurement planning in accordance with the thresholds set forth in this document. The OGM's (and under it, the OBM and OIMs') procurement experience is mainly related to civil works, goods and equipment with limited experience in Consultancy Services. In addition to the intensive training IFAD plans to carry out at the start-up of this project, IFAD Guidelines will be followed for the procurement of technical assistance and specialists.

7. To confirm OGM's preparedness, this assessment covered the various phases of the procurement cycle: planning, soliciting and bidding, evaluation and contract management. At the central, regional and provincial levels, procurement practices appear well organised. Procurement is conducted by tender committees¹⁹ in accordance with the PPL and procurement cannot commence until a budget is provided. It is estimated that annual value of procurement by OBM ranges between USD 300 to 500 million.

8. **Staffing Structure.** The procurement capacity assessment revealed that there were three staff with practical procurement experience following National Laws, none of whom had received any specialised training and only one is officially appointed as a procurement officer.²⁰ Additional specialised procurement training will be necessary to develop the requisite skills and familiarity with IFAD procurement procedures and documentation.

9. All procurement for the project will be under the oversight of the OU who will be assigned an OGM procurement specialist, on secondment, to oversee and carry out specific procurement activities. In addition, provision has been made to fund one full-time, competitively recruited staff member at the regional (OBM) level as the OBM procurement specialist. At the provincial level, tendering for most works and locally-available goods would be carried out by Government procurement staff in each province (OIMs), subject to close supervision by the OBM procurement specialist. Procurement of micro-planning catchment teams will be handled directly by the FOU (OBM). As required by Law, tender specifications and related documents are submitted by the OIM to the OBM (the "spending authority") for compliance checks and approval. All other procurement identified for National Bidding and mainly for Technical Assistance (TA), will be carried out by the OU at the Central level. The OU, will also provide the necessary technical support in preparation of specifications, bills of quantities and terms of reference to the OBM and OIM's as may be required. Depending on the method of procurement and responsible entity, bids would be evaluated by the respective Bid Evaluation Committees comprising technical specialists of the relevant line agency and representatives of the MRWRP at OU, OBM or OIM levels as appropriate.

10. As the project focuses on community participation and micro-catchment specific investments, procurement of most works and small quantities of locally-available goods would be carried out by provincial cadres; while they are knowledgeable on applying national procurement procedures they have little or no prior experience of IFAD procedures. The project would build up the critical capacity at provincial level, instilling

¹⁹ These consist of minimum 5 members (bound by PPL) to accept and evaluate bids.

²⁰ Two are Section Heads who share their practical field experience and are extremely knowledgeable of the PPL. The third is recognised as a procurement expert but is not part of OGM.

good procurement practices and the required approach and methodology, and monitor the timeliness and quality of the process. The effectiveness of procuring through provincial offices would need to be assessed during supervision and alternate arrangements put in place if necessary.

B. Arrangements for Procurement under the Project

11. For each contract to be financed by IFAD proceeds, the types of procurement methods, the need for pre or post-qualification, estimated cost, prior review requirements and time-frame are agreed between the Borrower and IFAD respectively in the Procurement Plan. As a general rule and excepting civil works, any procurement estimated to cost more than USD 75 000, or equivalent, will be subject to National Competitive Bidding.

12. **IFAD Financed Procurement of Goods, Works and Services.** While specific thresholds for procurement financed under the project will be stipulated in the Letter to the Borrower, the general recommendations are the following:

13. Goods estimated to cost more than USD 200 000 equivalent per contract may be procured through the International Competitive Bidding (ICB) method using the World Bank's applicable Standard Bidding Documents (SBDs). Goods estimated to cost between USD 75,000 and USD 200,000 equivalent per contract may be procured through National Competitive Bidding (NCB). Goods estimated to cost less than USD 75 000 equivalent per contract may be procured through the National Shopping method. Below USD 8 000 equivalent, direct contracting can be used under Turkey's PPL.

14. Works estimated to cost more than USD 1 000 000 equivalent may be procured through International Competitive Bidding (ICB) method using the World Bank's applicable SBDs. Works estimated between USD 75 000 and USD 1 000 000 equivalent may be procured through the NCB. While works estimated below USD 75 000 may be procured through National Shopping. In accordance with the PPL, works estimated below USD 25 000 may be procured through direct contracting. Direct contracting and/ or through utilization of Pre-Qualified lists will have to be identified and approved by IFAD in advance for those cases which justify use of such method.

15. Consultancy services generally estimated to cost more than USD 100 000 equivalent for firms and USD 50 000 equivalent for individuals will be on the basis of Quality and Cost Based Selection method. However, the specific nature of the assignment will finally determine the method of procurement to be followed and will be pre-determined in each annual procurement plan.

16. **Prior Review Thresholds.** For the purposes of Appendix 1, para. 2, of IFAD's Procurement Guidelines, the following shall be subject to prior review by the Fund:

- (i) Award of any contract for goods and equipment to cost USD 100 000 or equivalent or more;
- (ii) Award of any contract for works estimated to cost USD 150 000 or equivalent or more;
- (iii) Award to a firm of any contract for consulting services estimated to cost USD 75 000 or equivalent;
- (iv) Award to an individual of any contract for consulting services estimated to cost USD 30 000 equivalent and more; and
- (v) Award of any contract through direct contracting and at least, the first two contracts for the purchase of seedlings through direct contracting.

17. The aforementioned thresholds may be modified by the Fund during the course of project implementation.

18. Procurement carried out at field level is entered into the E-budget system and registered against the AWPB (translated into implementation plans at provincial level). In addition, all contracts, with or without prior IFAD approval, will be listed in the Register of Contracts maintained by the procuring entity with the dates of approval as provided by IFAD. As this report facilitates the review and approval of payment requests on contracts, it is to be updated and submitted to the IFAD country programme manager on a quarterly basis. The sample form to be used and instructions are detailed in annex 6 of IFAD's Loan Disbursement Handbook. It would also be necessary that the OU at OGM prepare annual statistics for the overall procurement transactions carried out for the project.

19. **Bidding Documents.** All bidding documents for the procurement of goods, works and services shall be prepared by the procuring entity with the participation of the OBM and/or OU/FOU specialist(s) as required. At the provincial level, the responsible team of the line agencies would prepare the procurement documents under the supervision of central management of the relevant agencies and OU. All the procurement documents would be cleared by the OU before any action is taken.

20. **Classification of procurement items:**

- a) Procurement of Goods. The goods to be financed under the project include but are not limited to the following: forest and fruit tree seedlings, office equipment, measurement equipment, GIS software. The contracts for the procurement of locally-available goods would be procured through NCB in accordance with Turkey's PPL.
- b) Procurement of Works and Technical Services. The works to be financed under the project include, but are not limited to, the following: afforestation works for soil conservation, protection and improvement works for degraded soils, plantation and rehabilitation works for forestry areas, construction of small scale irrigation works, construction of agricultural terraces. These contracts would be procured through NCB in accordance with procedures acceptable to the IFAD. When falling under the legal framework governed by the Borrower's Public Procurement Law No 4734 dated 4 January 2002, Amendment Law No 4761 dated 12 June 2002 and Amendment Law No 4964 dated 30 July 2003, the procedures with respect to NCB would apply.
- c) Procurement of Labour. National procedures on community-participation in procurement would apply for the procurement of labour under civil works contracts. This would ensure that people in participating villages are given opportunities for wage employment.
- d) Procurement for Consulting Services. The consulting services to be financed under the project include but are not limited to the following: topical specialists for subjects including but not limited to payment for environmental services, carbon sequestration, natural resource economics and GIS; service provider(s) to undertake MC and multi-functional forest planning; agricultural advisory service providers, and, other experts to undertake studies as required. IFAD Procurement thresholds and guidelines would apply for the procurement of consultants. Depending on the nature and cost of the service to be provided, one of the following methods would be employed:
 - Quality and Cost Based Selection (QCBS);
 - Selection based on Consultants' Qualifications (CQ); and
 - Individual Consultants (IC): For the individual consultants to be hired for more than six months duration, the positions would be advertised for expressions of interest in international and/or national media depending

on the expertise required, and selection would be based on comparison of qualifications of those expressing interest.

- e) Procurement from Government Owned Enterprises: It is recognized that the agricultural inputs such as forestry seedlings, fruit bearing forest seedlings, fruit tree seedlings, and forest tree seeds to be provided under the project have unique characteristics (such as sensitivity/adaptability to local soil conditions, topography and climate) which would render competitive bidding as goods through ICB or even NCB procedures impractical. As standard OGM practice to ensure steady and risk-free supply, the required seedlings will be bought from nurseries that are capable of producing such at prices that are annually determined by OGM. The suppliers include state owned nurseries.
- f) The Project will support the development of nurseries in Elazığ and Muş in order to ensure sufficient production of quality tree seedlings for the extensive afforestation in the micro-catchments. These state-owned nurseries will guarantee that sufficient quantity of quality seedlings are available, at regulated prices competitive with the open market. However, seedlings may be procured from other sources if, suitable seedlings are not available from the public nurseries available in the open market which meet the quality standards specified (certified by national authority/Ministry of Food, Livestock and Agriculture), or it becomes uneconomical to procure from these public nurseries, for instance, transportation costs result in uncompetitive prices. Furthermore, when more than one GOE source is available, the project authorities should ensure that the purchases would be made from the GOE that would be the most economical while still satisfying the quality aspects of the project. In categorical terms, the procurement of these agricultural inputs would follow the following steps:
- When the suitable agricultural input is available from private sources on localized marketplace; it would be procured: (i) through national shopping procedures for contracts less than USD 50 000 equivalent, and (ii) through national competitive bidding procedures satisfactory to IFAD for all other contracts.
 - When the suitable agricultural input is only available from GOEs, it would be procured: (i) from the most economical source when more than one GOE source with suitable agricultural input is available, and (ii) by direct contracting with the public-owned nurseries supported by the project when it is the only source of suitable agricultural input.
- g) Direct Contracting. Direct contracting would be used for some expenses related to training, the venue for example, and for village/ community based events such as awareness campaigns, farmer exchange, exposure visits. and visits to demonstration sites. The guarding of the works by villagers and some follow-up works such as maintenance may also be directly contacted.

C. Governance and Anti-Corruption (GAC)

21. MRWRP activities would be implemented by the regional and provincial Government structures, contracted suppliers and service providers, and upland village communities. All financial and material transactions of the project would be subject to Turkey's robust prevailing governance framework and comply with IFAD's exacting requirements of transparency and rectitude. In accordance with Article 3(c) of the PPL, government offices, provincial and municipal administrations have internal audit units and are also subject to

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external audits by the Inspection bodies and Supreme Accountancy of the GOT under the Turkish Court of Accounts (TCA).²¹

22. SIGMA also found that the PPL contains significant provisions on probity and anti-corruption. It provides for sanctions and penalties in the event of discovery, which applies to both individuals and companies and can lead to temporary or permanent disbarment, depending on the severity or frequency of the crimes. In the event of criminal activity, the PPL provides for action by the public prosecutor and the criminal authorities. The level of transparency in procurement opportunities is high and the resulting participation by economic operators appears to be good in most areas. Contracting entities are appreciative of the amendments to the PPL, which was helped by prior consultation.

23. In particular, good governance measures built in to the project would include (a) undertaking all necessary measures to create and sustain a corruption-free environment for activities under the project; (b) instituting, maintaining and ensuring compliance with internal procedures and controls for activities under the project, following international best practice standards for the purpose of preventing corruption, and shall require all relevant ministries, agents and contractors to refrain from engaging in any such activities; (c) complying with the requirements of IFAD's Policy on Preventing Fraud and Corruption in its Activities and Operations; and (d) ensuring that the Good Governance Framework, (to be provided at final design), is implemented in a timely manner.

24. Government shall also ensure that: (i) it is engaged actively to allow potential Project beneficiaries and other stakeholders to channel and address any complaints they may have on the implementation of the project; and (ii) after conducting necessary investigations, the Government shall report immediately to IFAD any malfeasance or maladministration that has occurred under the project.

²¹ The Turkish Court of Accounts (TCA) is responsible for external audit. The legal framework governing its operations is based essentially on Law 832 on the Court of Accounts, enacted in 1967 (as amended). Law 5018 on Public Financial Management and Control (PFMC), in force since December 2005 (as amended), also governs some of the TCA's general responsibilities.

Appendix 1: Eighteen-month Procurement Plan

MRWRP - 18 Month PROCURMENT PLAN 2012-14																						
Abbreviations: GB - Government Budget IC - Individual Consultants BEN - Beneficiaries NCB - National Competitive Bidding VEMG - Vehicles / Equipment / Materials /Goods CQ - Consultant Services TTAW - Training, Tech. Assistance, and Workshops DC - Direct Contracting AI - Agricultural Inputs LS - Local Shopping sule.ozevren@tarim.gov.tr CP - Community Procurement CW-Civil Works																						
For period: 01.09.2012 - 01.04.2014																						
Financier ID	Package ID. No.	Combined Package No.	Ref.		Description	No. of Lots	Loan Category	Proc. Method	Total Allocated Amount for 7 years (USD '000)	Qty for IY1 and IY2	Unit	Unit Cost (USD '000)	Total Allocated Amount for IY1 and IY2 (USD '000 /a)	Prior/ Post Review	Proposed No. of Packages	Start	Tender Invitation	Bid Opening	Bid/Quote Evaluation	Contract Award	Expected Compl (by)	Responsible Entity
Dates (Year / month)																						
C. 1. Natural Resources and Environmental Management																						
Vehicles, Equipment, Machinery and Goods																						
			1.1		Vehicle Rental																	
IFAD	1		1.1.1		Four wheel drive vehicles		VEMG	LS	557.4	9	vehicle year	13.75	133.0	Post	3	12/09	12/09	12/10	12/10	12/11	13/11	OIM
IFAD	2		1.1.2		Mini-van		VEMG	LS	96.3	9	vehicle year	3.5	33.9	Post	3	12/09	12/09	12/10	12/10	12/11	13/11	OIM
			1.2		Equipment and goods																	
IFAD	3		1.2.1		Computers		VEMG	LS	13.6	9.0	each	1.5	13.6	Post	1	12/09	12/09	12/10	12/11	12/11	12/11	OIM
IFAD	4		1.2.2		Printers		VEMG	LS	1.5	3.0	each	0.5	1.5	Post	1	12/09	12/09	12/10	12/11	12/11	12/11	OIM
IFAD	5		1.2.3		Photocopier		VEMG	LS	6.1	3.0	each	2.0	6.1	Post	1	12/09	12/09	12/10	12/11	12/11	12/11	OIM
IFAD	6		1.2.4		GPS handheld devices		VEMG	LS	2.7	9.0	each	0.3	2.7	Post	1	12/09	12/09	12/10	12/11	12/11	12/11	OIM
IFAD	7		1.2.5		GIS software		VEMG	LS	40.4	1.0	lumpsum	40.0	40.4	Post	1	12/09	12/09	12/10	12/11	12/11	12/11	OIM
IFAD	8		1.2.6		GIS maps		VEMG	LS	75.2	1.0	lumpsum	35.0	35.4	Post	1	12/09	12/09	12/10	12/11	12/11	12/11	OIM
Subtotal Vehicles, Equipment and Goods									793.2				266.6									
Technical Assistance, Training and Workshops																						
			1.3		Specialists																	
IFAD	9		1.3.2		GIS/data management specialist		TTAW	CQ	69.4	2.0	pers-month	15.0	33.7	Prior/b	1	13/02	13/02	13/03	13/04	13/05	13/06	OGM / OU
IFAD	10		1.3.3		Monitoring and Physical Intervention Specialist		TTAW	IC	78.8	2.0	pers-month	15.0	33.7	Prior/b	1	13/02	13/02	13/03	13/04	13/05	13/06	OGM / OU
IFAD			1.4		Participatory integrated MC planning																	
IFAD	11		1.4.1		Micro-catchment planning teams		TTAW	NCB	2 160.9	9.0	MC	75.0	759.0	Prior	1	12/10	12/10	12/11	13/01	13/02	13/06	OIM
IFAD	12		1.5		Planning and technical subjects workshops		TTAW	LS	32.5	1.0	w/shop	5.0	5.2	Post	1	13/04	13/04	13/04	13/04	13/05	14/04	OGM / OU
IFAD	13		1.7		Awareness raising campaigns		TTAW	LS	131.0	9.0	campaign	5.0	46.1	Post	1	12/09	12/10	12/10	12/10	12/11	13/04	OIM
IFAD	14		1.8		Villagers exchange visits		TTAW	LS	52.4	18.0	visit	1.0	18.4	Post	3	12/10	12/10	12/10	12/10	12/11	13/06	OIM
IFAD	15		1.9		Multifunctional Forestry Management Plans		TTAW	IC	63.7	6.0	course	5.0	30.9	Post	1							OIM
IFAD	16		1.10		PPT training		TTAW	IC	15.6	2.0	course	5.0	10.2	Post	1							OIM

Appendix 1: Eighteen-month Procurement Plan (cont'd)

For period: 01.09.2012 - 01.04.2014																							
Financier ID	Package ID. No.	Combined Package No.	Ref.		Description	No. of Lots	Loan Category	Proc. Method	Total Allocated Amount for 7 years (USD '000)	Qty for IY1 and IY2	Unit	Unit Cost (USD '000)	Total Allocated Amount for IY1 and IY2 (USD '000 /a)	Prior/ Post Review	Proposed No. of Packages	Start	Tender Invitation	Bid Opening	Bid/Quote Evaluation	Contract Award	Expected Compl (by)	Responsible Entity	
Dates (Year / month)																							
Studies																							
IFAD/Grant	17		1.11		Natural Resource Economics		TTAW	CQ	69.0	2.0	pers-month	15.0	34.0	Prior/c	1	13/01	13/02	13/03	13/03	13/05	14/04	OGM / OU	
IFAD/Grant	18		1.12		Assesment of opportunities for carbon sequestration		TTAW	CQ	34.0	2.0	pers-month	15.0	34.0	Prior/c	1	13/01	13/02	13/03	13/03	13/05	14/04	OGM / OU	
IFAD/Grant	19		1.13		Assessment of opportunities for NWFP		TTAW	CQ	51.0	3.0	pers-month	15.0	51.0	Prior/c	1	13/01	13/02	13/03	13/03	13/05	14/04	OGM / OU	
IFAD/Grant	20		1.16		Assessment of alternative energy sources		TTAW	IC	7.5	0.5	pers-month	15.0	7.5	Prior/c	1	13/01	13/02	13/03	13/03	13/05	14/04	OGM / OU	
IFAD/Grant	21		1.17		Private / public nursery feasibility study		TTAW	CQ	15.0	1.0	pers-month	15.0	15.0	Prior/c	1	13/01	13/02	13/03	13/03	13/05	14/04	OGM / OU	
									Subtotal TTA	2 780.8			1078.7										
									Subtotal Component 1	3 574.0			1 345.3										
Component 2. Investments in Natural Resources																							
Civil Works																							
			2.1		Investments in land and water																		
			2.1.1		Soil Conservation Investments																		
IFAD/ GB	22		2.1.1.1		Initial works		CW	LS	5 818.8	1 080.0	ha	0.55	673.1	Post/c	Multiple	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
			2.1.2		Rehabilitation of degraded forests																		
IFAD/ GB	23		2.1.2.1		Afforestation of degraded forests		CW	LS	3 156.2	360.0	ha	0.895	365.1	Post/c	Multiple	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
IFAD/ GB	24		2.1.2.3		Coppice rehabilitation		CW	LS	1 022.7	360.0	ha	0.29	118.3	Post/c	Multiple	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
IFAD/ GB	25		2.1.2.5		Closure of degraded areas		CW	LS	127.0	150.0	ha	0.09	15.3	Post/c	Multiple	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
			2.1.3		Rehabilitation of grazing land																		
IFAD 95% / BEN 5%	26		2.1.3.1		Closure		CW	LS	169.4	150.0	ha	0.12	20.4	Post	Multiple	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
IFAD 95% / BEN 5%	27		2.1.3.2		Livestock drinking water ponds		CW	LS	1 047.3	1.0	each	150.00	170.0	Prior	3	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
IFAD 95% / BEN 5%	28		2.1.3.3		Livestock water troughs		CW	LS	293.3	5.0	each	6.25	35.4	Post	3	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
IFAD 70% / BEN 30%	29		2.1.3.4		Simple livestock shelters for communal use		CW	LS	56.5	3.0	each	2.0	6.8	Post	3	13/06	13/06	13/07	13/08	13/08	14/04	OIM	
									Subtotal Civil Works	11 691.2			1404.4										
Vehicles, Equipment, Machinery and Goods																							
IFAD	30		2.2		Public nursery development		VEMG	NCB	967.2	3.0	each	300.0	967.2	Prior	2	13/01	13/01	13/02	13/03	13/05	14/04	OIM	
IFAD	31		2.3		Cold storage for nursery		VEMG	NCB	212.1	1.0	each	200.0	212.1	Prior	1	13/04	13/04	13/02	13/03	13/05	14/04	OIM	
IFAD	32		2.4		Sediment measurement stations		VEMG	LS	275.0	9.0	each	10.0	96.7	Post	1	13/03	13/03	13/04	13/05	13/06	13/07	OIM	
									Subtotal Equipment and Goods	1 454.3			4084.8										
									Subtotal Component 2	13 145.5			5489.2										

Appendix 1: Eighteen-month Procurement Plan (cont'd)

For period: 01.09.2012 - 01.04.2014																								
Financier ID	Package ID No.	Combined Package No.	Ref.				Description	No. of Lots	Loan Category	Proc. Method	Total Allocated Amount for 7 years (USD '000)	Qty for IY1 and IY2	Unit	Unit Cost (USD '000)	Total Allocated Amount for IY1 and IY2 (USD '000 /a)	Prior/ Post Review	Proposed No. of Packages	Start	Tender Invitation	Bid Opening	Bid/Quote Evaluation	Contract Award	Expected Compl (by)	Responsible Entity
Dates (Year / month)																								
Component 3 Investments for Livelihood improvement																								
Civil Works																								
			3.1				Developing small-scale irrigation																	
IFAD 95% / BEN 5%	33		3.1.1				Water storage ponds		CW	LS	4 107.6	30.0	each	15.0	475.2	Post/d	3	13/05	13/05	13/07	13/08	13/08	14/04	OIM
IFAD 95% / BEN 5%	34		3.1.2				Rehabilitation of earth canals		CW	LS	1 341.8	3.0	lumpsum per MC	49.0	155.2	Post/d	3	13/05	13/05	13/07	13/08	13/08	14/04	OIM
IFAD 95% / BEN 5%	35		3.1.3				On-farm drip irrigation		CW	LS	835.9	3.0	ha	6.0	14.8	Post/d	Multiple	13/05	13/05	13/06	13/07	13/08	14/04	OIM
											Subtotal Civil Works	6 285.3		645.2										
Training, Technical Assistance and Workshops																								
			3.2				PPT																	
IFAD	36		3.2.1				Contracted OU and FOU staff		TTAW	IC / CQ	2 027.3	18.0	per-annum	30.0	550.9	Prior	Multiple	12/09	12/09	12/11	12/11	12/11	13/11	OGM
IFAD 20 / GB 80%	37		3.1.2				Focal points		TTAW	N/A	135.2	6.0	per-annum	6.0	36.7	Seconded staff	1	12/09	12/09	12/11	12/11	12/11	13/11	OIM
			3.3				Demonstrations, farmers training courses and exposure visits																	
IFAD	38		3.3.1				Demonstration program		TTAW	LS	181.7	78.0	lumpsum	0.5	43.7	Post/d	3	13/07	13/01	13/02	13/04	13/04	13/11	OIM
IFAD	39		3.3.2				Farmer training program		TTAW	LS	103.6	63.0	lumpsum	0.3	21.3	Post	3	13/07	13/01	13/02	13/04	13/04	13/11	OIM
IFAD	40		3.3.3				Farmer exposure visits		TTAW	LS	231.2	10.0	lumpsum	6.0	67.5	Post	3	13/07	13/01	13/02	13/04	13/04	13/11	OIM
											Subtotal TTAW	2 679.0		720.1										
Vehicles, Equipment, Machinery and Goods																								
IFAD 70% / BEN 30%	41		3.4				Inputs for improving wheat and barley yield			LS	200.8	45.0	ha	0.1	6.3	Post	3	13/07	13/07	13/08	13/09	13/09	13/10	OIM
			3.5				Improving livestock production																	
IFAD 70% / BEN 30%	42		3.5.1				Inputs forage crop production (rainfed)		AI	LS	165.3	27.0	lumpsum	0.3	7.0	Post	3	13/07	13/07	13/08	13/09	13/09	13/10	OIM
IFAD 70% / BEN 30%	43		3.5.2				Inputs forage crop production (irrigated)		AI	LS	297.6	27.0	lumpsum	0.5	12.5	Post	3	13/07	13/07	13/08	13/09	13/09	13/10	OIM
IFAD 70% / BEN 30%	44		3.5.3				Livestock shelters		VEGG	CP	2 671.6	300.0	each	1.0	309.1	Post	3	13/07	13/07	13/08	13/09	13/09	13/10	OIM
			3.6				Improving horticulture production																	
IFAD 70% / BEN 30%	45		3.6.1				Inputs for orchard establishment		AI	LS	871.4	12.0	ha	4.5	55.6	Post	3	13/07	13/07	13/08	13/09	13/09	13/10	OIM
IFAD 70% / BEN 30%	46		3.6.2				Inputs for vegetable production under plastic tunnels		AI	LS	991.9	1.0	ha	52.0	53.6	Post	3	13/07	13/07	13/08	13/09	13/09	13/10	OIM
IFAD 70% / BEN 30%	47		3.6.3				Inputs for vegetable production in open fields		AI	LS	29.2	5.0	ha	0.6	2.5	Post	3	13/07	13/07	13/08	13/09	13/09	13/10	OIM
			3.7				Developing Small Scale irrigation																	
IFAD 70% / BEN 30%			3.7.1				Water storage ponds		VEMG	LS	3 975.0	30.0	lumpsum	15.0	475.0	Prior/e	3	13/07	13/07	13/08	13/09	13/10	14/04	OIM
IFAD 70% / BEN 30%			3.7.2				Rehabilitation of earth canals		VEMG	LS	1 298.5	3.0	lumpsum	49.0	155.8	Post	3	13/07	13/07	13/08	13/09	13/09	14/04	OIM
IFAD 70% / BEN 30%	48		3.7.3				On-farm drip irrigation		VEMG	LS	842.3	2.4	ha	6.0	15.2	Post	Multiple	13/07	13/07	13/08	13/09	13/09	13/09	OIM
IFAD 70% / BEN 30%	49		3.8				Contracted Seedlings		VEMG	LS	295.7	5.0	each	14.0	72.1	Post	5	13/07	13/07	13/08	13/09	13/09	14/04	OIM
			3.9				Promoting energy saving technologies																	
IFAD 70% / BEN 30%	50		3.9.1				Solar panels for hot water		VEMG	CP	2 137.3	150.0	each	1.6	247.2	Post	Multiple	13/07	13/07	13/07	13/07	13/07	13/07	OIM
IFAD 70% / BEN 30%	51		3.9.2				Insulating villages houses		VEMG	CP	1 001.9	75.0	lumpsum	1.5	115.9	Post	Multiple	13/07	13/07	13/07	13/07	13/07	13/09	OIM
IFAD 70% / BEN 30%	52		3.9.3				Energy saving stoves for heating		VEMG	CP	2 137.3	150.0	each	1.6	247.2	Post	Multiple	13/07	13/07	13/07	13/07	13/07	13/07	OIM
											Subtotal Equipment and Goods	16 915.8		1775.0										
											Subtotal Component 3	25 880.1		3 140.3										

Appendix 1: Eighteen-month Procurement Plan (cont'd)

For period: 01.09.2012 - 01.04.2014																								
Financier ID	Package ID. No.	Combined Package No.	Ref.			Description	No. of Lots	Loan Category	Proc. Method	Total Allocated Amount for 7 years (USD '000)	Qty for IY1 and IY2	Unit	Unit Cost (USD '000)	Total Allocated Amount for IY1 and IY2 (USD '000 /a)	Prior/ Post Review	Proposed No. of Packages	Start	Tender Invitation	Bid Opening	Bid/Quote Evaluation	Contract Award	Expected Compl (by)	Responsible Entity	
Dates (Year / month)																								
Operations Unit (OU)																								
Technical Assistance, Training and Workshops																								
IFAD	53		3.9			Baseline survey		TTAW	CQ	44.4	1.0	survey	40.0	44.4	Post/c	1	12/09	12/10	12/10	12/10	12/10	13/05	OGM / OU	
IFAD	54		3.10			18 month Implementation review		TTAW	IC	22.7	1.0	review	20.0	22.7	Post/c	1	13/12	13/12	13/12	13/12	13/12	14/04	OGM / OU	
IFAD/Grant	55		3.14			OGM / OU training needs assessment		TTAW	IC	11.1	1.0	lumpsum	10.0	11.1	Post	1	13/01	13/01	13/01	13/01	13/01	13/03	OGM / OU	
IFAD/Grant	56		3.15			Technical studies		TTAW	IC / CQ	121.0	3.0	pers-month	15.0	51.0	Prior/d	Multiple	13/01	13/01	13/02	13/04	13/05	13/09	OGM / OU	
IFAD	57		3.16			Operational training of OU and FOU staff		TTAW	IC	15.2	1.0	lumpsum	15.0	15.2	Post/c	1	12/10	12/10	12/11	12/12	12/12	12/12	OGM / OU	
IFAD	58		3.17			Start-up workshop (Ankara)		TTAW	IC	10.1	1.0	each	10.0	10.1	Prior/f	1	12/10	12/10	12/10	12/11	12/11	12/12	OGM / OU	
IFAD	59		3.18			Start-up workshops (provinces)		TTAW	LS	7.6	3.0	each	2.5	7.6	Prior/f	3	12/10	12/10	12/10	12/11	12/11	12/12	OIM	
IFAD	60		3.19			Planning workshops (Ankara)		TTAW	LS	65.0	2.0	each	5.0	10.3	Prior/f	Multiple	13/10	13/10	13/10	13/11	13/11	13/11	OGM / OU	
IFAD	61		3.22			Language courses		TTAW	LS	10.7	1.0	lumpsum	2.0	2.1	Post	Multiple	13/01	13/01	13/01	13/01	13/01	13/12	OIM	
										Subtotal TTAW				307.8										
Vehicles Equipment Machinery and Goods																								
IFAD	62		3.23			Computers		VEMG	LS	3.0	2.0	each	1.5	3.0	Post	1	12/09	12/09	12/10	12/10	12/10	12/10	OGM / OU	
IFAD	63		3.24			Printer		VEMG	LS	1.5	1.0	each	1.5	1.5	Post	1	12/09	12/09	12/10	12/10	12/10	12/10	OGM / OU	
IFAD	64		3.25			Photocopier		VEMG	LS	6.1	1.0	each	6.0	6.1	Post	1	12/09	12/09	12/10	12/10	12/10	12/10	OGM / OU	
										Subtotal VEGG				10.6										
										Subtotal OU				318.4										
										TOTAL				42 918.0										
a/ Includes taxes and contingencies																								
b/ ToRs for specialist will be provided in the PIM																								
c/ ToRs will be subject to Prior Review																								
d/ At least first 2 contracts will be subject to prior review																								
e /Depending on package size; subject to Prior Review if larger than US\$75,000 per package.																								
f /Start-Up and Planning workshops will be jointly organised with IFAD																								

**REPUBLIC OF TURKEY: MURAT RIVER WATERSHED REHABILITATION PROJECT (MRWRP)
FINAL PROJECT DESIGN REPORT
MAIN REPORT
ANNEX 9: PROJECT COSTS AND FINANCING**

ANNEX 9

PROJECT COSTS AND FINANCING

A. Project Costs

1. The total investment and incremental recurrent Project costs, including physical and price contingencies, is estimated at USD 43.1 million (TL 86.9 million). Table 1 below presents the Project costs by components; Table 2 shows the Project costs (total costs including contingencies) by components and by years and Table 3 presents the Project costs (total costs including contingencies) by categories of expenditures. The other summary tables and detailed cost tables can be found in Appendices 1 and 2 to the Working Paper 3.

Table 1: Project Costs by Component

	(Local '000)			(US\$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign	Base
							Exchange	Costs
1. Natural Resource and Environmental Management	5 459.4	257.8	5 717.2	3 033.0	143.2	3 176.2	5	8
2. Investments in Natural Resources and Environmental Assets	30 124.9	-	30 124.9	16 736.1	-	16 736.1	-	43
3. Investments in Improved Livelihood	31 181.3	-	31 181.3	17 322.9	-	17 322.9	-	45
4. Operations Unit	2 198.9	190.9	2 389.8	1 221.6	106.1	1 327.6	8	3
Total BASELINE COSTS	68 964.5	448.7	69 413.1	38 313.6	249.3	38 562.9	1	100
Physical Contingencies	3 001.4	29.3	3 030.7	1 667.5	16.3	1 683.7	1	4
Price Contingencies	14 938.3	60.1	14 998.4	2 856.3	11.6	2 868.0	-	7
Total PROJECT COSTS	86 904.2	538.1	87 442.3	42 837.4	277.2	43 114.6	1	112

Table 2: Project Components by Year – Totals Including Contingencies

(US\$ '000)	Totals Including Contingencies							Total
	2010	2011	2012	2013	2014	2015	2016	
1. Natural Resource and Environmental Management	464.1	884.9	924.7	943.2	156.5	120.6	104.1	3 598.1
2. Investments in Natural Resources and Environmental Assets	562.1	2 086.5	3 142.8	4 789.6	4 973.3	2 125.8	1 617.6	19 297.6
3. Investments in Improved Livelihood	358.8	2 181.3	4 196.3	5 633.9	5 547.2	436.7	391.1	18 745.2
4. Operations Unit	184.1	183.0	248.8	244.8	218.5	166.3	228.1	1 473.6
Total PROJECT COSTS	1 569.1	5 335.7	8 512.6	11 611.5	10 895.5	2 849.4	2 340.9	43 114.6

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**Table 3: Expenditure Accounts by Components –
Totals Including Contingencies**

(US\$ '000)	Investments		Investments in Improved Livelihood	Operations Unit	Total
	Natural Resource and Environmental Management	in Natural Resources and Environmental Assets			
I. Investment Costs					
A. Civil Works					
Civil Works	-	17 271.1	6 291.7	-	23 562.8
B. Vehicle Rental	653.7	-	-	-	653.7
C. Equipment and Goods	139.5	1 454.3	9 520.6	10.6	11 125.0
D. Technical Assistance					
1. Technical assistance	2 309.0	-	516.6	-	2 825.6
2. Contracted staff	-	-	2 162.5	-	2 162.5
3. Studies	179.5	-	-	334.0	513.5
Subtotal Technical Assistance	2 488.5	-	2 679.0	334.0	5 501.6
E. Training and Workshops	316.4	-	-	346.7	663.2
Total Investment Costs	3 598.1	18 725.4	18 491.4	691.4	41 506.3
II. Recurrent Costs					
A. Salaries and Allowances	-	-	118.7	741.3	860.0
B. Other Operating Costs	-	572.2	135.1	40.9	748.2
Total Recurrent Costs	-	572.2	253.8	782.2	1 608.2
Total PROJECT COSTS	3 598.1	19 297.6	18 745.2	1 473.6	43 114.6
Taxes	531.7	3 370.6	2 851.4	6.3	6 760.0
Foreign Exchange	155.8	-	-	121.4	277.2

B. Programme Financing

2. On current estimates, an IFAD loan of USD 31.4 million (72% of the total Project costs) would be used to finance 75% (USD 2.7 million) of the Natural Resource and Environmental Management component, 75% (USD 14.9 million) of the Investments in Natural Resources and Environmental Assets component, 69% (USD 13.9 million) of Investments in Improved Livelihood component and 81% (USD 1.2 million) of the Operations Unit. IFAD grant of USD 492 325 will be used to finance TA and studies.

3. The Government contribution would be the used to finance taxes and duties as well as 7% (USD 1.3 million) of the Investments in Natural Resources and Environmental Assets component, 1% (USD 135 000) of the Small-scale Agriculture and Livelihood Improvement Investments component and 9% (USD 135 000) of the Operations Unit.

4. Approximately USD 3.2 million (7% of total Project costs) would be provided by the primary beneficiaries (participating farmers in the Project area), mainly as contributions to the financing of small-scale agriculture investments.

5. Table 4 below provides a summary by Project components of the proposed financing arrangement. Other summary financing tables are provided in Appendix 1 to the Working Paper 3.

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Table 4: Financing Plan by Components

(US\$ '000)	IFAD		IFAD Grant		Gov: Budget		GOVT: Taxes		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Natural Resource and Environmental Management	2 706.3	75.2	360.2	10.0	-	-	531.7	14.8	-	-	3 598.1	8.3
2. Investments in Natural Resources and Environmental Assets	14 540.9	75.4	-	-	1 314.0	6.8	3 370.6	17.5	72.1	0.4	19 297.6	44.8
3. Investments in Improved Livelihood	12 952.5	69.1	-	-	135.2	0.7	2 851.4	15.2	2 806.1	15.0	18 745.2	43.5
4. Operations Unit	1 200.0	81.4	132.2	9.0	135.2	9.2	6.3	0.4	-	-	1 473.6	3.4
Total PROJECT COSTS	31 399.6	72.8	492.3	1.1	1 584.3	3.7	6 760.0	15.7	2 878.2	6.7	43 114.6	100.0

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ANNEX 1: DETAILED COSTS

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Appendix 1: Detailed Costs

Table 1: Natural Resources and Environmental Management – Detailed Costs

Table 1. Natural Resources and Environmental Management																			Parameters (in %)		
Detailed Costs																			Phy.	For.	Gross
(US\$)																			Cont.	Exch.	Tax Rate
Unit	Quantities									Base Cost ('000)									Rate	Exch.	Tax Rate
	2010	2011	2012	2013	2014	2015	2016	Total	Unit Cost	2010	2011	2012	2013	2014	2015	2016	Total				
I. Investment Costs																					
A. Vehicle rental /a																					
Four-w heel drive vehicles /b	vehicle year	3	6	6	6	6	6	3	36	13,750	41.3	82.5	82.5	82.5	82.5	82.5	41.3	495.0	5.0	0.0	18.0
Mini-van /c	vehicle year	3	6	8	8	-	-	-	25	3,500	10.5	21.0	28.0	28.0	-	-	-	87.5	5.0	0.0	18.0
Subtotal Vehicle rental											51.8	103.5	110.5	110.5	82.5	82.5	41.3	582.5			
B. Equipment and Goods /d																					
Computers	no	9	-	-	-	-	-	-	9	1,500	13.5	-	-	-	-	-	-	13.5	0.0	60.0	18.0
Printers /e	no	3	-	-	-	-	-	-	3	500	1.5	-	-	-	-	-	-	1.5	0.0	60.0	18.0
Photocopier /f	no	3	-	-	-	-	-	-	3	2,000	6.0	-	-	-	-	-	-	6.0	0.0	60.0	18.0
GPS handheld devices /g	no	9	-	-	-	-	-	-	9	300	2.7	-	-	-	-	-	-	2.7	0.0	60.0	18.0
GIS softw are	lumpsum										40.0	-	-	-	-	-	-	40.0	0.0	60.0	18.0
GIS maps	lumpsum										35.0	-	-	-	-	-	35.0	70.0	0.0	60.0	18.0
Subtotal Equipment and Goods											98.7	-	-	-	-	-	35.0	133.7			
C. Technical Assistance																					
1. Specialists																					
GIS/data management specialist /h	pers-month	1	1	0.5	0.5	0.5	0.5	-	4	15,000	15.0	15.0	7.5	7.5	7.5	7.5	-	60.0	10.0	0.0	0.0
Monitoring of physical interventions /i	pers-month	1	1	0.5	0.5	0.5	0.5	0.5	4.5	15,000	15.0	15.0	7.5	7.5	7.5	7.5	7.5	67.5	10.0	0.0	0.0
Subtotal Specialists											30.0	30.0	15.0	15.0	15.0	15.0	7.5	127.5			
2. Participatory integrated MC planning																					
Micro-catchment planning /j	micro-catchment	3	6	8	8	-	-	-	25	75,000	225.0	450.0	600.0	600.0	-	-	-	1 875.0	10.0	0.0	18.0
Subtotal Technical Assistance											255.0	480.0	615.0	615.0	15.0	15.0	7.5	2 002.5			
D. Training and Workshops																					
Natural resource economics /k	w /shop	-	-	1	1	1	-	-	3	5,000	-	-	5.0	5.0	5.0	-	-	15.0	0.0	0.0	0.0
Planning and technical subjects /l	w /shop	-	1	1	1	1	1	1	6	5,000	-	5.0	5.0	5.0	5.0	5.0	5.0	30.0	0.0	0.0	0.0
Carbon sequestration	w /shop	-	-	1	-	-	-	-	1	5,000	-	-	5.0	-	-	-	-	5.0	0.0	0.0	0.0
Aw areness raising campaigns /m	each	3	6	8	8	-	-	-	25	5,000	15.0	30.0	40.0	40.0	-	-	-	125.0	0.0	0.0	0.0
Villagers exchange visits /n	visit	6	12	16	16	-	-	-	50	1,000	6.0	12.0	16.0	16.0	-	-	-	50.0	0.0	0.0	0.0
Multi-functional management plans /o	course	-	6	-	-	6	-	-	12	5,000	-	30.0	-	-	30.0	-	-	60.0	0.0	0.0	0.0
PPT training /p	course	1	1	-	1	-	-	-	3	5,000	5.0	5.0	-	5.0	-	-	-	15.0	0.0	0.0	0.0
Subtotal Training and Workshops											26.0	82.0	71.0	71.0	40.0	5.0	5.0	300.0			
E. Studies																					
Natural Resource Economics /q	pers-month	-	2	1	1	-	-	-	4	15,000	-	30.0	15.0	15.0	-	-	-	60.0	10.0	70.0	0.0
Assesment of opportunities for carbon sequestration /r	pers-month	-	2	-	-	-	-	-	2	15,000	-	30.0	-	-	-	-	-	30.0	10.0	70.0	0.0
Assessment of opportunities for NWFP /s	pers-month	-	3	-	-	-	-	-	3	15,000	-	45.0	-	-	-	-	-	45.0	10.0	0.0	0.0
Assessment of alternatives for energy sources	pers-month	-	0.5	-	-	-	-	-	0.5	15,000	-	7.5	-	-	-	-	-	7.5	10.0	0.0	0.0
Private / public nursery feasibility study	pers-month	-	1	-	-	-	-	-	1	15,000	-	15.0	-	-	-	-	-	15.0	10.0	0.0	0.0
Subtotal Studies											-	127.5	15.0	15.0	-	-	-	157.5			
Total											431.5	793.0	811.5	811.5	137.5	102.5	88.8	3 176.2			

Table 3: Investments in Livelihood Improvement

Detailed Costs (US\$)	Unit	Quantities								Total	Base Cost ('000)								Total	Phy. Cont. Rate	For. Exch.	Gross Tax Rate
		2010	2011	2012	2013	2014	2015	2016	Unit Cost		2010	2011	2012	2013	2014	2015	2016					
		I. Investment Costs																				
A. Technical assistance and advisory services																						
1. PPT																						
Contracted staff /a	per-annum	9	9	9	9	9	9	9	63	30,000	270.0	270.0	270.0	270.0	270.0	270.0	270.0	1 890.0	0.0	0.0	0.0	
Focal points /b	per-annum	3	3	3	3	3	3	3	21	6,000	18.0	18.0	18.0	18.0	18.0	18.0	18.0	126.0	0.0	0.0	0.0	
Subtotal PPT											288.0	288.0	288.0	288.0	288.0	288.0	288.0	2 016.0				
2. Demonstrations, farmers training courses and exposure visits /c																						
Demonstration program /d	lumpsum	36	42	47	55	50	41	37	308	500	18.0	21.0	23.5	27.5	25.0	20.5	18.5	154.0	10.0	0.0	0.0	
Farmer training program /e	lumpsum	24	39	49	51	50	48	31	292	300	7.2	11.7	14.7	15.3	15.0	14.4	9.3	87.6	10.0	0.0	0.0	
Farmer exposure visits	lumpsum	4	6	8	6	4	4	1	33	6,000	24.0	36.0	48.0	36.0	24.0	24.0	6.0	198.0	10.0	0.0	0.0	
Subtotal Demonstrations, farmers training courses and exposure visits											49.2	68.7	86.2	78.8	64.0	58.9	33.8	439.6				
Subtotal Technical assistance and advisory services											337.2	356.7	374.2	366.8	352.0	346.9	321.8	2 455.6				
B. On-farm and Off-farm Investments																						
1. Improving wheat and barley yield																						
ha		-	45	216	480	640	-	-	1 381	135	-	6.1	29.2	64.8	86.4	-	-	186.4	0.0	0.0	18.0	
2. Improving livestock production																						
Increasing forage crop production under rainfed conditions /f	lumpsum	-	27	108	224	256	-	-	615	250	-	6.8	27.0	56.0	64.0	-	-	153.8	0.0	0.0	18.0	
Increasing forage crop production under irrigated conditions /g	lumpsum	-	27	108	224	256	-	-	615	450	-	12.2	48.6	100.8	115.2	-	-	276.8	0.0	0.0	18.0	
Improving livestock shelters in the village /h	each	-	300	600	300	300	-	-	1 500	1,000	-	300.0	600.0	300.0	300.0	-	-	1 500.0	0.0	0.0	18.0	
Subtotal Improving livestock production											-	318.9	675.6	456.8	479.2	-	-	1 930.5				
3. Improving horticultural production																						
Orchard establishment /i	ha	-	12	24	64	40	-	-	140	4,500	-	54.0	108.0	288.0	180.0	-	-	630.0	0.0	0.0	18.0	
Improving vegetable production under plastic tunnels /j	ha	-	1	3	6.5	7.25	-	-	17.75	52,000	-	52.0	156.0	338.0	377.0	-	-	923.0	0.0	0.0	18.0	
Improving vegetable production in open fields	ha	-	4.5	9	16	20	-	-	49.5	550	-	2.5	5.0	8.8	11.0	-	-	27.2	0.0	0.0	18.0	
Subtotal Improving horticultural production											-	108.5	269.0	634.8	568.0	-	-	1 580.2				
4. Developing small-scale irrigation																						
Water storage ponds /k	lumpsum	-	30	60	80	80	-	-	250	15,000	-	450.0	900.0	1 200.0	1 200.0	-	-	3 750.0	2.5	0.0	18.0	
Rehabilitation of earth canals /l	lumpsum	-	3	6	8	8	-	-	25	49,000	-	147.0	294.0	392.0	392.0	-	-	1 225.0	2.5	0.0	18.0	
On-farm drip irrigation /m	ha	-	2.4	19.2	52.8	52.8	-	-	127.2	6,000	-	14.4	115.2	316.8	316.8	-	-	763.2	2.5	0.0	18.0	
Subtotal Developing small-scale irrigation											-	611.4	1 309.2	1 908.8	1 908.8	-	-	5 738.2				
5. Contracted seedling production																						
each		-	5	5	10	-	-	-	20	14,000	-	70.0	70.0	140.0	-	-	-	280.0	0.0	0.0	18.0	
6. Promoting energy saving technologies																						
Solar panels for hot water	lumpsum	-	150	300	400	400	-	-	1 250	1,600	-	240.0	480.0	640.0	640.0	-	-	2 000.0	0.0	0.0	18.0	
Insulating villages houses /n	lumpsum	-	75	150	200	200	-	-	625	1,500	-	112.5	225.0	300.0	300.0	-	-	937.5	0.0	0.0	18.0	
Energy saving stoves for heating	lumpsum	-	150	300	400	400	-	-	1 250	1,600	-	240.0	480.0	640.0	640.0	-	-	2 000.0	0.0	0.0	18.0	
Subtotal Promoting energy saving technologies											-	592.5	1 185.0	1 580.0	1 580.0	-	-	4 937.5				
Subtotal On-farm and Off-farm Investments											-	1 707.4	3 537.9	4 785.2	4 622.4	-	-	14 652.9				
Total Investment Costs											337.2	2 064.1	3 912.1	5 152.0	4 974.4	346.9	321.8	17 108.5				
II. Recurrent Costs																						
A. Travel																						
Air travel /o	trip	9	27	27	27	27	27	9	153	160	1.4	4.3	4.3	4.3	4.3	4.3	1.4	24.5	10.0	0.0	18.0	
Provincial-based staff allowances /p	micro-catchment	3	9	17	25	22	16	8	100	1,000	3.0	9.0	17.0	25.0	22.0	16.0	8.0	100.0	10.0	0.0	0.0	
Subtotal Travel											4.4	13.3	21.3	29.3	26.3	20.3	9.4	124.5				
B. Other Operating Costs /q																						
per-annum											7.5	15.0	15.0	15.0	15.0	15.0	7.5	90.0	10.0	0.0	0.0	
Total Recurrent Costs											11.9	28.3	36.3	44.3	41.3	35.3	16.9	214.5				
Total											349.1	2 092.4	3 948.4	5 196.3	5 015.7	382.2	338.7	17 322.9				

Table 4: Operating Unit – Detailed Costs

Table 4. Operations Unit																			Parameters (in %)		
Detailed Costs																			Phy.		
(US\$)	Quantities								Base Cost ('000)								Cont.	For.	Gross		
	Unit	2010	2011	2012	2013	2014	2015	2016	Total	Unit Cost	2010	2011	2012	2013	2014	2015	2016	Total	Rate	Exch.	Tax Rate
I. Investment Costs																					
A. Equipment and goods																					
Computers	each	2	-	-	-	-	-	-	2	1,500	3.0	-	-	-	-	-	-	3.0	0.0	60.0	18.0
Printer	each	1	-	-	-	-	-	-	1	1,500	1.5	-	-	-	-	-	-	1.5	0.0	60.0	18.0
Photocopier	each	1	-	-	-	-	-	-	1	6,000	6.0	-	-	-	-	-	-	6.0	0.0	60.0	18.0
Subtotal Equipment and goods											10.5	-	-	-	-	-	-	10.5			
B. Studies																					
Baseline survey /a	survey	1	-	-	-	-	-	-	1	40,000	40.0	-	-	-	-	-	-	40.0	10.0	0.0	0.0
18 month review /b	review	-	1	-	-	-	-	-	1	20,000	-	20.0	-	-	-	-	-	20.0	10.0	0.0	0.0
Mid-term review	review	-	-	1	-	-	-	-	1	30,000	-	-	30.0	-	-	-	-	30.0	10.0	0.0	0.0
Impact survey /c	survey	-	-	-	-	-	-	1	1	50,000	-	-	-	-	-	-	50.0	50.0	10.0	0.0	0.0
Completion review	pers-month	-	-	-	-	-	-	2	2	15,000	-	-	-	-	-	-	30.0	30.0	10.0	0.0	0.0
OU training needs assessment	lumpsum	-	-	-	-	-	-	-	-	-	10.0	-	-	-	-	-	-	10.0	10.0	0.0	0.0
Miscellaneous studies	pers-month	-	3	2	2	-	-	-	7	15,000	-	45.0	30.0	30.0	-	-	-	105.0	10.0	95.0	0.0
Subtotal Studies											50.0	65.0	60.0	30.0	-	-	80.0	285.0			
C. Training and workshops																					
Operational training of COU and FOU staff /d	lumpsum	-	-	-	-	-	-	-	-	-	15.0	-	-	-	-	-	-	15.0	0.0	0.0	0.0
Start-up workshop (Ankara)	each	1	-	-	-	-	-	-	1	10,000	10.0	-	-	-	-	-	-	10.0	0.0	0.0	0.0
Start-up workshops (provinces) /e	each	3	-	-	-	-	-	-	3	2,500	7.5	-	-	-	-	-	-	7.5	0.0	0.0	0.0
Planning workshops (Ankara) /f	each	-	2	2	2	2	2	2	12	5,000	-	10.0	10.0	10.0	10.0	10.0	10.0	60.0	0.0	0.0	0.0
Completion workshop (Ankara) /g	w /shop	-	-	-	-	-	-	-	1	10,000	-	-	-	-	-	-	10.0	10.0	0.0	0.0	0.0
Participation in international events / training /h	lumpsum	-	-	-	-	-	-	-	-	-	-	50.0	60.0	70.0	30.0	-	-	210.0	0.0	0.0	0.0
Language courses	lumpsum	-	1	1	1	1	1	-	5	2,000	-	2.0	2.0	2.0	2.0	2.0	-	10.0	0.0	0.0	0.0
Subtotal Training and workshops											32.5	12.0	62.0	72.0	82.0	42.0	20.0	322.5			
Total Investment Costs											93.0	77.0	122.0	102.0	82.0	42.0	100.0	618.0			
II. Recurrent Costs																					
A. Salaries																					
Deputy Project Coordinator /i	per-annum	1	1	1	1	1	1	1	7	42,000	42.0	42.0	42.0	42.0	42.0	42.0	42.0	294.0	0.0	0.0	0.0
Focal point (Ankara based) /j	per-annum	1	1	1	1	1	1	1	7	6,000	6.0	6.0	6.0	6.0	6.0	6.0	6.0	42.0	0.0	0.0	0.0
Monitoring and Evaluation Specialist /k	per-annum	1	1	1	1	1	1	1	7	6,000	6.0	6.0	6.0	6.0	6.0	6.0	6.0	42.0	0.0	0.0	0.0
Procurement/Finance Specialist /l	per-annum	1	1	1	1	1	1	1	7	6,000	6.0	6.0	6.0	6.0	6.0	6.0	6.0	42.0	0.0	0.0	0.0
Translator/secretary /m	per-annum	1	1	1	1	1	1	1	7	15,000	15.0	15.0	15.0	15.0	15.0	15.0	15.0	105.0	0.0	0.0	0.0
Subtotal Salaries											75.0	75.0	75.0	75.0	75.0	75.0	75.0	525.0			
B. Travel																					
Air travel /n	trips	12	12	20	28	25	20	12	129	160	1.9	1.9	3.2	4.5	4.0	3.2	1.9	20.6	10.0	0.0	18.0
Travel allowances /o	micro-catchment	3	9	17	25	22	16	8	100	1,500	4.5	13.5	25.5	37.5	33.0	24.0	12.0	150.0	10.0	0.0	0.0
Subtotal Travel											6.4	15.4	28.7	42.0	37.0	27.2	13.9	170.6			
C. Other Operating Costs											2.0	2.0	2.0	2.0	2.0	2.0	2.0	14.0	10.0	0.0	0.0
Total Recurrent Costs											83.4	92.4	105.7	119.0	114.0	104.2	90.9	709.6			
Total											176.4	169.4	227.7	221.0	196.0	146.2	190.9	1 327.6			

Table 5: Components Project Cost Summary

	(Local '000)			(US\$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign	Base
							Exchange	Costs
1. Natural Resource and Environmental Management	5 459.4	257.8	5 717.2	3 033.0	143.2	3 176.2	5	8
2. Investments in Natural Resources and Environmental Assets	30 124.9	-	30 124.9	16 736.1	-	16 736.1	-	43
3. Investments in Improved Livelihood	31 181.3	-	31 181.3	17 322.9	-	17 322.9	-	45
4. Operations Unit	2 198.9	190.9	2 389.8	1 221.6	106.1	1 327.6	8	3
Total BASELINE COSTS	68 964.5	448.7	69 413.1	38 313.6	249.3	38 562.9	1	100
Physical Contingencies	3 001.4	29.3	3 030.7	1 667.5	16.3	1 683.7	1	4
Price Contingencies	14 938.3	60.1	14 998.4	2 856.3	11.6	2 868.0	-	7
Total PROJECT COSTS	86 904.2	538.1	87 442.3	42 837.4	277.2	43 114.6	1	112

Table 6: Expenditure Accounts Project Cost Summary

Murat River Watershed Rehabilitation Project							%	% Total
Expenditure Accounts Project Cost Summary	(Local '000)			(US\$ '000)			Foreign	Base
	Local	Foreign	Total	Local	Foreign	Total	Exchange	Costs
I. Investment Costs								
A. Civil Works								
Civil Works	37 095.8	-	37 095.8	20 608.8	-	20 608.8	-	53
B. Vehicle Rental	1 048.5	-	1 048.5	582.5	-	582.5	-	2
C. Equipment and Goods	18 580.2	155.7	18 735.9	10 322.3	86.5	10 408.9	1	27
D. Technical Assistance								
1. Technical assistance	4 395.8	-	4 395.8	2 442.1	-	2 442.1	-	6
2. Contracted staff	3 628.8	-	3 628.8	2 016.0	-	2 016.0	-	5
3. Studies	503.6	293.0	796.5	279.8	162.8	442.5	37	1
Subtotal Technical Assistance	8 528.1	293.0	8 821.1	4 737.9	162.8	4 900.6	3	13
E. Training and Workshops	1 120.5	-	1 120.5	622.5	-	622.5	-	2
Total Investment Costs	66 373.2	448.7	66 821.9	36 874.0	249.3	37 123.3	1	96
II. Recurrent Costs								
A. Salaries and Allow ances	1 395.0	-	1 395.0	775.0	-	775.0	-	2
B. Other Operating Costs	1 196.3	-	1 196.3	664.6	-	664.6	-	2
Total Recurrent Costs	2 591.3	-	2 591.3	1 439.6	-	1 439.6	-	4
Total BASELINE COSTS	68 964.5	448.7	69 413.1	38 313.6	249.3	38 562.9	1	100
Physical Contingencies	3 001.4	29.3	3 030.7	1 667.5	16.3	1 683.7	1	4
Price Contingencies	14 938.3	60.1	14 998.4	2 856.3	11.6	2 868.0	-	7
Total PROJECT COSTS	86 904.2	538.1	87 442.3	42 837.4	277.2	43 114.6	1	112

Table 7: Project Components by Year – Base Costs

(US\$ '000)	Base Cost							Total
	PY1	PY2	PY3	PY4	PY5	PY6	PY7	
1. Natural Resource and Environmental Management	431.5	793.0	811.5	811.5	137.5	102.5	88.8	3 176.2
2. Investments in Natural Resources and Environmental Assets	530.0	1 899.4	2 785.4	4 162.9	4 239.4	1 784.7	1 334.3	16 736.1
3. Investments in Improved Livelihood	349.1	2 092.4	3 948.4	5 696.3	5 695.7	382.2	338.7	18 502.9
4. Operations Unit	176.4	169.4	227.7	221.0	196.0	146.2	190.9	1 327.6
Total BASELINE COSTS	1 487.0	4 954.1	7 773.0	10 891.7	10 268.6	2 415.6	1 952.7	39 742.9

Table 8: Expenditure Accounts by Years – Base Costs

(US\$ '000)	Base Cost							Foreign Exchange		
	2010	2011	2012	2013	2014	2015	2016	Total	%	Amount
I. Investment Costs										
A. Civil Works										
Civil Works	-	1 850.8	3 995.0	5 933.0	6 037.3	1 621.6	1 171.2	20 608.8	-	-
B. Vehicle Rental	51.8	103.5	110.5	110.5	82.5	82.5	41.3	582.5	-	-
C. Equipment and Goods	639.2	1 756.0	2 308.7	2 956.4	2 713.6	-	35.0	10 408.9	0.8	86.5
D. Technical Assistance										
1. Technical assistance	304.2	548.7	701.2	693.8	79.0	73.9	41.3	2 442.1	-	-
2. Contracted staff	288.0	288.0	288.0	288.0	288.0	288.0	288.0	2 016.0	-	-
3. Studies	50.0	192.5	75.0	45.0	-	-	80.0	442.5	36.8	162.8
Subtotal Technical Assistance	642.2	1 029.2	1 064.2	1 026.8	367.0	361.9	409.3	4 900.6	3.3	162.8
E. Training and Workshops	58.5	94.0	133.0	143.0	122.0	47.0	25.0	622.5	-	-
Total Investment Costs	1 391.7	4 833.4	7 611.4	10 169.7	9 322.4	2 113.0	1 681.8	37 123.3	0.7	249.3
II. Recurrent Costs										
A. Salaries and Allow ances	82.5	97.5	117.5	137.5	130.0	115.0	95.0	775.0	-	-
B. Other Operating Costs	12.9	23.2	44.1	84.5	136.2	187.6	176.0	664.6	-	-
Total Recurrent Costs	95.4	120.7	161.6	222.0	266.2	302.6	271.0	1 439.6	-	-
Total BASELINE COSTS	1 487.0	4 954.1	7 773.0	10 391.7	9 588.6	2 415.6	1 952.7	38 562.9	0.6	249.3
Physical Contingencies	66.5	225.1	328.0	441.8	377.4	139.6	105.3	1 683.7	1.0	16.3
Price Contingencies										
Inflation										
Local	40.7	427.3	1 157.4	2 228.6	2 719.7	876.2	847.7	8 297.5	-	-
Foreign	0.7	2.8	2.2	3.1	-	-	2.9	11.6	100.0	11.6
Subtotal Inflation	41.3	430.1	1 159.6	2 231.7	2 719.7	876.2	850.6	8 309.1	0.1	11.6
Devaluation	-25.8	-273.7	-748.0	-1 453.6	-1 790.3	-582.0	-567.7	-5 441.2	-	-
Subtotal Price Contingencies	15.5	156.4	411.6	778.1	929.4	294.2	282.8	2 868.0	0.4	11.6
Total PROJECT COSTS	1 569.1	5 335.7	8 512.6	11 611.5	10 895.5	2 849.4	2 340.9	43 114.6	0.6	277.2
Taxes	176.6	808.2	1 385.7	1 934.8	1 811.2	369.0	274.6	6 760.0	-	-
Foreign Exchange	66.2	96.0	45.1	46.0	-	-	23.9	277.2	-	-

ANNEX 10

ECONOMIC AND FINANCIAL ANALYSIS

I. INTRODUCTION

1. This Annex presents the financial and economic analysis. The financial analysis aims at demonstrating that on-farm (related to the main commodities supported by the Project) and off-farm income-generating activities, as proposed in the Murat River Watershed Rehabilitation Project (mentioned hereafter as WRWRP), are profitable and therefore sustainable. On the other hand, the economic analysis aims at demonstrating that, from an economic perspective, the Project as a whole is viable, taking into account, as much as possible, all quantifiable and non-quantifiable benefits in situations with and without Project.

II. DATA SOURCES AND GENERAL ASSUMPTIONS

2. Sources: The data used in this analysis have been collected from various sources, including the Ministry of Forestry and Water Affairs (MFWA), General Directorate of Forestry (OGM), Regional and Provincial Directorate of Forestry (OBM/OIM), local agricultural practitioners and missions' estimates. Additional data were collected through interviews during field visits. Currency: The conversion rates of the Turkish national currency (Turkish Lira [TL]) into foreign currencies are free and there is therefore no parallel (informal) market. Thus, the official exchange rate used in the analysis is a reliable proxy of its economic value. The exchange rate of TL 1.8 = USD 1.00 (average rate for October 2011) has been used throughout the present analysis. Prices: Input and output prices are also in constant terms of 2011. Financial prices were collected during the field visit in October 2011 and their economic values were calculated by using a standard conversion factor. The prices used in the financial analysis represent estimates of the average seasonal prices of commodities, which are within the same range in all three provinces. Cost of labour: The official salary for agricultural unskilled labour in the Project areas is at TL 40 per day. Given the significant unemployment rate in these rural areas, this economic value (shadow-price) of this labour has been estimated using a conversion factor of 0.5.

III. MRWRP's QUANTIFIABLE BENEFITS

3. The MRWRP is expected to generate substantial net incremental benefits coming mainly from two types of investments: (i) natural resource rehabilitation and erosion control measures; and (ii) the financing of income-generating and/or expense-reducing activities. The benefits of natural resource rehabilitation and erosion control measures would mainly arise from: reduced erosion as measured by less soil losses, reduced floods and landslides damages, as well as the additional benefits from short-term employment provided each year through hiring local villagers for soil conservation works. Benefits from investments in improved livelihood stems from income-generating and/or expense-reducing activities in the form of agricultural and livestock production as well as decreases in households' expenditures. The latter mainly through investments in alternative energy resources comprising solar water heaters, energy efficient stoves and house insulation.

4. By supporting the farmers in the MC areas, the MRWRP will reach the primary beneficiary groups (12 500 households) in two ways:

- (i) Natural resource rehabilitation and erosion control. Large areas in the Project area are severely degraded and past agricultural practices are

clearly unsustainable with uncontrolled grazing, gathering of fuel wood and cropping on slopes that are too steep for sustainable farming. The Project will facilitate transition to a more sustainable use of catchments, hereby securing long-term productivity of those areas and raising incomes for local people.

- (ii) Direct increase in upland MC communities' income, through income increasing activities. The magnitude of these increases will depend on farmers adopting improved technologies, which the programme will promote directly through the contracted multidisciplinary Provincial Project Teams (PPTs) within 25 micro-catchments selected under the MRWRP.

IV. FINANCIAL ANALYSIS

A. Crop and Activity Models

5. A number of indicative activities were identified during the design of the programme. On the basis of the data collected during the field visits, eight illustrative models were developed for the main income-generating activities to be promoted under the Project: (i) Increased wheat production; (ii) increased rainfed forage production; (iii) increased irrigated forage production; (iv) improved animal housing and husbandry; (v) improved grazing lands and livestock water ponds; (vi) vegetable cultivation under plastic tunnels, (vii) establishment of a new orchard; and (viii) water solar heaters and improved cooking stoves.

6. **Increased wheat production.** This model illustrates the impact of the adoption of better agronomic practices on the yields as well as on the hay and grain quality. The activity would lead to incremental revenues of TL 341 per ha. Incremental revenue is derived from improved seedbed preparation, improved timing of planting, and quality/certified seeds of higher yielding varieties.

7. **Increased rain fed (common vetch) and irrigated (alfalfa) forage production.** For the purpose of this analysis, Hungarian vetch is used as a proxy for rainfed forage while alfalfa model has been prepared as a proxy for irrigated forage crop. The incremental net benefit per ha is expected to be TL 121 for alfalfa and TL 514 for common vetch. The expected benefits will be coming from the improved soil fertility and structure due to the integration of the leguminous crops in rotation.

8. **Improved animal housing.** The model illustrates the likely returns over time to smallholders investing in the rehabilitation of stables and adopting improved husbandry practices (hygiene, vaccination and supplementary feed). The total investment (TL 3 600 per household, 70% co-financed by the Project and 30% as beneficiaries' counterpart) would lead to an incremental revenue at full development (Y 6) of TL 970 per family. This revenue is derived from the production of additional milk and from the sale of male calves of higher value per year and culled females. The model would generate an internal rate of return of 23% over 20 years.

9. **Improved grazing land and pasture water ponds.** This model illustrates the impact of constructing a dedicated livestock watering facility on a 200 ha grazing set aside area, within the total pasture area of 800 ha per water pond. Enclosed areas are meant to provide richer and more secure pastures for the livestock. Assuming that the meat and milk production could increase by 10% over time following substantially better feeding and better water availability, the value of the additional meat and milk production would then be estimated at TL 134 971 per water pond.

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10. **Establishment of new orchard.** Walnut has been chosen as a proxy to illustrate the financial impact for a farmer who invests in the establishment of a small orchard. Investment costs for inputs in the first year (TL 7 300, 70% co-financed by the Project and 30% as beneficiaries' counterpart) include seedlings, fencing, and a drip irrigation system. The first production is harvested in the fourth year at 20% of the expected yield, with maturity in the eighth year after establishment, which reaches the equivalent of 1.5 tonnes per hectare. The returns to family labour day at full development would be TL 146.

11. **Vegetable cultivation under plastic tunnels.** This model presents the investments required for vegetable production under semi-permanent or plastic tunnel greenhouses. The initial cost is of TL 4 350 (70% Project and 30% beneficiaries), which covers the equipment and raw materials. It is assumed, as is prevailing common practice that the necessary labour for assembling the greenhouse will be provided by the farmer. The return to family labour will be equivalent to TL 297 per day.

12. **Energy saving water solar heaters and cooking stoves.** At present, households in the Project area consume about 4-5 mt of fuel wood a year to heat water and the home, at a cost per household of about TL 1 400. The Project would up scale the use of solar water heaters (successfully introduced by ORKOY in the former MOEF) and introduce fuel efficient stoves to targeted households. The use of the energy saving technologies would reduce the annual fuel wood consumption at the household level by 30%.

13. Table 1 below provides a summary of some of the key financial results for all the previous activities.

Table 1: Summary of Financial Benefits

Activity model	Net Benefit			Returns to family labour	FIRR
	WOP	WP la	Incremental		
Increased wheat production	687	1,024	337	60	-
Increased rain fed forage production	1,398	1,912	514	112	-
Increased irrigated forage production	621	741	121	44	-
Water solar heaters and improved cooking stoves	-	420	420	-	-
Improved animal housing and husbandry	2,517	3,487	970	211	23%
Establishment of new orchard	-	5,693	5,693	173	53%
Vegetable cultivation under plastic tunnel	466	764	297	62	56%
Improved grazing lands (800ha) and pasture water ponds	2,497,308	2,669,133	171,825	-	-

laWOP - without project, WP - with project at full production

V. ECONOMIC ANALYSIS

14. **Benefits Stream.** The analysis identifies all the possible quantifiable incremental benefits generated by the MRWRP's implementation. The benefits stream corresponds to: (i) The smallholders' benefits analysed in the financial analysis – i.e. increased agricultural and livestock production in the micro-catchments as well as in the downstream area; (ii) reduced households' expenditures (through investments in alternative energy resources comprising solar water heaters, energy efficient stoves and house insulation); (iii) reduced erosion as measured by the productive value of less soil losses; and (iv) reduced floods and landslides damages. The illustrative financial models described previously, have been used as a basis for the calculation of the overall (economic) benefit stream, after conversion of the financial prices into economic values.

15. **Benefits from erosion control.** Being a watershed management Project, MRWRP's key activity is soil and water conservation. In this regard, soil erosion control investments aim at breaking the vicious cycle of poverty – i.e. poverty leading to land degradation creating more poverty. Because farmers cannot afford inputs such as fertilizers, improved seeds or irrigation equipment, the productivity of their land declines and low yields result in pressure on marginal lands. Poor farmers therefore tend to be associated with marginal lands and low yields, in a process that can be described as a downward spiral of low productivity and land degradation in which poverty is not only a result of degradation but also a cause of it.

16. Economic valuation of soil erosion depends on the perspective of the analysis. Soil erosion has both on-site and off-site effects. Loss of soil productivity is the main on-site effect, while increased frequency of floods and sedimentation are the off-site effects. Despite the importance of the soil and water conservation and erosion control works, methodological difficulties and the absence of reliable data prevent a satisfactory quantification of all benefits. The present analysis includes a quantification of the benefits from reduced soil losses as well as flood control costs, gradual improvements in soil quality and water availability within the micro-catchments and thus increases in agricultural yields. But other benefits, that would be extremely difficult to quantify in the context of the present analysis, will be at least as important and are discussed hereafter in Chapter VI.

17. **Soil losses avoided.** The economic value of erosion was calculated with the "market value of soil" method using the determined soil and nutrient loss amounts. The method attempts to estimate the cost of soil erosion to the society as a whole. The approach adopted is based on soil erosion reducing the productive potential of the soil. This includes depletion of the soil's nutrient content, its physical structure and ecological qualities. Of these factors, only the soil's nutrient content can be valued in terms of marketed proxies (that is, industrially produced fertilizer), as the soil nutrients are valued in terms of their least cost industrial fertilizer equivalent. Because of the fact that fertilizers are not sold separately in local markets, the 2011 price of compound NPK fertilizers (nitrogen, phosphorus and potassium) has been used to calculate the erosion's economic value. The lowest fertilizer price (taken from the regional dealers) was used.

18. **Reduced costs of the housing/relocation due to natural disasters and reduced flood control costs.** The Project's erosion control works will also reduce the likelihood of destructive flooding and landslides in the future, and therefore decrease the very high costs of repairs to damaged infrastructure and of the relocation of the population. The average housing/relocation costs collected over the past years in the two districts of the Project area (Mus and Bingöl) were TL 530 974 per year for Mus and TL 1 900 167 for Bingöl. For Elazığ, the indicative average cost per km² was calculated and applied to the area size of the province. The three provinces had no recent estimates of the costs incurred for the rehabilitation of infrastructure due to damage from floods or other disasters. The mission was provided with an estimate of expenses due to a flood that occurred in one district in Bingöl in 2006, including the costs associated with the repair to sewerage, drinking water supplies and bridges. The total expenses were estimated at TRY 39.9 million. As the Project area is located in a part of Turkey susceptible to flooding, this was assessed to be an acceptable indicator of the potential reduction in expenses incurred due to this type of natural disaster. Therefore, the total value was amortized over 10 years as an estimation of an average cost per year. Moreover, it was assumed that with Project, the rehabilitation costs due to floods damage will be reduced by 50% on average. This 'benefit' was assumed to begin in PY 6 after all the works are completed.

19. **Increased downstream agricultural production.** Downstream agricultural production will improve gradually as the management of the upstream catchment

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generates a more steady water flow to downstream areas, reducing risks for flooding and water shortages, and increase water availability for irrigation. Furthermore, downstream agricultural areas will be less prone to the impact of erosion, caused by excessive water flushing through waterways eroding brinks and fields. It is assumed that a typical farm will have 2.5 ha of agricultural land with the following cropping pattern: 10% orchards, 80% wheat/barley and 10% vegetables. A net benefit per hectare from an increased downstream agricultural production had been estimated at TL 69 per year. With the Project, a 20% increase in crop production and yields is expected on about 7 852 ha downstream agricultural land.

20. **Costs Stream.** The analysis includes the MRWRP's costs comprising the base costs (as extracted from the COSTAB tables with their physical contingencies but without price contingencies (therefore in constant values). These costs include investment costs for all Project components as well as their replacement (for infrastructure investments office and computer equipment/materials, etc.) and recurrent costs (mainly operation and maintenance for transportation, equipment and materials). Given the importance of the unskilled labour in the erosion control works, manual labour in the rehabilitation costs of the component two has been shadow-priced as indicated in Chapter II. All the replacement and recurrent costs related to the crops and activity models are already taken into account in the calculation of the models' profit margins for each model.

21. "MRWRP's overall Economic Internal Rate of Return (EIRR) is estimated at 8% over twenty years. The sensitivity analysis shows that this base rate is slightly more sensitive to shortfalls in benefits than cost increases of equal magnitude. A 20% cost increase or decrease of benefits results in both cases in the reduction of EIRR from 8% to 5%, whereas a 40% cost increase/benefit decrease generates a EIRR fall to 4 % and 3% respectively. The benefits, however, are difficult to assess with the existing data material. The Project design caters for this by establishing mechanisms for close monitoring of both physical erosion assessment and social economic benefits".

**Table 2: Calculation of the Overall EIRR
(000TL)**

	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10	PY11	PY12	PY13	PY14	PY15	PY16	PY17	PY18	PY19	PY20
Total Incremental Net Benefits	0	-1,181	-1,398	-521	2,398	9,862	10,077	10,273	10,464	10,648	10,785	10,240	9,616	8,994	8,988	10,840	10,832	10,824	10,818	10,825
Total Incremental Costs	2,616	8,712	13,703	19,073	17,787	3,962	3,208	1,464	2,326	3,389	2,306	362	362	362	1,464	2,326	3,065	2,306	686	
Cash Flow	-2,616	-9,893	-15,101	-19,593	-15,389	5,899	6,869	8,809	8,138	7,259	8,480	9,879	9,255	8,632	8,626	9,376	8,506	7,759	8,512	10,140
EIRR	8%																			
NPV	8,829																			

Table 3: Summary of Sensitivity Analysis

	EIRR
Base case	8%
Costs overrun by 20%	5%
Costs overrun by 40%	4%
Decrease in benefits by 20%	5%
Decrease in benefits by 40%	3%

VI. NON-QUANTIFIABLE BENEFITS

22. In addition to the quantified benefits described here above, the MRWRP is expected to generate global and regional benefits that would be extremely difficult to evaluate in monetary terms at this point in time. The magnitude and time horizon of

these benefits depend on various external factors and will only become discernible in the future. These non-quantifiable benefits (for now) will be mainly in terms of:

23. **Preservation of natural ecosystems, wildlife habitat and biodiversity;** Turkish forests contain a significant share of the country's biodiversity. Forest areas include semi-arid zone ecosystems dominated by oak species, which cover large areas in the Eastern Anatolia region. The forest area of the Murat river watershed hosts a great number of other floras of economic importance, including various medicinal, aromatic, industrial and ornamental plants. This forest area is also the major habitat for a rich genetic diversity of fauna, representing immeasurable ecological and economical value.

24. **Recreation.** Sites and facilities established within forest areas meet an important part of the demand for recreation in Turkey with a total of 316 forest recreation sites covering 11 034 ha (source; M. Pak, *Total economic value of forest resources in Turkey*, 2010) annually visited by around seven million people. The average entrance fee is about USD 0.85 per person. According to these data, the annual revenue from recreation is about USD 5 950 000. The Project area covering three provinces of the Eastern Anatolia is rich in natural and historical beauty. In Bingol province, the sites of Kigi Citadel, the Kupik and Ahpik Caves and the Harabe-koy, attract tourists every year; in Mus the natural beauty of high mountains and green high plateaus are also hosts to numerous historical assets such as the citadel at Malazgirt County.

25. **Carbon sequestration and reduction of greenhouse gases.** Vegetation and soil are widely recognized as carbon storage sinks. The Kyoto protocol makes provision for direct human-induced land use changes and vegetation recovering activities to be considered in relation to each country's greenhouse gases reduction target. Global off-site benefits of the Project associated with conservation measures that increase the biomass on the field and, hence, that lead to increased carbon sequestration. Although not directly comparable, different studies show (Nkonya et al., 2008b; Vagen 2005), that annual carbon accumulation due to conservation measures may be at the level of 0.2 to 0.7 tons per hectare. Earlier studies of carbon sequestration revealed a value of USD 3.5 per ton stored, though this value is debatable and is bound to fluctuate according to the evolution of carbon markets.

ANNEX 11

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ANNEX 12

COMPLIANCE WITH IFAD POLICIES

1. The design of the MRWRP is aligned to all relevant IFAD strategies and policies, including:

- Strategic Framework 2011-15;
- Targeting Policy – Reaching the Poor (2010);
- Gender Strategy;
- Engagement with Middle-Income Countries (MICs) (2011);
- Climate Change Strategy (2010);
- Environment and Natural Resource Management Policy (2011);
- Policy on Supervision and Implementation Support; and
- Environmental and Social Assessment Procedures.

2. Of these, the recent *Environment and Natural Resource Management Policy: Resilient livelihoods through the sustainable use of natural assets* has particular significance for the subject Project. The policy distills lessons learnt in previous IFAD initiatives that have sought to reduce rural poverty through interventions related to the environment. The ten core principles encapsulate both the core issues to be addressed and suggested approaches.

IFAD ENRM Policy: Summary of Core Principles

<p><i>IFAD will promote:</i></p> <ol style="list-style-type: none">1. Scaled-up investment in multiple-benefit approaches for sustainable agricultural intensification;2. Recognition and greater awareness of the economic, social and cultural value of natural assets;3. 'Climate-smart' approaches to rural development;4. Greater attention to risk and resilience in order to manage environment and natural resource related shocks;5. Engagement in value chains to drive green growth;6. Improved governance of natural assets for poor rural people by strengthening land tenure and community-led empowerment;7. Livelihood diversification to reduce vulnerability and build resilience for sustainable natural resource management;8. Equality and empowerment for women and indigenous peoples in managing natural resources;9. Increased access by poor rural communities to environment and climate finance; and10. Environmental commitment through changing its own behaviour.
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IFAD's Strategic Framework

3. **Targeting.** In order to ensure Project benefits reach IFAD's target group, target groups have been defined, a targeting strategy developed and means of operationalizing the strategy integration into Project design and implementation modalities have been identified. The latter includes geographic targeting of poor regions and districts; self-

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targeting as related to geographic targeting for most of the subsectors of MRWRP support, and empowerment and capacity building, (see Working Paper 2 Poverty, Gender and Targeting).

Table 1: Targeting Checklist Questions

Issues	Comments
1. Does the main target group – those expected to benefit most – correspond to IFAD’s target group as defined by the Targeting Policy (the extremely poor and food insecure)?	<i>The target group corresponds to those identified as poor in the most recent surveys and studies in Turkey (for example HBS 2008; Turkey’s statistic yearbook 2009; UNDP 2010). The incidence of food insecurity is minimal.</i>
2. Have target subgroups been identified and described according to their existing socio-economic characteristics, assets and livelihoods – with due attention to gender issues?	<i>Yes. See Annex 2 and Working Paper 2. Poverty, Gender and Targeting in Turkey.</i>
3. Is evidence provided of interest in and likely uptake of the proposed activities by the identified target subgroups?	<i>Yes, interest in up-take was expressed during fieldwork.</i>
4. Does the design document describe a feasible and operational targeting strategy in line with the Targeting Policy?	<i>Yes. See Annex 2 and Working Paper 2 Poverty, Gender and Targeting in Turkey.</i>
4.1 Geographic Targeting	<i>This is the main targeting mechanism of the Project and has been reviewed and justified.</i>
4.2 Enabling Measures	<i>Project approach is geared to real conditions and cultural norms, including prevailing gender roles. Measures include direct consultation of women in intervention planning and implementation.</i>
4.3 Empowerment and Capacity Building	<i>The Project features proactive community mobilisation and the generation of participatory modalities of natural resource rehabilitation and post-improvement maintenance.</i>
4.4 Direct Targeting	<i>In the form of (1) identifying the poor, (2) supporting their access to Project benefits, and (3) directly contacting them to participate.</i>
4.5 Attention to Procedural Issues	<i>Risks and potential obstacles posed by procedural issues, along with mitigating measures, have been outlined in Annex 2 and the supporting Working Paper 2.</i>
5. Monitoring Targeting Performance	<i>The strong M&E capacity of the Ministry with regard to physical natural resource rehabilitation and forestry would be supplemented with appropriate tracking of socio-economic and poverty reduction indicators by the Project.</i>

4. **Gender.** In the Turkish context and within the framework of current IFAD experience in the country, a number of measures and mechanisms would be implemented for supporting women’s involvement, including:

- Selection of service providers with proven capacity in working with women; when required this would include female facilitators;
- During the awareness raising, in the initial stages of the Project, and in subsequent village meetings, there would be separate sessions held with women to ascertain their opinions and needs;
- On a demand-driven basis, women would be given preferential access to appropriate activities such as poly tunnels and orchards;

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- Gender mainstreaming responsibilities would be integrated into the terms of reference of all Project staff as a principle to be respected; and
- M&E and knowledge management systems of the Project would be gender-disaggregated and would enable lessons to be learnt on how to support women's social and economic empowerment.

Table 2: Gender Checklist Questions

	Yes	No	Part	Issues and Recommendations
1. The Project document contains poverty and gender analysis data.	✓			
2. Based on the above, the Project articulates a gender strategy that aims to:				
<ul style="list-style-type: none"> • Expand women's access to and control over fundamental assets – capital, land, livestock knowledge and technologies; 			✓	<i>The Project has mainstreamed gender and provided for capacity building activities targeting women.</i>
<ul style="list-style-type: none"> • Strengthen their agency – thus their decision-making role in community affairs and representation in local institutions; and 			✓	<i>The Project would support their economic empowerment, collective action and participation in decision-making.</i>
<ul style="list-style-type: none"> • Improve wellbeing and ease workloads by facilitating access to basic rural services and infrastructures. 	✓			<i>The Project aims at decreasing workloads related to fuel wood collection by reducing demand (energy saving, alternative energy).</i>
3. The Project identifies operational measures to ensure gender-equitable participation in, and benefit from, planned activities, and in particular:				
<ul style="list-style-type: none"> • Sets specific targets in terms of proportion of women participants in different Project activities and components; 			✓	<i>Most of Component 2 would benefit the entire village, but given the physical nature of the work it would be largely done by men. Training and on-farm investments will target both women and men</i>
<ul style="list-style-type: none"> • Ensures women's participation in Project-related decision-making bodies; 			✓	<i>Culturally, women do not usually participate in the village administration. However the Project would seek to establish parallel women's groups to stimulate discussion and encourage greater input to decision making.</i>
<ul style="list-style-type: none"> • Clearly reflects actions identified in the gender strategy in the cost tables; 			✓	<i>Gender mainstreaming is part of the overall programme strategy and as such not necessarily identifiable in the cost tables. Nevertheless, specific provisions have been set forth as described in the PDR.</i>

**REPUBLIC OF TURKEY: MURAT RIVER WATERSHED REHABILITATION PROJECT (MRWRP)
FINAL PROJECT DESIGN REPORT
MAIN REPORT
ANNEX 12: COMPLIANCE WITH IFAD POLICIES**

	Yes	No	Part	Issues and Recommendations
<ul style="list-style-type: none"> Ensures that the Terms of Reference of the Project Organizing Unit include responsibilities for gender mainstreaming, especially at level of Project director, M&E officer, extension officer; 	√			<i>Gender is included in the ToR for all Project officers and key positions, including new and contract staff.</i>
<ul style="list-style-type: none"> Explicitly addresses the issue of present and likely availability of field staff to ensure outreach to women, and design activities accordingly; and 	√			<i>Villages accept technical visits from male staff – and women have been dealing with male vets in the absence of men in the house. Female staff would be recruited too, but are not essential for outreach to women.</i>
<ul style="list-style-type: none"> Establishes experience working with women and marginalized groups and willingness to work with these groups is a criterion for NGO selection. 	√			<i>Capacity for extension, working with women and participatory group development would be a requisite and would be supported by training during Project start-up.</i>
<p>4. The Project logframe and suggested monitoring system specify sex-disaggregated performance and impact indicators.</p>			√	<i>Where appropriate, for example for parts of Component 1 and 3, sex-disaggregated data is in the in the logframe and be contained in the monitoring system. Many of the environmental objectives of the Project would benefit households rather than individual members, and so sex-disaggregated data is not appropriate.</i>
<p>5. The Project provides opportunities for policy dialogue on issues related to gender equality and empowerment of women.</p>		√		<i>The approach to direct dialogue with women through separate meetings would stimulate some discussion and reflection on changing the gender approach at a local level. However, it would be an exaggeration to claim significant policy dialogue potential.</i>

Appendix 1: Environmental and Social Review Note

A. Introduction

1. The Environmental and Social Review Note (ESRN) for the Murat River Watershed Rehabilitation Project (MRWRP) was prepared in accordance with IFAD's new Environmental and Social Assessment (ESA) Procedures (2009) on the basis of information gathered by various mission members in the course of a Project Design Mission to Turkey in May–June 2011 and the Detailed Design Mission in October 2011.

2. As implied by its title the Project is expected to have an overall positive environmental impact and is considered under environmental classification of Category B.

B. Description of Project and Components

3. The overall goal of the MRWRP is to reduce poverty among the targeted upland communities of the Murat river watershed. The Development Objective of the Project is improved natural resources management in the upper catchment areas in the Murat Watershed, reducing poverty in participating communities. The three complementary Project components comprise: (i) Natural Resources and Environmental Management; (ii) Investments in Natural Resources; and (iii) Investments in Livelihood Improvement that, to a large extent, make use of the land, water and vegetation improvement in the watershed.

4. **Component 1.** The Natural Resources and Environmental Management component seeks to develop and mainstream participatory approaches to watershed planning and management. Innovative experiences gained from provinces planning and implementation will be reported to the national level where it will serve as input to MFWA policies and up-scaling within OGM's afforestation and watershed portfolio.

5. **Component 2.** Investments in Natural Resources would focus on *investments in degraded land and vegetation* that would interlink to activities in Component 3. The investments will be based on participatory village planning related to the restoration and sustainable use of depleted public goods and shared productive assets, notably soil and vegetation. Best practice of cost-effectiveness will be sought; both in relation to conserve soil quantity and quality as well as reducing unwanted flooding, sedimentation and other negative down-stream impacts.

6. **Component 3.** Investments in Livelihood Improvement is designed to deliver *demand-driven technical advice and opportunities to increase incomes and reduce expenditures for smallholders*. Financing would be provided on a cost-sharing basis for productive infrastructure investments and equipment such as improvements of animal shelters, drip irrigation or plastic tunnels for vegetable production. Furthermore, small-scale investments for water such as livestock drinking water access points and water collection ponds for small-scale irrigation would receive Project support. Interventions, which provide alternatives to environmentally negative livelihood strategies, will be selected and support the sustainable use of restored natural resources in Component 2. The component would also empower women particularly in sub-sectors where they are active partners, such as livestock and horticultural production while also reducing their workload regarding fuel-related household chores. These services would be provided by Government field staff or contracted service providers.

7. All three components of the MRWRP would have a positive environmental impact in terms of rehabilitation of natural assets, afforestation activities, support for energy

saving technologies, and issues related to water use efficiency, as well as building capacity and strengthening institutional know-how for the implementation and sustainability of these activities. This ESRN review all possible impacts and identify how the Project will manage its interventions to ensure they have positive impact on either the environment and natural resources or the Project's target groups.

C. Major Site Characteristics

8. The geographic targeting of the MRWRP is based on the poverty index and the extent of degradation of the natural resource base. Based on these criteria, the MRWRP would be implemented in the three remote and poor provinces of Elazığ, Bingöl and Muş located in the Murat river watershed in the Eastern Anatolia Region. According to the Socio-Economic Development Index (SEDI) Ranking developed by the State Planning Organization (SPO), the region ranks lowest among the seven regions of Turkey. Elazığ is among the medium degree developed provinces, while Bingöl and Muş are among the least developed provinces. In these provinces, the annual growth rate of population is below Turkey's average, net migration is negative (that is, people are mostly migrating out of the area due to lack of economic opportunities and access to social infrastructure).

9. There continue to be substantial socio-economic development disparities in contemporary Turkey between rural and urban areas, between lowland and upland areas, and between the western and the eastern provinces of the country. These have arisen from the structural transformation dynamics of the Turkish economy in which the contribution of industry and services has proportionately increased as a result of exports and domestic consumption driven growth and globalization. The widening income gaps have been manifested in substantial seasonal and permanent economic migration from rural to urban areas, from agriculture to other sectors, and abroad in search of employment opportunities and better socio-economic infrastructure.

10. In the upland villages of Eastern Turkey, many of the residents live at or below subsistence levels with scarce economic opportunities and poor living standards. The climate is harsh with permanent snow cover for about four months a year. Approximately 80,000 people live in the upland villages in the districts where the Project will be implemented. The main sources of livelihood for this upland village population are semi-subsistence agriculture combined with irregular remittances from seasonal migration and state welfare transfers.

11. The natural resources in the Project area areas have been heavily degraded due to overuse over hundreds of years, including overgrazing, unsustainable fuel wood harvesting, and poor agronomic practices. The resulting land degradation further impoverish the population living in upland villages as resources are depleted i.e. grazing becomes sparse, fuel wood collection more time consuming, and there is higher risk of damage to infrastructure from flooding and landslides.

12. The Turkish Government has accurately identified the scale of the problem and the technical, social, legal and cost challenges entailed in addressing and reversing the degradation of the natural resource base. The OGM has particularly risen to this challenge by creating the necessary capacity to invest in the restoration and management of land, water and energy resources in upland communities, in close partnership with the resident villagers.

D. Issues in Natural Resource Management

13. Unsustainable use of forest resources to meet increasing timber, fuel and fodder demand and the lack of effective soil conservation practices on agricultural land, such as cultivation on steep slopes, have resulted in widespread degradation of land and water

resources. Only 6.6% of the land in Turkey does not suffer from erosion with 7.2% slightly, 20.1% moderately, 36.4% severely and 22.3% very severely eroded. Reduced vegetative cover has led to marked reductions in soil moisture content, thus making agricultural lands more vulnerable to drought. Land degradation has led to unstable slopes and increased incidence of flooding, sedimentation problems, and landslides.

14. Project implementation is not expected to have any detrimental impacts on the natural resources – on the contrary, impacts are expected to be positive. Two key elements to success is the improved livestock management, which are expected to reduce the pressure on vegetation and thus soil degradation, and on the various erosion control measures to be implemented. The comprehensive monitoring of Project activities through erosion plots and sediment traps will help to quantify the how effective Project activities are. Environmental assessments, if deemed necessary, would be guided by the Project Implementation Manual (PIM) to ensure that Project interventions conform to the principles of sustainable management of natural resources in each individual case.

E. Climate Change

15. Predictions and knowledge of global climate change's impact on the world's countries and regions are still limited. However the comprehensive modelling of climate change, mainly commissioned by the IPCC, brings some overall conclusions which coincide with recent climatic observations: The temperature rises and the weather becomes more variable and erratic with more severe storms and frequent droughts. For mountainous regions in the Eastern Anatolia, climate change will most probably have both negative and positive impacts. The winters are expected to be shorter, which will significantly improve the overall wellbeing of the people living in upland villages. Higher temperatures will increase agricultural productivity and it will be possible to cultivate new and higher yielding varieties of crops and vegetable. On the negative side there may be more intense rainfall over short periods and there may also be prolonged periods of droughts. These negative elements are however rather speculative and may fluctuate over the next decades. What is important, however, is to build resilience into the livelihood systems of the upland village populations to be able to cope with the expected fluctuations in the climate. Thus, it is important to promote an overall improvement of people's livelihood, coupled with measures to retain soil moisture, stabilise slopes, gullies and waterways, and collect water for watering animals and irrigation purposes.

F. Potential Social and Environmental Impacts and Risks

16. The Project would adopt a participatory, demand-driven approach based on the MC as a unit of intervention. The Project would work to increase the willingness of communities to engage in Project-sponsored interventions.

17. The only potential environmental issue faced by the Project is associated with the management and disposal of construction material waste and excavation materials during small-scale renovation/rehabilitation related to the civil works investments under the MRWRP (e.g. small water ponds, rehabilitation of on-farm canals, drinking water troughs). In these investments, the relevant environmental guidelines would be applied throughout the investment decision-making process. The Project would be responsible to ensure that all necessary environmental mitigation measures are built into designs and implemented during supervision of civil works. All earthworks that relate to erosion mitigation and forestry activities will be based on best practices that are *de rigueur* for OGM. Measurement of erosion, run-off and sedimentation will be part of the regular monitoring, and will be part of the documentation of the activities' environmental impact.

18. No major shift in designated land use is envisaged. Any irrigation works would be associated with the improvement and modernization of existing schemes and may

involve a slight spatial expansion of farming area as result of improved water use efficiency and access to such. Investments in livestock drinking points would only be on existing pastureland where the carrying capacity would be incorporated into investment decision-making procedures. It is not anticipated that any Project-supported investment would involve the opening up of new areas or major infrastructure works.

G. Environmental Category

19. The Project document clearly describes the proposed activities. This is a natural resource rehabilitation Project and is expected to promote short, medium-, and long-term environmental benefits. The supported interventions are not expected to result in any negative environmental outcomes.

20. The Project's design would inherently help to reduce pressure on natural resources and assist men and women to engage in more productive farming that would help to support livelihoods. It would promote more efficient use of the natural resources and energy and thus enhance the resilience of rural households to shocks and reduce their vulnerability to extreme weather events. The thrust of the Project's interventions and investments are directed to improve a fragile and damaged ecosystem, thus the MRWRP is proposed to be classified as Category B.

H. Further Information Required

21. No further information is required to complete the environmental screening and scoping exercise for the Project.

I. Recommended Features of Project Design and Implementation

22. The Project does not have any major infrastructure investment activities, and the work to be undertaken is limited to afforestation, grazing land restoration, small-scale irrigation and piloting of animal waste management approaches. These activities are expected to positively contribute to the environmental, social and health wellbeing of the communities involved.

23. Turkey has ratified all the most relevant environmental conventions – Convention on Biodiversity (CBD), UN Framework Convention on Climate Change (UNFCCC), Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar), UN Convention to Combat Desertification (UNCCD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) – and related national policies and strategies have been introduced and to a great extent incorporated into relevant legislation. Turkey is a potential candidate country for EU accession. Hence, necessary environmental legislation exists and would form the overarching regulatory requirements for implementation of Project activities.

J. Monitoring Aspects

24. The beneficiary communities would receive the requisite training to participate in rehabilitation work. Impact monitoring will include the participation of communities in the monitoring of erosion with different treatments. Monitoring of the work would be embedded within the Project's M&E system. The incorporation of Project baseline and M&E data would be Geographic Information System (GIS) based and would ensure for precise monitoring of the Project outcome. The collection of data to be layered within this system would also allow for monitoring (as detailed in Annex 6) the relationship between Project implementation and poverty reduction in the Project area.

25. The OGM and the Project's OU would be responsible for adherence to the requirements of the environmental legislation of Turkey and IFAD Guidelines on Environmental Assessment in order to avoid any unforeseen negative impacts, and, if and when necessary, to introduce appropriate mitigation measures.

26. In the course of its supervision missions, IFAD would review regularly the relevant Environmental Assessment documents and implementation of the recommended measures for randomly selected activities.

ANNEX 13

CONTENTS OF THE PROJECT LIFE FILE

1. Project Concept Note (April 2011)
2. OSC minutes of Project Concept Note (6 May 2011)
3. CPMT meetings minutes (5 April and 23 June 2011)
4. Design Mission BTO and Aide-Memoire (June 2011)
5. Design Mission TORs
6. COSOP 2006
7. COSOP Addendum 2011-2012
8. QE Panel Report 5 Oct. 2011
9. Project Design Report and Annexes
10. **Working Papers (WPs):**
 - WP 1: Natural Resource Rehabilitation and Poverty Reduction
 - WP 2: Rural Poverty
 - WP 3: Project Costs and Financing
 - WP 4: Financial and Economic Analysis