# APPENDIX-4 Socio-economic Environmental Inventory

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# INVENTORY CONCERNED ON SOCIAL AND ENVIRONMENTAL ASPECTS

# Inventory concerned on Social and Environmental Aspects

Number o	Selected Villages	1	·····	
No.	10 Douar		Tizi Oussen	)
C.R.	11	Ouirgane	Cercle	1 Asni

Location							
Latitude	N31	7	18 Longitude	W7	58	33 Aftitude	1,800 (m)

Households and Population

	Yr 1996	Yr 2010
Households	72	86
Population	411	537

Working Me	mber per ho	uschold
Agriculture	2.00	household
Non-agri.	1.00	household
Tetal	3.00	household

www.com		
ist	13.0	(km)
ath	3.5	(lun)
otal	16.5	(km)

House Conditions

House size.1	ouschold	Structure	of House	Number o	f houses
Rooms	(m2)	Tradition	Medern	Single	Plural
16	310	100%	0%6	75%	25%

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# Education Ratio

Education	Village	rs over 7 ye	ars old	Child	ren (7-12yea	rs old)
Level	Tetal	Male	Female	Total	Male	Female
None	59.1%	46.2%	77.8%			
Koranis	40.9%	53.8%	22 2%			
Fundamental	31.8%	38.5%	22.2%	60.0°á	100.0%	33.3%

# Annual Budget per Household

P

Т

Agri.	45,384	56.6%
Livestock	5,635	7.0%
Forestry	69	0.1%
Others	29,050	36.2%
Total	80,138	100.0%
Expend.	28,800	
Saving	51,338	<u> </u>

Land holding and Cultivated land (ha/household)

Total			Cult	ivated Crops	(ha househo	(ble		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alm.	Apples,	Total
2.63	0.33	0.11	0.00	0.00	0.13	0.00	1.85	2.42
Sold Ratio (%)	0.0	00	0.0	0.0	90.0	0.0	100.0	
Inigation (%)	50.0	100.0	0.0	0.0	100.0	0.0	66.7	

Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.50	12.50	0.00	7.75	0.25	0.00	0.00	22.00

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking	g Water		l li	rigation Wat	:1
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	6%	100%	6%	0%	100%	75%	0%6
Satisfaction	0%6	100%	<b>C%</b> 6		0%	100%	0%6
Quality		good				good	
Shortage		yes				yes	
Frequency (yr)		1/1				1/1 -	

<Environmental Conditions informed by Village Leader>

Awareness of over deforestation causing soil erosion =

Over-cutting	ស
Degree	ກວກປ

Over-grazing	no
Degree	none

Possible Alt	emative Ener	gy of Firewo	xd
Energy	yes	no	

Gas	100%	6%6
Electricity	100%	6%

Opinion of Leader on Irrigation water for Hydropower Generation.

363	100.4
nə	0°6

Damages by Natural Disasters

Disasters	yes
Floods	100%
Landslide	0%

Socio-1

yes

no

100%

0%

- 1

Number	r of Selected Vi	llages	1							
No.	20	Douar		Id Aissa						
C.R.	11		Ouirgane Cercle 1 Asni			Ouirgane Cercle		Asni		
Location										
Latitude	N31	8	43	Longitude	W7	58	47	Altitude	1,740	(m)
Households ar	nd Population			Working Me	mber per ho	uschold		Access (km	)	
	Yr 1996	Yr 2010		Agriculture	2 00	household		Pist	13.0	(km)
Households	44	52		Nen-agri.	0.83	household	İ	Path	1.5	(k51)
Population	180	218		Total	2.83	household		Total	14 5	(km)
House Conditi	ons									
House size	shousehold	Structure	of House	Number o	f houses	An	nual Bo	dget per Ho	usehold	
Rooms	(m2)	Tradition	Medern	Single	Plural			Agri.	55,151	78.5%
7	219	100%6	Ú%	100%6	0%6			Livestock	11,100	15.8%

# Education Ratio

Education	Villagers over 7 years old		Children (7-12years old)			
Level	Total	Male	Female	Total	Male	Female
None	58.1%	40.0%	90.9%			
Koranie	41.9%	60.0%	9.1%	· ·		
Fundamental	19.4%	25.0%	9.1%	65.7°a	100.0%	0.0%

Ferestry	0	0.0%
Others	4,000	5.7%
Total	70,251	100.0%
Expend.	15,123	
Saving	55,127	

Land holding and Cultivated land (ha household)

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Total	Cultivated Crops (ha household)							
Land (ha)	W. Cereal	S. Cereal	I egumes	Vegetable	Potatoes	Olive,Alm.	Apples,	Total
2.21	1.00	0.47	0.00	0.00	0.75	0.00	2.07	4 2 8
Sold Ratio (%)	0.0	0.0	0.0	0.0	89.7	0.0	98.8	
Irrigation (%)	6.7	100.0	0.0	0.0	100.0	0.0	80.0	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Peultry	Mule	Horse	Others	Total
				Donkey			
2 33	4.33	24.67	26.83	0.83	0.00	0.00	59.00

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	Drinking Water				la	rigation Wate	<b>د ۲</b>		
Conditions	River	Spring	Well	Tank	River	Spring	Well		
Water Source	0%	83%	17%5	0%i	100%	0?0	0%		
Satisfaction	0%	80%	100%		67%	Ū?;;	0%;		
Quality		good				good			
Shortage		<i>96</i>				yes			
Frequency (yr)	1/1				query (yr) 1/1 1/1			1/1	· · ·

<Environmental Conditions informed by Village Leader> Awareness of over deferestation causing soil erosion =

ran or ence se	010101	warestantes	crowing s	on tres

yes	100%
no	0%

# **Opinion of Leader** on Irrigation water for Hydropower Generation.

yes	100%
กจ	0%

Forest Condition	1
Over-cutting	no
Degree	none
Over-grazing	no
	110
Degree	none

Possible All	emative Fner	gy of Firewood
Farmer		

L'ARTS!	368	
Gas	100%	0%
Electricity	0%á	100%

Damages by Natural	Disasters

Diststers	yes
Floods	100%
Landslide	0%6

No. 30 Douar	Tassa Ouirg	ane	
C.R. 11 Ouirgane	Cercle	1	Asm

Households and Population				
	Yr 1996	Yr 2010		
Households	55	65		
Population	375	454		

Working Member per household				
Agriculture	1.71	heusehold		
Non-agri.	0.43	household		
Total	2 14	household		

Access (km)	)	
Pist	6.0	(kn)
Path	0.0	(km)
Total	6.0	(km)

House Conditions

1	House size1	nouschold	Structure	Structure of House		Number of houses	
	Rooms	(m2)	Tradition	Modern	Single	Ploral	
1	6	153	100%	0%	100%	0%5	

# Education Ratio

Education	Village	rs over 7 ye	ars old	Child	rea (7-12) ea	rs old)
Level	Total	Male	Female	Total	Male	Female
None	68.1%	55.6%	75.9%	:		
Koranie	31.9%	11.4%	24.1%			
Fundamental	31.9%	44.4%	24.1%	45.5%	100.0%	40.0%

# Annual Budget per Household

Agri	33,010	73.9%
Livestock	4,826	10.8%
Forestry	0	0.0%
Others	6,857	15.3%
Total	44,693	100.0??
Expend.	16,014	
	20 (0)	
Saving	28,679	

# Land holding and Cultivated land (ha household)

Total			Cult	ivated Crops	(ha househo	old)		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alea	Apoles,	Total
3.42	0.00	0.00	0.00	0.05	0.14	0.37	1.26	1.82
Sold Ratio (%)	0.0	0.0	0.0	81.7	88.0	\$8.6	100.0	
Inigation (%)	0.0	100.0	0.0	100.0	100.0	20.0	33.3	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.14	2 57	2.86	16.14	0.57	0.00	0.00	23 29

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking	g Water		l la	rigation Wate	গ
Conditions	River	Spring	Well	Tank	River	Spring	Wel
Water Source	29%	86%	0%	0°6	100%	43°6	0%
Satisfaction	50%6	100%	0%		57%	100%	0%
Quality		boca				good	
Shertage		yes				yes	
Frequency () r)		1/1			1	1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

yes	100%
no	0?¢

Forest Condition	3
Over-cutting	ກວ
Degree	none
Over-grazing	
Degree	none

Energy	yes	ກວ
ias	100%	0%
lectricity	0%	100%

Opinion of Leader on Irrigation water for Hydropower Generation.

yes	100%
no	0° i

Disasters	7.62
Floods	100%6
Landslide	0%6

	ar of Selected Vil		1		·	
No.	40	Donar		Igrem		
C.R.	12		Imgdal	Cercle	1	Asni
Location					-	
	N31	4	37 Longitude	W8 2	50 Altitude	1,750 (m)
Location Latitude Households a	N31 and Population	4		W8 2	50 Altitude Access (kr	<u> </u>

#### 1996 Households 27 32 Population 130 157

Agriculture	2 50	household
Non-agri.	0.17	heusehold
Total	2.67	heusehold

Access (km)	•
Pist	15.0 (km)
Path	0.5 (km)
Total	15.5 (km)

# **House Conditions**

House size 1	household	Structure	of House	Number c	of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
7	177	100%6	0%6	83%	17%

# Annual Budget per Household

Agri.	56,414	27.1%
Livestock	15,753	21 5%
Forestry	0	0.0%
Others	1,000	1.4%
Total	73,168	100.0%
Expend.	22,513	
Saving	50,654	

# Education Ratio

Education	Villagi	ers over 7 je	ars old	Child	uen (7-12ye	ars old)
Level	Total	Male	Female	Total	Male	Female
None	85.2%	76.5%	100.0%			
Koranie	14.8%	23.5%	0.0%		1	
Fundamental	7.4%	11.8%	0.0%	66.7%	66.7%	#DIV/0!

# Land holding and Cultivated land (ha household)

Total			Cult	tivated Crops	(ha househo	old)		
Land (ha)	W. Cereal	S. Cereal	Legames	Vegetable	Potatoes	Olive, Alm_	Apples,	Total
1.92	1.25	0.71	0.00	0.08	0.03	0.35 ·	2 2 2	4.69
Sold Ratio (%)	0.0	0.0	0.0	77.2	100.0	83.3	100.0	
Inigation (%)	80.0	100.0	0.0	100.0	100.0	33.3	50.0	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
2.83	16.17	43.33	32 00	0.83	0.00	0.00	95.17

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		L	rigation Wate	:г
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%	100%	6%	0%6	83%	33%	0%
Satisfaction -	0%i	83%	0%		60%	100%	0%
Quality		good			[	good	
Shortage		પુરક				yes	
Frequency (yr)		1/1				1/1	-

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

	•
yes	100%5
nə	0?;

# **Opinion of Leader**

on Irrigation water

fer Hydrep	ower Generation.
yes	100%
no	ة O <sup>9</sup>

#### Forest Condition Over-cutting no Degree none

Over-grazing	nə .
Degree	none

Possible Alt			
	· · · · · · · · · · · · · · · · · · ·	T	

Energy	2.58	no
Gas	100%	6%
Electricity	0%	100%

Disasters	yes	
Floods	100%	
Landslide	100%	

N	f Selected Village 60 Dec	 <u> </u>	Alla Ou		
No. C.R.	13	 at N Yaccub	Cerck	1	Asoi

Households and Population						
	Yr 1996	Yr 2010				
Households	40	-48				
Population	280	339				

Working Member per household					
Agriculture	2 00	household			
Non-agri.	0.33	household			
Total	2 33	household			

Access (km)		
Pist	1.5	(km)
Path	2.0	(km)
Total	3.5	(km)

# House Conditions

House size-household		Structure	ofHouse	Number (	of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
7	167	100%	6%	100%	0%á

# Education Ratio

Education	Villagers over 7 years old			Child	ren (7-123 ea	rs old)
Level	Total	Male	Female	Total	Male	Female
None	58.5%	33.3%	85.0%			
Koranie	41.5%	65.7%	15.0%			
Fundamental	34.1%	52.4%	15.0%	83.3%	100.0%	50.0%

# Annual Budget per Household

Agri.	7,882	44.9°6
Livestock	7,223	41.2%
Forestry	0	0.0%
Others	2,433	13.9%
Total	17,539	100.0%
Expend.	11,825	
Saving	5,714	<b>.</b>

# Land holding and Cultivated land (ha household)

Total		Cultivated Crops (ha household)						
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alm.	Apples,	Total
1.68	1.00	0.08	0.00	0.00	0.08	0.64	0.20	2 01
Sold Ratio (%)	0.0	0.0	0.0	0.0	100.0	·98.0	95.4	
Inigation (%)	60.0	100.0	0.0	100.0	100.0	50.0	66.7	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
			•	Donkey			
1.83	1.67	8.33	7.67	1.00	0.00	0.00	20.50

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking Water			Ir	rigation Wate	:r
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	17%	83%	0%	0%6	17%	83%	0%6
Satisfaction	100%	100%	0%		100%6	100%	0%
Quality		good			-	good	
Shortage		yes				yes	
Frequency (yr)		1/1			··· · · · · · ·	1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

	-
yes	100%
ло	<b>0</b> %

# Opinion of Leader on Irrigation water for Hydropower Generation

yes	0%6
110	100%

Forest Condition	
Over-cutting	no
Degree	none
Over-grazing	60 
Degree	none

Possible Alt	ernative Energ	gy of Firewood	
Form	1.05	50	

CIRIBY	303	
Gas	0%6	100%
Electricity	100%	0%

Disasters	) = 5	
Floods	0%ó	
Landslide	0%ó	

.*	\$ 7 7		

Number of	[Selected Villages				
No.	70 Douar		1d Ssier		
CR.	14	ljouksk	Cercle .	1	Asni

Latitude	N31	1'	19	Longitude	W8	5'	 1201405	1,650 (m)
•							 	

Households and Population					
	Yr 1996	Yr 2010			
Households	66	78			
Population	500	605			

Working Member per household					
Agriculture	3.50	household			
Non-agri.	0.63	household			
Tetal	4.13	household			

Access (km)	. ·	
Pist	0.0	(km)
Path	6.0	(km)
Total	6.0	(kn)

40.6%

#### House Conditions

House size 1	House size household		Structure of House		of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
10	218	100%	0%	88%	13%

# Education Ratio

Education	Villag	ers over 7 ye	ars old	Child	ren (7-12yea	urs old)
Level	Total	Male	Female	Total	Male	Female
None	75.7%	60.0%	96.7%			
Koranic	24 3%	40.0%	3.3%			
Fundamental	14.3%	22.5%	3.3%	30.8%	50.0%	14 3%

#### Agri. 9,440 Livestock 13.298

Annual Budget per Household

Livestock	13,298	57.2°6
Forestry	0	0.0%
Others	495	2.1%
Total	23,233	100.0%
Expend.	20,625	
Saving	2,608	

# Land holding and Cultivated land (ha household)

Total			Cul	livated Crops	(ha househo	ild)		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatees	Olive,Alm.	Apples,	Total
2.19	1.38	0.29	0.00	0.00	0.00	1.26	0.16	3.08
Sold Ratio (%)	0.0	0.0	0.0	0.0	0.0	96.0	98.6	
Irrigation (%)	50.0	60.0	0.0	0.0	0.0	62.5	66.7	

# Number heads of Livestock per household

Cattle	Sheep	Geat	Poultry	Mule	Horse	Others	Tetal
				Donkey		•	
2.13	18.13	40.63	9.38	0.63	0.00	0.00	70.88

# Water Sources, Satisfaction, Water Obality, and Water Shortage

Hydrological		Drinkin	g Water		· I	rigation Wate	۲.
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%6	100%5	0°ó	0%6	25%	100%	0%6
Satisfaction	6%	88%	0%		50%	75%	0%
Quality		good				good	
Shortage		yes			F	)'es	
Frequency (yr)		1/1				1/1	

<Environmental Conditions informed by Vallage Leader> Awareness of over deforestation causing soil erosion =

1,52	100%
no	0%

# Opinion of Leader on Inigation water

for Hydropower Generation.

.

yes	<b>0</b> %6
ro	100%6

Energy	yes	no
Gas	0%6	100%5
Electricity	100%	0%a

Possible Alternative Energy of Firewood

Damages b	y Natural Disasters

Disasters	yes	
Floods	0%	
Landstide	0%6	

Forest Condition	•
Over-cutting	กจ
Degree	nene
	· ·
Over-grazing	กง
Degree	nope

No. 80 Douar Aghella	
C.R. 15 Ighil Cercle 1 ASI	Asni

L			
Households ar			Working ! Agricultor
	Yr 1996	Yr 2010	]
Households	64	76	Non-agri

477

394

Working Meml	ver per ho	usehold
Agriculture	2 2 5	household
Non-agri	0.13	household
Total	2.38	household

Access (kn)	)	
Pist	10.0	(km)
Pash	15.5	(km)
Tetal	25.5	(km)

# House Conditions

Population

House size 1	nousehold	Structure	of House	Number o	fhouses
Rooms	(m2)	Tradition	Modern	Single	Plural
. 8	169	100%	0%	100%	0%

# **Education Ratio**

Education	Village	rs over 7 ye	ars old	Child	ren (7-12 yea	rs old)
Level	Total	Male	Female	Total	Male	Female
None	66.0%	56.5%	75.0%			
Koranie	34.0%	43.5%	25.0%			
Fundamental	21.3%	17.4%	25.0%	57.1%	40.0%	65.7%

# Annual Budget per Household

Agri	11,620	38.4%
Livestock	17,047	56.4%
Forestry	0	0.0%
Others	1,563	5.2%
Total	30,230	100.0%
Expend.	13,200	
Saving	17,030	

# Land holding and Cultivated land (ha household)

Total			Cult	ivated Crops	(ha househo	(bla		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Polatees	Olive, Alm.	Apples,	Total
0.97	0.78	0.13	0.00	0.03	0.22	0.10	0.39	1.65
Sold Ratio (%)	0.0	0.0	0.0	75.4	84.3	96.6	100.0	
Irrigation (%)	90.0	100.0	<u> </u>	100.0	100.0	100.0	100.0	

# Number heads of Livestock per household

Catile	Sheep	Goat	Poulary	Mule	Horse	Others	Total
				Donkey			
1.50	49.50	31.25	6.50	0.88	0.00	0.00	89.63

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	<u> </u>	Drinking	g Water		lr Ir	rigation Wald	r
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	63%6	38%	0%6	0%	100%	0%5	0%
Satisfaction	100%	100%	0%		100%	Û° o	0%
Quality		good				good	
Shortage		yes			·	yes	
Frequency (yr)	- · · ·	М				1/10	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

yes	100%
េល	0%5

Forest Condition Over-cutting no Degree none Over-grazing no Degree none

Possible Alt	emative Energ	gy of Firewood
(r)		

Energy	lee	กจ
Gas	0%	100%
Electricity	100%	0%

Opinion of Leader on Irrigation water for Hydropower Generation. #DIV.01 1.00

)0	#D14.0:
no	#DIV/0!

Disasters	yes
Floods	6%
Landslide	0%

Socio-7	

Latitude	N30				1,100((iii)
Location		55' 55 Longitude	W8 231	54 Altitude	1,700 (m)
C.R	16	Aghbar	Cercle	1	Asni
No.	90 Dou	ar	Ikiss		
	of Selected Village				

[	Yr 1996	Yr 2010
Households	68	81
Population	389	471

Agriculture	1.75	household
Nen-agri	0.38	household
Total	2.13	household

#### Pist 16.5 (km) Path 4.0 (km) 20.5 (km) Total

# **House Conditions**

House size 1	nousehold	hold Structure of House Number of houses			of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
8	141	100%	0%6	100%5	0%

# **Education Ratio**

Education	Village	ers over 7 ye	ars old	Children (7-12years old)			
Level	Total	Male	Female	Total	Male	Female	
None	77.5%	71.4%	91.7%			· ·	
Koranie	22.5%	28.6%	8 3%				
Fundamental	17.5%	21.4%	8.3%	50.0%	50.0%	50.0%	

# Annual Budget per Household

Agri.	8,691	40.4%
Livestock	8,485	39.5%
Forestry	0	0.0%
Others	4,313	20.1%
Total	21,489	100.0%
Expend.	17,025	
Saving	4,461	

# Land holding and Cultivated land (hathousehold)

Total	Cultivated Crops (ha household)							
Land (ha)	W. Cereal	S. Ccreal	Legumes	Vegetable	Polatoes	Olive, Alm.	Apples,	Total
0.88	0.66	0.47	0.00	0.03	0.13	0.39	0.21	1.88
Sold Ratio (%)	0.0	00	0.0	77.2	880	100.0	99.4	
Irrigation (%)	100.0	100.0	00	100.0	100.0	100.0	100.0	

# Number heads of Livesteek per household

Cattle	Sheep	Goat	Poultry	Mole	Horse	Others	Tetal
				Donkey			
1.50	8.75	18.13	37.50	0.88	0.00	0.00	66.75

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	Drinking Water				Irrigation Water			
Conditions	River	Spring	Well	Tank	River	Spring	Well	
Water Source	0%6	100%	0%5	0%	25%	88?0	0°.i	
Satisfaction	0%6	100%5	<u>0</u> ?6		50%	86%	0%	
Quality		good			<u> </u>	good	· · · · ·	
Shortage		7.62				yes		
Frequency (yr)		1/1	-		t	1/1		

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

	-
):es	100%
no	0%

----

# Opinion of Leader on Inigation water for Hydropower Generation.

ici injareponer otnera			
yes	0%		
110	100°é		

Forest Condition			
Over-cutting	no		
Degree	กงกง		
Over-grazing	yes		
Degree	Cair		

	rgy of Firewood
(c	

Energy	2.52	no
Gas	100%	Û?a
Electricity	0%	100%

Damages b	y Natural	Disasters
D'antes		-

Disastas	1.62
Floods	0%6
l andslide	0%6

100 Douar		Amsakrou		
17	Asni	Cercle	1	Asni
	100 Douar 17		100 Execution	The focus

Households an	nd Population	
[	Yr 1996	Yr 2010
Households	55	65
Population	420	508

Working Member per household				
Agriculture	2.00	household		
Non-agri	0.83	household		
Total	2 83	household		

Access (km)	)	
Pist	10.0	(km)
Path	3.5	(km)
Total	13.5	(km)

# House Conditions

House size 1	House size-household		Structure of House		of houses
Rooms	(m2)	<b>Tradition</b>	Modern	Single	Plural
12	358	100%	0.5%	100%	0%

# **Education Ratio**

Education	Villagers over 7 years old			Children (7-12years old)			
Level	Total	Male	Female	Total	Male	Female	
None	68.4°6	52.0°é	100.0%				
Koranie	31.6%	48.0%	0.0%				
Fundamental	15.8%	24.0%	0.0%	33.3%	60.0%	0.0%	

# Annual Budget per Household

Agri.	49,027	77.1%
Livestock	12,947	20,4%
Forestry	900	1.400
Others	700	1.1%
Total	63,574	100.6%
Expend.	23,217	
Saving	40,357	

# Land holding and Cultivated land (ha household)

Total		Cultivated Crops (hathousehold)							
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Polatoos	Olive,Alm.	Apples,	Total	
4.04	1.79	0.58	0.00	0.42	0.50	0.10	1.81	5.20	
Sold Ratio (%)	0.0	0.0	0.0	80.0	75.2	93.3	98.4		
Inigation (° c)	50.0	100.0	0.0	100.0	100.0	50.0	51.5		

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	bry Mule Horse		Others	Tetal
			:	Donkey			
1.83	29.17	40.00	31.67	0.83	0.00	0.00	103.50

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking	g Water		Inigation Water		
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%6	100%	0%6	0%6	100%	50%	0%
Satisfaction	0%	100%	0%		67%	100%	<b>6</b> %5
Quality		good				good	
Shortage		352				758	
Frequency (yt)		1/1			[	1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crosion =

_	
Yes	100%
no	0%

# **Opinion of Leader** on Irrigation water for Hydropower Generation 100% )'es

Forest Condition	
Over-cutting	no
Dogree	none
Over-grazing	no
Degree	

	Possible Alternative Energy of Firewood						
Feacet	1:25	na					

rucigy	)0	110
Gas	100%	0%
Electricity	0%	100%6

0% no

Disasters	yes
Fleeds	100%
Landslide	0?6

Number	of Selected V	ollages	1					
No.	· • • • • • • • • • • • • • • • • • • •	Donar Donar						
C.R.	17	/	Asni Cerele			1 Asni		
Location								
Atitude	N31	11	17 Longitude	W7	55	19 Altitude	1,580 (a)	
llouseholds an	d Population		Working Memb	er per he	uscheid	Access (1	(m) -	
	Yr 1996	Yr 2010	Agriculture	2.56	/household	Pist	10.0 (km)	
Households	75	89	Non-agri.	0.11	household	Path	0.5 (km)	
Population	1,020	1,234	Total	2.67	household	Total	10.5 (km)	

# **House Conditions**

House size/household		Structure	of House	Number of houses		
Rooms	(m2)	Tradition	Modern	Single	Plural	
7	138	100%	0?o	100%	0%	

# Education Ratio

Education	Villagers over 7 years old			Children (7-12years old)		
Level	Total	Male	Female	Total	Male	Femsle
None	77.6%	59.3%	100.0%			
Koranie	22.4%	40.7%	0.0%		<u>}</u>	
Fundamental	14.3%	25.9%	0.0%	41.7%	83.3%	0.0°5

# Annual Budget per Household Agri. 30,189

Agri.	30,189	81.7%
Livestock	5,353	14.5%
Ferestry	0	0.0%
Others	1,400	3.8%
Total	36,942	100.0%
Expend.	14,400	•
Saving	22,542	

# Land holding and Cultivated land (ha household)

Tetal	Cultivated Crops (ha household)							
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Ohve, Alaı.	Apples,	Total
2 67	0.61	0.22	0.00	0.00	0.56	0.10	1.10	2.58
Sold Ratio (%)	0.0	0.0	0.0	0.0	87.5	100.0	98.7	
Irrigation (%)	71.4	75.0	0.0	0.0	100.0	0.0	50.7	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total	
				Donkey				
1.56	0.11	8.22	10 22	0.89	0.00	0.00	21.00	

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking	g Water	,	L 1	rigation Wate	r
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	33%	100%5	0°o	0%	100%	78°6	0%5
Satisfaction	100%5	78%	Ç9 o		56%	57%	6%
Quality		good				good	
Shortage		no			<u> </u>	no	
Frequency (57)		1:0			}	1/20	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

7.62	100%
BØ .	0%

. •

# **Opinion of Leader** on Irrigation water for Hydronower Generatio

ton uzarob	ower Generation
yes	100%
по	0°0

Forest Condition	
Over-cutting	ກວ
Degree	none
·····	
Over-grazing	yes

Possible Alt	emative Ener	gy of Firewood
Freirer	364	80

CUELKS	362	no
Gas	100%6	0%
Electricity	100%	0%

.

Damages	by Natural Disasters
12	11

Disasters	yes
Floods	100%
Landslide	0%

No.	120 Douar		Tipethouhri	ine	_
? R.	17	Asoi	Carcle	1	Asni

)

Households and Population						
	Yr 1996	Yr 2010				
Households	30	36				
Population	250	302				

Working Member per household					
Agriculture	2.50	household			
Non-agri.	0.75	household			
Total	3.25	household			

Access (km)	)
Pist	10.0 (km)
Path	3.5 (km)
Total	13.5 (km)

House Conditions

House size/	nousehold	Structure	of House	Number of houses		
Rooms	(m2)	Tradition	Modern	Single	Plural	
9	375	100%6	0%6	100%	0?6	

**Education Ratio** 

Education	Villagers over 7 years old			Children (7-12years old)			
Level	Tetal	Male	Female	Tetal	Male	Female	
None	82.8%	76.9%	87.5%				
Koranie	17.2%	23.1%	12.5%				
Fundamental	10.3%	7.7%	12.5%	16.7%	0.0%	20.0%	

Annual Budget per Household

Agri.	11,091	48.1%
Livestock	9,445	41.0°è
Forestry	0	0.0°%
Others	2,500	10.9%
Total	23,036	100.0°¢
Expend.	18,170	
Saving	4,866	

# Land holding and Cultivated land (ha household)

Total		Cultivated Crops (ha household)						
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Alm.	Apples.	Total
1.06	0 50	0.19	0.00	0.06	0.13	0.14	0.40	1.41
Seld Ratio (%)	0.0	0.0	0.0	77.2	94.0	100.0	96.3	
Irrigation (%)	100.0	100.0	0.0	100.0	100.0	100.0	66.7	

# Number heads of Livestock per household

Cattle	Sheep	Geat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.50	0.00	28.75	11.50	1.25	0.00	0.00	43.00

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	Drinking Water			li li	rigation Wate	:r	
Conditions	River	Spring	Well	Tank	River	Scring	Well
Water Source	25%	75%	0%6	035	100%6	25%	C%á
Setisfaction	100%	100%	0%6		\$0%	100%	0%
Quality	· · · · · · · · · · · · · · · · · · ·	good				good	
Shortage		yes			[	પ્રહ	
Frequency (yt)		1/1			1	1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

yes	100%\$
no	0%

Forest Condition			
Over-cutting no			
Degree	soos		
Over-grazing	no		
Degree	none		

Possible Alt	ernative Ener	gy of Firewoo	ł
[F			

FreißA	7:55	
Gas	100%6	0%
Electricity	0%6	100%

Opinion of Leader on Irrigation water for Hydropower Generation.

yes	100°è
no	0%6

Disasters	yes
Floods	100%
Landslide	0°6

C.R. 17 Asni Cercle I Asni

Households as	of Population	
	Yr 1996	Yr 2010
Households	65	77
Population	510	617

Working Memb	er per ho	uschold
Agriculture	1.50	household
Non-agri.	1.13	household
Total	2.63	household

Access (kn	1)	
Pist	3.0	(km)
Path	0.0	(km)
Total	3.0	(km) :

# **House Conditions**

House size.)	House size household		Structure of House		of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
6	149	100%	0%6	75%	25%

# **Education Ratio**

Education	Villagers over 7 years old		Child	ren (7-12yea	rs old)	
Level	Total	Male	Female	Total	Male	Female
None	73.5%	58.6%	95.0%ò			
Koranie	26 5%	41.4%	5.0%	··· · · ····		
Fundamental	20.4%	31.0%	5.0%	40.0%	50.0%é	20.0%

# Annual Budget per Household

Agri.	14,531	52.4°.
Livestock	4,120	14 8%
Forestry	0	0.0%
Others	9,100	32 8%
Total	27,751	100.0%
Expend.	14,625	···· -
Saving	13,126	

# Land holding and Cultivated land (ha/household)

Total		Cultivated Crops (ha household)						
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Alm.	Apples,	Total
1.20	0.56	0.00	0.00	0.11	0.17	0.05	0.43	1.32
Sold Ratio (%)	0.0	0.0	0.0	77.2	94.0	89.4	98.8	
terigation (%)	333	100.0	0.0	66.7	100.0	66.7	66.7	

# Number heads of Livestock per household

Caule	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.63	0.00	4.25	9.18	0.88	0.00	0.00	16.13

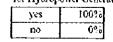
# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		1	rigation Wate	'n
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	63%	100%	0%6	0%6	88%	0%6	0?5
Satisfaction	60%	38%	0%		86%	0%	0%
Quality		good			***	good	
Shertage		yes	·			yes	
Frequency (yr)		1/1		·····	· · · · · · · · · · · · · · · · · · ·	1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deferestation causing soil erosion =

yes	100%6
ກວ	0%

# Opinion of Leader on Irrigation water for Hydropower Generation.



Forest Condition	J
Over-cutting	БЮ
Degre	none
Over-grazing	110

Possible Alt	anishiye Ener	gy of Firewo	00
Thursday.			1

rueigy.	748	no
Gas	100%	0%
Electricity	0%	100%

Disasters	25
Floods	100%
Landslide	100%5

NUBBER	of Selected Villages					
No.	132 Douar		Iniskar			
C.R.	17	Asoi	Cercle	1	•	Asni

Location

Location							
Latitude	N31	12'	37 Longitude	W7	56	20 Altitude	1,380 (m)

Households ar	d Population	
	Yr 1996	Yr 2010
Households	40	48
Population	280	339

Working Memb	er per ho	usehold
Agriculture	1.60	household
Non-agri.	0.80	household
Total	2.40	'nousehold

Pist	3.0	(kin)
Path		(km)
Total	4.0	(km)

House Conditions

House size 1	ouschold	Structure of House		Number of houses	
Rooms	(m2)	Tradition	Modern	Single	Plural
. 7	159	100%	0%	100%6	0?é

# Education Ratio

Education	Village	ers over 7 ye	ars old	Child	ren (7-12yea	rs old)
Level	Total	Male	Female	Total	Male	Female
None	77.8%	66.7%	88.9%			
Koranie	22 2°o	33.3%	11.1%			
Fundamental	19.4%	27.8%	11.1%	50.0%	50.0%	50.0%

# Annual Budget per Household

Agri	40,559	80.3%
Livestock	5,121	10.1%
Forestry	0	0.0%
Others	4,800	9.5%
Total	50,479	100.0%
Expend.	17,080	
Saving	33,399	

# Land holding and Cultivated land (ha household)

Total			Cult	tivated Crops	(ha househo	d)		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Polatoes	Olive,Alm.	Apples,	Total
1.75	1.80	0.00	0.00	0.07	0.12	0.20	1.54	3.73
Seld Ratio (%)	5.0	0.0	0.0	77.2	94.0	75.3	100.0	
Inigation (%)	0.0	0.0	0.0	100.0	100.0	50.0	50.0	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.60	0.00	0.00	16.00	0.80	0.20	0.00	18.60

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking	g Water		ն	rigation Wate	er
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	40%	100%	0%	0%	100%	20%	Û%ò
Satisfaction	100%	60%	0%		40%	100%6	0%
Quality		good			1	good	
Shortage		yes				yes	
Frequency ()T)		1/1	···			1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crosion =

	÷
yes	100%6
ກວ	6%

# Opinion of Leader on Irrigation water for Hydropower Generation.

<u>568</u>	100%
બ્ય	0°.6

Forest Condition	n –
Over-cutting	લા
Degree	none
	·····
Over-grazing	no
Degree	none

Possible Alt	ernative Energ	gy of Firewo	ođ
Energy	Ves.	no	

Gas	100%	0%
Electricity	6%	100%

Disasters	yes
Floods	100%
Landslide	6%6

No.	150 Douar		Ikiss	··· · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
3. <b>R</b> .	17	Asni	Cercle	·	Asni

Households and Population				
	¥r 1996	Yr 2010		
Households	65	77		
Population	500	605		

Agriculture		useheld household
Agriconuse		
Non-agri.	0.75	household
Total	2 38	household

Access (km)	)
Pist	10.0 (I.m)
Path	5.0 (km)
Total	15.0 (km)

# House Conditions

House size 1	Nodszuoi	Structure	Structure of House		of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
5	120	100%	0%6	100%5	0%6

# Annual Budget per Household

Agri.	9,582	47.0%
Livestock	4,365	21.4%
Forestry	O	0.0%
Others	6,438	31.6%
Total	20,385	100.0%
Expend.	12,128	
Saving	8,257	

# Education Ratio

Education	Villagers over 7 years old			Child	ren (7-12) ea	irs old)
Level	Total	Male	Female	Total	Male	Fennale
None	95.3%	90.9%	100.0%			
Koranie	4.7%	9.1%	0.0%			
Fundamental	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

# Land holding and Cultivated land (ha household)

Total	Cultivated Crops (ha household)							
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Polatoes	Olive, Alm.	Apples,	Total
0.57	0 23	0.15	0.13	0.00	0.09	0.13	0.33	1.06
Sold Ratio (%)	0.0	0.0	0.0	0.0	94.0	68.2	87.7	
Irrigation (°6)	80.0	100.0	100.0	100.0	100.0	50.0	60.0	

# Number heads of Livesteck per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey	-		
1.13	0.25	7.13	15.50	0.75	0.00	0.00	24.75

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	_	Drinking	g Water		lı	rigation Wate	T.
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%	100%	0%i	0%	88%	63%	0%
Satisfaction	0%	106%	<u>6</u> %		71%	100%	6%
Quality .		good			†	good	<u> </u>
Shortage		ne			· · · · · · · · · · · · · · · · · · ·	yes	
Frequency (yr)		14				1/20	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

)rs	100%
по	0%

# Opinion of Leader on Irrigation water

for Hydropower	Generation.
----------------	-------------

yes	100%
DQ.	6%

L
no
none
no
0000

	ernative Ener	gy of Firew	eed
Eneroy	1.00		ר

LINERSY	yes	no
Gas	100%	0%
Electricity	0%	106%

Damages b	y Natural Disasters	
Disasters	165	

Disosiers	ാര
Floods	100%
Landslide	0%

		· · · · · · · · · · · · · · · · · · ·			
No.	170 Douar		Tacheddirt		
C.R.	17	Asni	Cercle	1	Asai
Location			toul	48 Altitude	2,180(m)
Latitude	N31 9	30 Longitude	W7 50'	48 /101000	2,180 (00)

1.75 household

Population	360
L	·

House Conditio	ons				
House size	household	Structure	of House	Number	of houses
Reoms	(m2)	Tradition	Modern	Single	Piural
7	175	100%	0%o	100%	0%6

436

Education Ratio

Education Villagers ov		ts over 7 ye	over 7 years old		Children (7-12years old)	
Level Total	Total	Male	Female	Total	Male	Female
None	74.1%	57.1%	92.3%			
Koranie	25.9%	42 9%	7,7%			
Fundamental	18.5%	28.6%	7.7%	80.0%	100.0%	50.0%

Annual	Budget per Household	

Total

Agri	12,051	46.1%
Livestock	9,975	38.1%
Forestry	0	0.0%
Others	4,125	15.8%
Total	26,151	100.0%
Expend.	13,650	
Saving	12,501	

12.0 (km)

Land holding and Cultivated land (ha household)

Total	Cultivated Crops (ha household)							
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Alm.	Apples,	Total
1.60	0.50	0.28	0.00	0.03	0 28	0.00	0 29	1.38
Sold Ratio (%)	0.0	0.0	0.0	77.2	92.0	0.0	87.5	
Inigation (%)	83.3	100.0	0.0	100.0	100.0	0.0	0.03	

Tetal

# Number heads of Livestock per household

Cattle	Sheep	Geat	Poukry	Mule	Horse	Others	Tetal
				Donkey			
1.88	17.75	14.38	25.38	0.88	0.00	0.00	60.25

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	Drinking Water			Irrigation Water			
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%	100%	0%	0%a	100%	38%	0°6
Satisfaction	0%	100%	0?5		75%	67%	0%6
Quality		good				good	
Shortage					[	yes	
Frequency (yr)		1/1				1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

yes	100%
no	0%

Forest Condition	
Over-cutting	กง
Degree	none
• • •	
·····	
Over-grazing	no

Possible Alt	emative Energ	gy of Firewo	ođ
Energy	)'rs	no	

Gas	100%	0%
Electricity	0%	100%5

**Opinion of Leader** on Irrigation water for Hydropower Generation.

yes	100%
ຄວ	0?6

Disasters	yes
Floods	100%
Landslide	0%ò

Socio-15	

NUDOCLO	f Selected Villages	1			
No.	180 Douar		Sqəur		
C R.	21	Ourika	Cercle	2	Tahanaout

Location

	*********						
t and the states	N124	2.01	2011	1174	42.1	2.2.1.1.1.1	1.00011
1 & 0.03	1011	20	32110021035 I	W / F	451	321 Altitude 1	4 2001(m) t
h							

# Households and Population

· · · · ·	Yr 1996	Yr 2010
Households	45	53
Population	360	436

Working Memb	er per ho	usehold
Agriculture	1.89	household
Non-agri.	1.44	household
Total	3.33	household

# Access (km) Pist 0.0 (km) Path 5.0 (km) Total 5.0 (km)

House Conditions

House size-1	neusehold	Structure	of House	Number o	of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
6	- 150	100%	0%	89%	11%

# Education Ratio

Education	Village	ars over 7 ye	ars old	Child	ren (7-12yea	urs eld)
Level	Total	Male	Female	Total	Male	Female
None	62 2%	44.0%	85.0%			
Koranie	37.8%	56.0%	15.0%			
Fundamental	26.7%	36.0%	15.0%	50.0%	50.0%	50.0%

# Annual Budget per Household

Agri.	12,705	49.6%
Livestock	5,753	22 5%
Forestry	0	0.0%
Others	7,156	27.9%
Total	25,614	100.0%
Expend.	13,529	
Saving	12,085	··

# Land holding and Cultivated land (ha household)

Total			Cul	tivated Crops	(ha heuseho	old)		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Alm.	Arples,	Total
2.50	1.17	0.00	0.00	0.06	0.58	0.18	0.23	2.22
Sold Ratio (%)	2.9	0.0	0.0	77.2	94.0	73.8	99.1	
Irrigation (?))	21.4	100.0	0.0	100.0	100.0	66.7	50.0	

# Number heads of Livestock per household

Cattle	Sheep	Goot	Poultry	Mule	Horse	Others	Total
l				Donkey			
1.67	3.56	9.56	8.44	1.00	0.11	0.00	24.33

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking	g Water		II II	rigation Wate	ar
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	11%	89° i	<u>0?</u> 6	0%5	56%	56%	0%6
Satisfaction	0%6	100%6	0%		40%	60%	0%
Quality		good			<u> </u>	good	
Shortage		no			···	yes	
Frequency (yr)		1/1				1/20	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

yes	100%6
no	0%

# Opinion of Leader on Irrigation water

for Hydropower Generation.

yes	100%
no	0%6

	Over-cutting
none	Degree
non	······

Possible Alt	emative Ener	gy of Firewood
Encor	1/25	60

302	ଜ
100%	0%6
0%	100%
	100%

Damages by Natural Disasters Disasters ves

Landslide	0%6
Floods	(%)
1745556415	yos

		Ant	agdour		
190 Douar 21	Ourika	Cercie		2	Tahanaout
	1				
N31 20	58 Longitude	W7	43	9 Altitude	1,150 (m)
	21	21 Ourika /	21 Ourika Cerele	21 Ourika Cercle	21 Ourika Cercle 2

[	Yr 1996	Yr 2010
Households	22	26
Population	150	181

Working Mem	ber per ho	usehold
Agriculture	1.17	household
Non-agri.	0.67	household
Total	1.83	household

Access (km)	1	
Pist	0.0 (1	.m)
Path	6.0 (k	.m)
Total	6.0 (k	3N)

House Conditions

House size 1	wusehold	Structure	of House	Number o	of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
5	195	100%	0%	100%	0%ó

Education Ratio

Education	Village	rs over 7 ye	ars old	Chik	ars old)	
Levei	Total	Male	Female	Total	Male	Female
None	59.4%	38.9%	85.7%		·	
Koranie	40.6%	61.1%	14.3%			
Fundamental	31.3%	50.0%	7.1%	75.0%	100.0%	33.3%

Land holding and Cultivated land (ha household)

Total	Cultivated Crops (ha household)							
Land (ha)	W. Cercal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alm.	Apples,	Total
1.49	1.06	0.03	0.00	0.37	0.13	0.06	0.00	1.65
Sold Ratio (%)	0.0	00	0.0	85.3	60.5	75.5	0.0	
Irrigation (%)	0.0	0.0	0.0	66.7	100.0	75.0	100.0	

# Number heads of Livestock per household

Catile	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.17	2.00	10.33	7.83	0.67	0.00	0.00	22.00

Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water	Irrigation Water			
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	6%	100%	0%	0%5	50%	67%	0°.6
Satisfaction	<u>6</u> %5	100%	Û%6		67°6	100%5	0%
Quality		good				good	
Shortage		nə				yes	
Frequency (yr)		1/1			<u> </u>	1/20	

<Environmental Conditions informed by Vallage Leader> Awareness of over deforestation causing soil erosion =

yes	100%5
бл	0.0

Forest Condition			
Over-cutting	no		
Dogree	neae		
	-		
Over-grazing	1.52		
Degree	fair		

Energy	yes	ស
Gas	100%	0%6
Electricity	0%	100%

Opinion of Leader on Irrigation water for Hydropower Generation.

yes	100%6
no	0%

Damages by Natural Disasters

Disasters	yes
Floods	100%
Landstide	0%

Agri.	5,249	34.1%
Livestock	6,563	42.6%
Forestry	0	0.0°6
Others	3,600	23.4%
Total	15,412	100.0%

9,740

5,672

Annual Budget per Household

Expend.

Saving

Socio-17

Number (	of Selected Villages	1			
No.	200 Douar		Tamaterie		
C.R.	22	Settifadma Cercle 2 Tahan			

Latitude N31 12 5 Longitude W7 42 43 Abitude 1,800 (m)	Latinude	16.6	121	1 2 1		a 2 1		1,800 (m)
--	----------	------	-----	-------	--	-------	--	-----------

Reuseholds and Population				
	Yr 1996	Yr 2010		
Households	40	48		
Population	240	290		

Working Member per household				
Agriculture	0.63	household		
Non-agri.	0.50	household		
Total	1.13	household		

Access (km)	i	
Pist	0.0 (	km)
Path	25(	km)
Total	2.5 (	kns)

# House Conditions

House size1	nouschold	Structure of House		Structure of House Number of houses			of houses
Reons	(m2)	Tradition Modern		Single	Ploral		
5 -	104	100%	0%6	100%	0%		

# Education Ratio

Education	Villaga	ers over 7 ye	ars old	Child	ren (7-12yea	rs old)
Level	Total	Male	Female	Total	Male	Female
None	90.0%	86.7%	93.3%			· ·
Koranic	10.0%	13.3%	6.7%		1	· · · · · ·
Fundamental	3 3%	6.7%	0.0%	Q.0%a	0.0%	0.0%

# Annual Budget per Household

Agri	3,275	19.5%
Livestock	6,518	38.9%
Forestry	Û	0.0%
Others	6,975	41.6°
Total	16,768	100.0%
Expend	11,691	
Saving	5,077	

# Lond holding and Cultivated land (ha household)

Total			Cult	ivated Crops	(ha househo	yld)		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alm.	Apples,	Total
0.15	0.08	0.01	0.00	0.08	0.11	0.00	0.07	0.34
Sold Ratio (°6)	0.0	0.0	0.0	86 2	92.0	0.0	83.3	
Irrigation (%)	100.0	100.0	0.0	50.0	83.3	0.0	33.3	

# Number heads of Livestock per household

Cattle	Sheep	Geat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.25	2.00	14 25	8 63	0.38	0.00	0.00	26.50

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		l li	rigation Wate	э <b>г</b>
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	016	100%6	0°6	0%6	25%	50%6	0%
Satisfaction	0°6	100%	6%6		- Cº.6	75%	0%5
Quality		good			1	good	
Shortage		),se			[ .	yes	
Frequency (yr)		1/1				1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

	•
ાલ્ડ	100%ö
BO	0%è

#### Forest Condition 5 no none

	-
Over-grazing	nð
Degree	nene

Over-cutting

Degree

Possible Alf-	emative.	r nergy	of Firewood	

Energy	).sz	no
Gas	100%	0%
Electricity	0%i	100%

**Opinion of Leader** on Irrigation water for Hydropower Generation.

owner owner a
100%
0%5

Disasters	yes
Floods	100%
Landslide	0%

Ne.	of Selected Villages 210 Douar		ملالي		
C.R.	22	Settifadma	Cercle	2	Tahanaout

Latitude	N31	12	14 Longitude	W7	44	30 Altitude	1,750 (m)	
----------	-----	----	--------------	----	----	-------------	-----------	--

Households an	nd Population	
[	Yr 1996	Yr 2010
Households	63	75
Population	378	457

Working Memi	ber per ho	uschold
Agriculture	1.50	household
Non-agri	0.25	household
Total	1 75	household

Access (km)	)	
Pist	0.0 (	km)
Path	8.0 (	kni)
Total	8.0 (	km)

# House Conditions

House size1	louse size household Structure of House			Number o	thouses
Rooms	(m2)	Tradition	Modern	Single	Plural
5	118	100%	0%	100%	0%

# Education Ratio

Education	Villagers over 7 years old			Children (7-12 years old)		
Level	Total	Male	Female	Total	Male	Female
None	90.0%	82.6%	100.0%			
Koranie	10.0%	17.4%	0.0%			
Fundamental	2.5%	4.3%	0.0%	0.0%	0.0%	0.0%

# Annual Budget per Household

Agri.	5,706	33 3%
Livestock	8,728	50.916
Forestry	0	0.0%
Others	2,700	15.8%
Total	17,133	100.0%
Expend.	12,091	
Saving	5,042	

# Land holding and Cultivated land (ha household)

Total		Cultivated Crops (ha household)						
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatees	Olive, Alm.	Apples,	Total_
0.47	0.13	0.06	0.00	0.09	0.34	0.00	0.10	0.72
Seld Ratio (%)	0.0	0.0	0.0	86.2	73.7	0.0	80.8	
Irrigation (%)	75.0	100.0	0.0	100.0	100.0	0,0	57.1	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.38	1.50	27.00	25.75	0.75	0.00	0.00	56 38

# Water Sources, Satisfaction, Water Quality, and Water Shortage

	Drinkin	g Water		រ	rigation Wate	۲.
River	Spring	Well	Tank	River	Sering	Well
25%	88%6	0%	0%	100%	13%	0°,6
100%6	100%	0%		63%	100%	0°6
	good				good	
	yes				yes	
	1/1				1/1	
	25%	River         Spring           25%         88%           100%         100%           good         32%	25% 88% 0% 100% 100% 0% good yes	River         Spring         Well         Tank           25%         88%         0%         0%           100%         100%         0%         0%           good         yes         0%         0%	River         Spring         Well         Tank         River           25%         88%         0%         0%         100%           100%         100%         0%         63%           good	River         Spring         Well         Tank         River         Spring           25%         88%         0%         0%         100%         13%           100%         100%         0%         63%         100%           good         good         good         good           yes         yes         yes         yes

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

yes	100%
no	0%6

Forest Condition						
Over-cutting no						
Degree	none					
Over-grazing	no					
Degree	none					

Possible Alternative Energy of Firewood
······································

Energy	7.52	no
Gas	100%	0ªo
Electricity	0%	100%

**Opinion of Leader** on Inigation water for Hydropower Generation

yes	100%
no	0°6

Disasters	j:85
Floods	100%
Landslide	0°6

No.	220 Douar	· · · · · · · · · · · · · · · · ·	Tinichi		
C.R.	22	Settifadma	Cercle	2	Tahanaout

	Latitude	N31	H	56 Longitude	W7	46'	22	Altitude	2,000 (m)	
--	----------	-----	---	--------------	----	-----	----	----------	-----------	--

Households and Population						
	Yr 1996	Yr 2010				
Households	60	71				
Population	370	448				

Working Member per household						
Agriculture	1.71	. household				
Non-agri.	0.86	heuseheld				
Total	2.57	household				

Access (knij	)	
Pist	0.0	(km)
Path	11.0	(km)
Total	11.0	(km)

House Conditions

House size1	ousehold	Structure	of House	Number o	of houses
Reoms	( <b>m</b> 2)	Tradition	Modern	Single	Plural
7	129	100%	0%6	71%	29%

# Education Ratio

Education	Villagers over 7 years old			d Children (7-12years of		
Level	Total	Male	Female	Total	Male	Female
None	84.0%	75.0%	95.5%			
Koranie	16.0%	25.0%	4.5%			
Fundamental	14.0%	21.4%	4.5%	41.7%	55.6%	0.0%

# Annual Budget per Household

Agri.	6,286	31 2%
Livestock	6,023	29.9%
Forestry	0	0.0%
Others	7,857	39.0%
Total	20,166	100.0%
Expend.	10,200	
Saving	9,966	

# Land holding and Cultivated land (ha household)

Total	Cultivated Crops (ha household)							
Land (h1)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Alm.	Apples,	Total
0.73	0.32	0 21	0.11	0.09	0.29	0.11	0.05	1.19
Sold Ratio (%)	0.0	0.0	0.0	81.3	94.0	100.0	100.0	+-
Irrigation (%)	71.4	100.0	100.0	100 0	100.0	100.0	100.0	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.57	10.29	4.00	12.14	0.71	0.00	0.00	28.71

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinking	g Water		l li	7	
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	29%	100%5	0%6	0%6	57%	57%	0%
Satisfaction	100%	100%	()° o		75%	75%	0%
Quality		good	··· #		<u> -</u>	good	
Shortage		yes			1	Yes	
Frequency (yr)		1/1			1	1/1	

<Fnvironmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

yes	100%
no	0%

# Opinion of Leader on Irrigation water for Hydropower Generation.

ter njæqoner oere				
762	100%			
110	0°ċ			

Over-cutting	nə	
Degree	none	
<u> </u>		
Over-grazing	on	

Possible Alternative Energy of Firewood	

Energy	yes	ກວ
Gas	100%	0%6
Electricity	0%	100%

Disasters	yes
Floods	100%6
Landslide	100%6

Socio-20	

	of Selected Villages 230 Douar	<b></b>	Agouns		
No. C.R.	230 Dedisi	Oukaimeden	Cercle	2	Tahansout
<u> </u>					

Households ar	nd Population	
1	Yr 1996	Yr 2010
Households	105	125
Population	630	762

Working Member per household				
Agriculture	1.67	household		
Non-agri.	0.67	household		
Total	2.33	household		

Pist	0.0	(km)
Path	14.0	(km)
Total	14.0	(kni)

# House Conditions

House size 1	ousehold	Structure	of House	Number of houses		
Reoms	(n)2)	Tradition	Modern	Single	Plural	
5	288	92%	8%	100%	0%a	
Ľ		J	L			

# Education Ratio

Education	Villagers over 7 years old			Children (7-12 years of		
Level	Total	Male	Female	Total	Male	Female
None	77.6°i	60.5%	100.0%			
Koranie	22.4%	39.5%	0.0%5			
Fundamental	4.5%	7.9%	0.0%	7.1%	14.3%	0.0%

# Annual Budget per Household

Agri	2,150	20.9%
Livestock	7,430	72 2%
Forestry	0	0.0° e
Others	708	6.9%
Total	10,288	100. <b>0</b> %
Expend.	7,329	\.
Saving	2,959	

# Land holding and Cultivated land (ha household)

Total			Cult	ivated Crops	(ha househo	ld)		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alm.	Apples,	Total
0.40	0.22	0.16	0.06	0.08	0.12	0.00	0.01	0.65
Sold Ratio (%)	0.0	0.0	0.0	76.7	95.5	0.0	75.0	•
Irrigation (%)	74 5	76.4	100.0	100.0	109.0	100.0	50.0	

#### Number heads of Livestock per household

Cattle	Sheep	Goat	Pouliry	Mule	Horse	Others	Total
				Donkey			
1.58	8.50	8.33	11.33	0.83	0.00	0.00	30.58

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	Drinking Water				. Ir	rigation Wate	Valer
Conditions	River	Spring	Well	Tank	River	Spring	Wel
Water Source	8%	92%	8%6	0%	17%	75%	0%
Satisfaction	0%	100%	100%		100%	67%	0%6
Quality		good				good	
Shoriage						<i>l.ee</i>	
Frequency ()1)		1/1				1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

yes	100%
no	0%ö

Forest Condition	
Over-cutting	no
Degree	none
Over-grazing	no
Degree	none

Possible Alt	emative Fner	gy of Firewo	ođ
Frerey	18	no	

TURIES	100	
Gas	100%6	6%5
Electricity	0%	100%
L		

Opinion of Leader on Irrigation water

for Hydrop	ower Generation.
<u>)</u> 05	0%6
по	100%

Disasters	y25
Floods	0%
Landslide	0%6

Number (	of Selected Village		1	Out	ad Mansou	 r	
C.R.	24	I	Tamedebt	Cercle		2	Tahanaout
Location							
	N31	29	8 Longitude	W8	0	42 Altitude	630 (m)
atitude	<u>L</u> L						

	Yr 1996	Yr 2010
Heuseholds	70	83
Pepulation	500	605

Working Memb	er per ho	usehold
Agriculture	2.75	household
Non-agri.	0.75	household
Total	3.50	household

Access (km)	)	
Pist	4.5	(km)
Path	0.0	(kus)
Tetal	4.5	(km)

#### House Conditions

House size 1	aousehold	Structure	tructure of House Number of hous		f houses
Rooms	(m2)	Tradition	Modern	Single	Plural
5	338	100%6	0%à	100%	0%6

# **Education Ratio**

Education	Village	rs over 7 ye	ars old	Children (7-12years old)		
Level	Total	Male	Female	Total	Male	Female
None	63.3%	46.7%	89.5%		<b> </b>	
Koranie	36.7%	53.3%	10.5%			
Fundamental	30.6%	43.3%	10 5%	57.1%	40.0%	100.0%

# Annual Budget per Household

Agri.	8,616	39.3%
Livestock	6,908	31.5%
Forestry	0	0.0%
Others	6,375	29.1%
Total	21,898	100.0%
Expend.	11,061	
Saving	10,837	

# Land helding and Cultivated land (halhousehold)

Total		Cultivated Creps (ha household)							
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Petatoes	Olive, Alm.	Apples,	Tetal	
7.06	6.88	0 00	0.00	0.00	0.00	0.00	0.00	6.88	
Sold Ratio (%)	26.1	0.0	0.0	0.0	0.0	0.0	0.0	·	
Irrigation (%)	12.5	100.0	0.0	0.0	100.0	0.0	00		

# Number heads of Livestock per household

Cattle	Sheep	Geat	Poultry	Mule	Horse	Others	Total
				Donkey			
2 13	14.25	1.63	0.88	2 2 5	0.00	0.00	21.13

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water	Inigation Water			
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	38%	13%	63%	0%	6%ô	13%5	0%
Satisfaction	0%	100%	60%		0%	0%6	0%
Quality	good					good	
Shortage		yes				yes	
Frequency (yr)	•	1/1				1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

	: •
yes	100%
กจ	0%

#### Opinion of Leader on Irrigation water for Hydropower Generation ŤΤ 0% ves

Forest Condition		
Over-cutting	no	
Degree	norie	
Over-grazing	กง	
Degree	nepe	

#### Possible Alternative Energy of Firewood **5**...

Energy	yes	no
Gas	100%5	0?6
Electricity	6%6	100%5

	1	0.0	363
no 100%	ł	100%	no

· · · · · · · · · · · · · · · · ·	y Natural Disasters
Disasters	yes

0%6
0%0

No.	of Selected Villages		Oulad Lah	jar	
C.R.	24	Tamesloht	Cercle	2	Tahanaout

Latitude	N31	23'	41 Longitude	W8	5'	9 Altitude	700[(m)
----------	-----	-----	--------------	----	----	------------	---------

Households an	d Population	
	Yr 1996	Yr 2010
Households	100	119
Population	600	726

Working Member per household			
Agriculture	2.00	household	
Non-agri.	1.45	household	
Total	3.45	household	

Access (km)	)
Pist	2 5 (km)
Path	0.0 (km)
Total	2.5 (km)

# **House Conditions**

House size	household	Structure	of House	Number of houses	
Rooms	(1)2)	Tradition	Modern	Single	Plural
5	215	100%	0%ó	100%	Û%6

# Education Ratio

Education	Villagers over 7 years old			Children (7-12 years old)			
Level	Total	Male	Female	Total	Male	Female	
None	67.9%	62.1%	74.1%				
Koranie	32.1%	37.9%	25.9%	·	[		
Fundamental	21.4%	17.2%	25.9%	62.5%	66.7%	60.0%	

# Annual Budget per Household

Agri.	6,822	39.0%
Livestock	3,582	20.5%
Forestry	0	0.0%
Others	7,091	40.5%
Total	17,495	100.6%
Expend.	11,235	
Saving	6,260	

# Land holding and Cultivated land (ha/household)

Total	Cultivated Crops (ha household)							
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Polatoes	Olive,Alm.	Apples,	Total
4.98	4.34	0.00	0.00	0.00	0.00	0.16	0.00	4 51
Seld Ratio (%)	21.5	0.0	0.0	0.0	0.0	68.2	0.0	
inigation (%)	0.0	0.0	0.0	0.0	0.0	40.0	0.0	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
0.45	7.82	2.73	3.09	0.73	0.09	0.00	14.91

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		I.	rigation Wate	эг
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%	91%	18%	0%5	0%5	91%	0%
Satisfaction	0%	100%	100%		0?á	90%	Q°5
Quality		boog	· · ·			good	
Shortage		j:es			1	7.68	
Frequency (yr)		1/1				1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

Forest Condition	1
Over-cutting	NÔ.
Degree	none
Over-grazing	
Over-grazing	no

	· ·
yes	100%
nə	0%

Possible Alt	ernative Ener	gy of Firewa	ed
Fretex	125	na	

1.16153	,	
Gas	100%6	0%
Electricity	0%	100%

Opinion of Leader on Irrigation water for Hydropower Generation. yes #DIV.0!

	·
ກວ	#DIV:0!

Disasters	7.62
Floods	0%6
Landslide	0%

Number	of Selected Villages	1			
No.	252 Douar		Oບກາກລະ		
C.R.	24	Tamesloht	Cercle	2	Tahanaout

Location

- 6-			201	167.00010.00	11.0		33 4 4 4 4 4	7001/3
- 124	111002	N31	221	TOTTODE	110	-41	33 AU(1030	1 /00((m) [
	المسجب مصر مصر ا			·	L			

Households and Population						
[	Yr 1996	Yr 2010				
Households	150	178				
Population	800	968				

Working Mensber per household						
Agriculture	1.53	household				
Non-agri.	1.06	household				
Total	2 59	household				

Access (km)						
Pist	0.5 (km)					
Path	0.0 (km)					
Total	0.5 (km)					

**House Conditions** 

House size/household		Structure	of House	Number of houses		
Rooms	(m2)	Tradition	Modern	Single	Plural	
5	226	94%	6%	88%	12%	

# Education Ratio

Education	Village	as over 7 ye	ars old	Children (7-12years old)			
Level	Total	Male	Female	Total	Male	Female	
None	48.0%	24.6%	79.1%				
Koranie	52 0%	75.4%	20.9%				
Fundamental	42.0%	59.6%	18.6%	72 2%	83.3%	50.0%	

Annual Budget per Household

5,009	19.9%
5,900	23.4?
0	0.0%
14,275	56.7%
25,184	100.0%
16,191	
8 003	
	5,900 0 14,275 25,184

Land holding and Cultivated land (ha household)

Total	Cultivated Crops (ha household)									
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Alm.	Apples,	Total		
7.15	7.47	0.00	0.00	0.00	0.01	0.60	0.00	8.08		
Sold Ratio (%)	11.0	0.0	0.0	0.0	88.0	58.9	0.0			
hrigation (%)	3.0	0.0	0.0	0.0	100.0	30.0	0.0			

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Tetal
	:			Donkey			
1.00	12.65	2.65	31.65	0.71	0.12	0.00	48.76

# Water Sources, Satisfaction, Water Quality, and Water Shortage

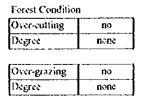
Hydrological		Drinkin	g Water	Irrigation Water			
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	6?ó	71%	71%6	0%6	0°é	41%	6%
Satisfaction	0° 0	67%	83%	·	0?6	71%	0%6
Quality:		good				good	
Shortage		)સ્ડ				yes	
Frequency (yr)		1/1			İ	1/1	

<Environmental Conditions informed by Village Leader> \_ 1

Awareness of	føver de	forestati	on causir	ig soil	erosion

oil crosion =	yes	0° a
	no	100%
	no	100
-		
Possible Alternative Enc	rgy of Firewoo	d

r



Energy	yes	no
Gas	100%	Ú°;
Electricity	0%	100%

**Opinion of Leader** on Irrigation water for Hydropower Generation. #DIV:0? yes #DIV-0! nэ

Damages b	y Natural D	lisasters
Disasters	Y85	
Floods	0%5	
Landslide	0%ó	

Sa	~i^	21
Soo	CIO-	•Z4

	Selected Villages	1				
No.	261 Douar	Awin Mazouz				
C.R.	24	Tamesloht	Cercle	2	Tahanaout	
Location						

[	Yr 1996	Yr 2010
Households	66	78
Population	400	-184

Working Member per household					
Agriculture	1.13	/household			
Non-agri.	1.63	household			
Tetal	2.75	/household			

Access (km)	)	
Pist	1.0	(kin)
Path	0.0	(kn)
Total	1.0	(ka)

# House Conditions

House size-	household	Structure	of House	Number of houses		
Rooms	(m2)	Tradition	Modern	Single	Plural	
6	338	100%6	0%6	100%	0%	

# Education Ratio

Education	Village	rs over 7 ye	ars old	Child	ren (7-12 years old)		
Level	Total	Male	Female	Total	Male	Female	
None	47.2%	37.9%	58.3%				
Koranic	52.8°5	62.1%	41.7%				
Fundamental	45.3%	51.7%	37.5%	66.7%	80.0%	50.0%	

# Annual Budget per Household

Agri	2,132	8.3%
Livestock	4,353	17.0%
Forestry	0	0.0°6
Others	19,062	74.6%
Total .	25,547	100.0%
Expend	15,993	
Saving	9,554	

# Land holding and Cultivated land (ha household)

Total		Cultivated Crops (ha household)							
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Ahn.	Apples,	Tetal	
2.24	1.72	0.00	0.00	0.09	0.00	0.26	0.00	2.07	
Sold Ratio (%)	0.0	0.0	0.0	\$6.2	0.0	56.1	0.0		
Inigation (%)	0.0	0.0	0.0	100.0	0.0	100.0	0.0		

# Number heads of Livestock per household

Cattle	Sheep	Goat	Peultry	Mule	Horse	Others	Total
				Donkey		-	
1.75	1.38	0.75	3.13	1.13	0.00	0.00	8.13

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		[ ] li	nigation Wate	ef
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	25%	38%	75%	6%o	25%	25%	38%
Satisfaction	0%6	100%	100%		50%	100%	100%
Quality		good				good	
Shortage	· · · · ·	yes				7.52	
Frequency (y1)		1/1				1/1	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

	•
yes	100%
คง	0%6

Forest Condition	
Over-cutting	no
Degree	none
Over-grazing	no
Degree	nê0ê

Possible Alt	ernative Ener	gy of Firewo	ođ
Eneroy	128	<b>n</b> o	

наству	,	
Gas	100%	0%6
Electricity	0%	100%
B		

Opinion of Leader on Irrigation water for Hydrepower Generation yes #DIV.0! no #DIV.0!

Disasters	yes
Floods	0%
Landstide	0%6

Number o	Selected Vi	llages	1	l l						
No.	262	Douar	1			Bouchina Bo	n Omar			
C.R.	24		Tan	nesloht		Cercle		2	Tahanaout	
Location								•		
Latitude	N31	32	41	Longitude	. W8	6	28	Altitude	500	(m)
Heuseholds and	Population	±	<u> </u>	Working Ma	ember per he	uschold	<b>.</b>	Access (kn	·	
	Yr 1996	Yr 2010	)	Agriculture		household	1	Pist		(km)
Households	66	78		Non-agri.	1.63	household	1	Path		(km)
Population	400	484	1	Total	2.75	household	1	Tetal		(km)
			•			•	3	•	•	
House Condition House size h		Structure	e of House	Number	Chauras	1	Amount D	daat maa tta		
Rooms	(m2)	Tradition	Modern	Single	Plural	-	AURIED DA	adget per Ho		8.3%
6	338	100%	0%	100%	0%	ł		Agri. Livestock	2,132 4,353	17.09
	353	100.0	0,0	100:0	070	<b>j</b>		Forestry	4,323	0.09
Education Ratio				-				Others	19,062	74.6°
Education	Village	rs over 7 ye	ars old	Child	ren (7-12yea	urs old)	1	Total	25,547	100.0%
Level	Total	Male	Female	Total	Male	Female		<u> </u>		
None	47.2%	37.9%	58.3%6					Expend.	15,993	
Koranic	52.8%	62.1%	41.7%							
Fundamental	45.3%	51.7%	37.5%	66.7%	80.0%	50.0%		Saving	9,554	
								<b></b>		
Land holding an Total	d Cultivated ]	and (ha hou		10						
Land (ha)	W. Cereal	S. Cereal		livated Crops						
2.24	W. Cerear	0.00	Legumes 0.00	Vegetable 0.09	Petatoes 0.00	Olive,Alm 0.26	Apples, 0.00	Total		
Sold Ratio (%)	0.0	0.00	0.0	86 2	0.00	56.1	0.00	2.07		
Inigation (%)	0.0	0.0	0.0	100.0	0.0	100.0	0.0			
								I]		
Number heads o	f Livestock pe	r household	1							-
Cattle	Sheep	Geal	Poultry	Mule	Horse	Others	Total		-	
				Donkey						
1.75	1.38	0.75	3.13	1.13	0.00	0.00	8.13			

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		]	rigation Wat	er -
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	25%	38%	75%	0%	25%	25%	38%
Satisfaction	0%6	100%	100%	· · · · · · · · · · · · · · · · · · ·	50%	100%6	100%
Quality		good				good	
Shortage		yes				yas	
Frequency (yr)		1/1			1	1/1	

<Environmental Conditions informed by Village Leader> reness of over deforestation causing soil erosion = ۰,

yes	100%
no	0%6

# Opinion of Leader on Irrigation water for Hydropower Generation. )! )!

7:55	#DIV/0
no	#DIV.0

Over-cutting	กอ
Degree	none
Over-grazing	no

Forest Condition

Possible Alt	emative Energ	gy of Firewood
Energy	V25	60

	J • •	1
Gas	100%	0%5
Electricity	0%	100%5

Damages by Natural Disasters Disasters yes

0130 4013	303
Floods	0%
Landslide	Ú°ó

No.	270 Douar		Del El Al	n	
C.R.	24 Tameslohi		Cercle	2	Tahanaout

Latitude	N31	28	53 Longitude	W8	4	30 Altitude	580 (m)	J
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Households and Population				
	Yr 1996	Yr 2010		
Households	110	131		
Population	600	726		

Working Memb	Working Member per household				
Agriculture	3.00	household			
Non-agri.	0.83	household			
Tetal	3.83	household			

Pist	0.5 (km)
Path	0.0 (km)
Total	0.5 (km)

# **House Conditions**

House size1	House size household		of House	Number (	of houses
Rooms	(m2)	Tradition	Modern	Single	Piural
5	325	92%	8%	83%	17%

#### **Education Ratio**

Education	Village	ts over 7 ye	arsold	Children (7-12 years old)		
Level	Total	Male	Female	Total	Male	Female
None	42.5%	34.0%	54.5%			
Koranic	57.5%	66.0%	45.5%		T	
Fundamental	42 5%	46.8%	36.4%	66.7%	50.0%	\$0.0%

# Annual Budget per Household

Agri	21,627	63.3%
Livestock	5,523	16.2%
Forestry	0	0.0%
Others	7,033	20.6%
Total	34,184	100.0%
Expend	12,950	
Saving	21,234	

# Land holding and Cultivated land (ha household)

Tetal	· · · -	Cultivated Crops (ha household)						
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive,Alm.	Apples,	Total
6.79	5.63	0.00	0.67	1.00	0.33	2.50	0.00	10.13
Sold Ratio (%)	15.9	0.0	0.0	71.1	88.0	80.0	0.0	
Inigation (%)	30.0	0.0	100.0	100.0	100.0	100.0	0.0	-

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
0.83	17.08	0.00	7.08	0.75	0.00	0.00	25.75

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological	Drinking Water			Irrigation Water			
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%	58%	58%6	0%	25%	17%	50%
Satisfaction	0%	86%	106%		67%	50%	83%
Quality		good				good	
Shortage		no				yes	
Frequency (yT)		1/1				1/20	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion  $\approx$ 

Over-cutting	no
Degree	none
Over-grazing	yes

	_
yes	100%
no	0%

Possible Alternative Energy of Firewood

Energy	પ્રહ	no
Gas	0%	100%6
Electricity	100%	0%

Opinion of Leader on Irrigation water for Hydropower Generation.

tor mutopower ocase		
yes	6.0	
no	100%	

Disasters	yes
Floods	0%0
Landslide	0°.6

naout
660 (m)

# Yr 1996 Yr 2010 Households 140 166 Population 900 1,089

Agriculture 3	.\$8 household
	.13 household

# Access (km) Pist 5.5 (km) Path 0.0 (km) Total 5.5 (km)

# House Conditions

House size 1	nousehold	Structure	of House	Number o	of houses
Rooms	(m2)	Tradition	Modern	Single	Plural
7	272	100%	6%5	75%	25%

# Education Ratio

Education	Village	ers over 7 ye	ars old	Child	ren (7-12yea	rs old)
Level	Total	Male	Female	Total	Male	Female
None	55.7%	36.5%	80.7%			
Koranie	41.3%	63.5%	19.3%			
Fundamental	40.5%	58.1%	17.5%	73.1%	87.5%	50.0%a

# Annual Budget per Household

Agri.	9,952	34.9%
Livestock	13,367	46.9%
Forestry	0	9.0%
Others	5,175	18.2%
Total	28,494	160.0%
Expend.	11,328	
Saving	17,166	

# Land holding and Cultivated land (ha household)

Tetal			Cult	livated Crops	(ha househo	old)		
Lánd (ha)	W. Cercal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alm.	Apples,	Total
2.86	2.78	0.06	0.00	0.25	0.34	0.28	0.00	3.72
Sold Ratio (%)	8.5	0.0	0.0	96.7	98.0	80.1	0.0	
Inigation (%)	11.1	0.0	0.0	66.7	40.0	37.6	0.0	

# Number heads of Livestock per household

Caule	Sheep	Goət	Poultry	Mule	Horse	Others	Total
				Donkey:			-
3.00	17.38	3.13	10 63	1.50	0.06	0.00	35.69

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		Irrigation Water			
Conditions	River	Spring	Well	Tank	River	Spring	Well	
Water Source	0%	0%6	100%5	0%	88%6	0%	63%	
Satisfaction	0%	0%	100%		36%	0%	90%	
Quality		good				good		
Shortage		¢0				345		
Frequency (yr)		1/1			[	1/20		

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossin =

yes	100%
no	6.6Q

# Opinion of Leader on Irrigation water for Hydropower Generation.

7:5	#DIV:0!
no	≯DIV.0!

 Forest Condition

 Over-cutting
 no

 Degree
 none

 Over-grazing
 yes

 Degree
 fair

	emative Ener		
France	1.00	60	

r neigy	Jes	10
Gas	0%6	106%
Electricity	100%	0%

Damages	by Natura	Disasters

Disasters	Les
Floods	0%
Landslide	0%ó

No.	f Selected Villages 320 Douar	L	Derb Chen	i's	
C.R.	25	Tahanaout	Cercle	2	Tabanaout

	Latitude	N31	21'	48 Longitude	W7	57	41 Altitude	900 (m)	
--	----------	-----	-----	--------------	----	----	-------------	---------	--

Households ar	nd Pepulation	
	Yr 1996	Yr 2010
Households	60	71
Population	369	446

Working Memb	Working Member per household					
Agriculture	3.14	household				
Non-agri	1.71	household				
Tetal	4.86	household				

Access (km)	)
Pist	0.0 (km)
Path	0.0 (km)
Total	0.0 (km)

# **House Conditions**

House size 1	House size household		of House	Number o	of houses
Rooms	(m2)	Tradition	Medem	Single	Plural
8	237	100%6	0%	100%	0%6

# **Education Ratio**

Education	Village	rs over 7 ye	ars old	Child	ren (7-123 ea	rs old)
Level	Total	Male	Female	Total	Male	Female
None	45.6%	34.3%	63.6%			
Koranie	54.4%	65.7%	36.4%			
Fundamental	45.6%	51.4%	36.4%	87.5%	75.0%	100.0%

# Annual Budget per Household

Agri.	2,712	12.8%
Livestock	7,282	34 3%
Ferestry	0	390.0
Others	11,214	52 9%
Total	21,208	160.0%
Expend.	12,000	
Saving	9,208	

# Land holding and Cultivated land (ha household)

Total			Cult	ivated Crops	(ha househo	(ble		
Land (ha)	W. Cereal	S. Cereal	Legumes	Vegetable	Potatoes	Olive, Alm.	Apples,	Tetal
2.71	2.43	0.07	0.00	0.07	0.00	0.37	0.00	2.94
Sold Ratio (%)	13.2	0.0	0.0	100.0	0.0	75.0	0.0	
trrigation (%)	0.0	100.0	0.0	100.0	0.0	33.5	0.0	

# Number heads of Livestock per household

Cattle	Sheep	Goat	Poultry	Mule	Horse	Others	Total
				Donkey			
1.29	16.43	2 29	10.29	1.43	0.14	0.00	31.86

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrologica		Drinking Water			lı lı	rigation Wate	ſ
Conditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	29%	0%6	100%6	0%ö	86%	14%	43%
Satisfaction	0%6	0%6	86%		50%5	100%	67%
Quality		good				good	
Shortage		yes			1	yes	
Frequency (yr)		1/1			[	1/7	

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

no
nene

	-
yes	100%
no	000

Possible Alt	lernative Energy of Firewood		
Energy	ાસ	no	
Gas	0%	100%6	

Gas	0%	100%
Electricity	100%	0%

Opinion of Leader on Irrigation water for Hydropower Generation yes 0%

20	0.0
กง	100%

Disasters	yes
Floods	100%
Landslide	0°a

No.	330 Dou3	r	Sour Tedrara			
C.R.	25	Tahanaeut	Cervle	2	Tahanaout	
	A					
	1		L			
Location	<u>, , , , , , , , , , , , , , , , , , , </u>		<u></u>			

ſ

mouscioius a	a roporation	
[	Yr 1996	Yr 2010
Househelds	110	131
Population	677	819

Working Me	mber per he	usehold
Agriculture	1.92	household
Non-agri	1.46	household
[ota]	3.38	houschold

Access (km)		
Pist	1.5	(km)
Path	0.0	(km)
Total	1.5	(kn)

# **House Conditions**

House size 1	household	Structure	of House	Number of houses		
Rooms	(m2)	Tradition	Modern	Single Ploral		
6	347	100%	0%	92%	8%6	

# Education Ratio

Education	Village	ars over 7 ye	ars eld	Children (7-12 years old)			
Level	Total	Male	Female	Total	Male	Female	
None	55.6%	40.4%	76.3%		f		
Koranie	44.4%	59.6%	23.7%				
Fundamental	24.4%	26.9%	21.1%	64.3%	66.7%	60.0%	

# Annual Budget per Household

Agri.	25,331	41.9%
Livestock	6,781	11.2%
Forestry	0	0.0%
Others	28,338	46.9%
Total	60,450	100 0%
Expend,	17,455	
Saving	42,995	<u></u>

# Land holding and Cultivated land (ha household)

Tctə]	Cultivated Crops (ha household)										
Land (ha)	W. Cereal	V. Cereal S. Cereal Legumes Vegetable Potatoes Ofive, Afm. Apples, Total									
7.62	7.93	0.00	0.00	0.00	0.00	1.28	0.62	9.83			
Seld Ratio (%)	17.3	0.0	0.0	0.0	0.0	91.0	99.0	· · ·			
Inigation (%)	1.2	0.0	0.0	0.0	0.0	50.0	100.0				

# Number heads of Livestock per household

ſ	Cattle	Sheep	Goat	Poultry	Mole	Horse	Others	Total
					Donkey			
	1.62	12.08	1.31	19.00	1.46	0.00	0.00	35.46

# Water Sources, Satisfaction, Water Quality, and Water Shortage

Hydrological		Drinkin	g Water		1	rigation Wat	15
Cenditions	River	Spring	Well	Tank	River	Spring	Well
Water Source	0%5	8%6	100%6	0%i	0%	8%6	23%
Satisfaction	Ū°a	100%	92%5		0%	100%	100%
Quality		good		·····		good	
Sheitage		yes		····		yes	
Frequency (yr)		1/1	<u> </u>			1/1	

<Pre><Pre>Select Conditions informed by Village Leader>
Awareness of over deforestation causing soil erosion =

| _   |      |
|-----|------|
| yes | 100% |
| no  | 0%   |

# Opinion of Leader on Irrigation water for Hydropower Generation

| yes | 100% |
|-----|------|
| no  | 0?5  |
|     |      |

| Damages b  | y Natural I | Disasters |
|------------|-------------|-----------|
| Disasters  | yes         | 1         |
| Fleeds     | 100%        | 1         |
| l andslide | 0%          | 1         |

| Forest Condition |      |  |  |
|------------------|------|--|--|
| Over-cutting     | nə   |  |  |
| Degree           | none |  |  |
| Over-grazing     | 100  |  |  |
| Degree           | no   |  |  |

. . .

|        | ernative Ener | gy of Firewoo | d |
|--------|---------------|---------------|---|
| Farmer |               |               |   |

| ruciti      | 462  | no   |
|-------------|------|------|
| Gas         | 100% | 0%   |
| Electricity | 0%6  | 100% |

| No.      | 340 Douar |                      | Tlat Tedrara     |            |         |  |  |
|----------|-----------|----------------------|------------------|------------|---------|--|--|
| C R.     | 25        | Tahanaeut            | Tahanaout Cercle |            |         |  |  |
|          |           |                      |                  |            |         |  |  |
| location |           | and the state of the | W7 54            | 7 Altitude | 970 (m) |  |  |
| atitude  | N31 2     | 31 Longitude         | W7 34            |            |         |  |  |

3.00 household

# House Conditions

Population

| House size | Number o | of houses |        |        |        |
|------------|----------|-----------|--------|--------|--------|
| Rooms      | (m2)     | Tradition | Medern | Single | Plurai |
| 8          | 456      | 89%       | 1195   | 78%    | 22%    |

593

**Education Ratio** 

| Education   | Village | rs over 7 ye | ars old | Children (7-12) ears old) |       |        |
|-------------|---------|--------------|---------|---------------------------|-------|--------|
| Level       | Total   | Male         | Female  | Total                     | Male  | Female |
| None        | 66.1%   | 50.0%        | 80.6%   |                           |       |        |
| Koranie     | 33.9%   | 50.0%        | 19.4%   |                           |       |        |
| Fundamental | 28.8%   | 39.3%        | 19.4%   | 72.7%                     | 66.7% | 75.0%  |

# Annual Budget per Household Agri. 14,304 Livestock 9,789

Total

| LIVESIOCK | 9,789  | 20.970 |
|-----------|--------|--------|
| Forestry  | 0      | 0.0%   |
| Others    | 22,711 | 48.5%  |
| Total     | 46,804 | 100.0% |
| Expend.   | 20,184 |        |
| Saving    | 26,619 |        |

0.0 (km)

30.6%

30.00

# Land holding and Cultivated land (ha household)

490

| Total          | Cultivated Crops (ha household) |           |         |           |          |             |         |       |
|----------------|---------------------------------|-----------|---------|-----------|----------|-------------|---------|-------|
| Land (ha)      | W. Cereal                       | S. Cereal | Legumes | Vegetable | Potatoes | Olive, Alm. | Apples, | Total |
| 8.12           | 7.33                            | 0.00      | 0.00    | 0.10      | 031      | 1.35        | 0.00    | 9.08  |
| Sold Ratio (%) | 26.5                            | 0.0       | 0.0     | 88.6      | 94.0     | 69.4        | 0.0     |       |
| Irrigation (%) | 1.9                             | 00        | 0.0     | 50.0      | 50.0     | 39.7        | 0.0     |       |

Total

# Number heads of Livestock per household

| Cattle | Sheep | Goət | Poultry | Mule   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      | -       | Donkey |       |        |       |
| 4.11   | 15.67 | 1.89 | 17.56   | 1.67   | 0.33  | 0.00   | 41.22 |

# Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        |       |      | Irrigation Water |        |      |
|----------------|----------------|--------|-------|------|------------------|--------|------|
| Conditions     | River          | Spring | Well  | Tank | River            | Sering | Well |
| Water Source   | 6%             | 78%    | 44%   | 0?6  | 11%              | 56%6   | 44%  |
| Satisfaction   | 0%             | 100%   | 100%6 | ··   | 0%               | 40%    | 75%  |
| Quality        |                | good   | -     |      | 1                | good   |      |
| Shortage       |                | yes    |       |      | ·                | J:65   |      |
| Frequency (yr) |                | 1/1    |       |      |                  | 1/1    |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

|   |     | . `  | Ì |
|---|-----|------|---|
|   | yes | 100% |   |
| 1 | nə  | 0%   |   |

# Porest Condition Over-cutting no Degree none Over-grazing no Degree none

| Energy      | yes  | 0    |
|-------------|------|------|
| Gas         | 106% | 0%   |
| Electricity | Ú%6  | 100% |

Possible Alternative Energy of Firewood

Opinion of Leader on Irrigation water for Hydropower Generation

| yes | 100%6 |
|-----|-------|
| no  | 0° 5  |

| Damages by | Natural | Disasters |
|------------|---------|-----------|
|------------|---------|-----------|

| Disasters | ្រន  |
|-----------|------|
| Floods    | 100% |
| Landslide | 0%å  |

| No.  | 350 Douar |         | Imin Tala |   | ·       |
|------|-----------|---------|-----------|---|---------|
| C.R. | 31        | Anougal | Cercle    | 3 | Amizmiz |

| Latitude | N31 | 7 | 52 Longitude | W.8 | 16 | 8 Anitude | 1,480 (m) |
|----------|-----|---|--------------|-----|----|-----------|-----------|
|----------|-----|---|--------------|-----|----|-----------|-----------|

# Households and Population

| [          | Yr 1996 | Yr 2010 |
|------------|---------|---------|
| Households | 70      | 83      |
| Pepulation | 460     | 557     |

| Agriculture | 2 25 | household |
|-------------|------|-----------|
| Non-agri    |      | household |

# Pist 12 5 (km) Path 0.0 (km) Total 12 5 (km)

Access (km)

# **House Conditions**

| House size household |      | Structure | of House | Number of houses |        |
|----------------------|------|-----------|----------|------------------|--------|
| Rooms                | (m2) | Tradition | Modern   | Single           | Plural |
| 6                    | 224  | 100%      | 0%       | 92%              | 8%     |

# Annual Budget per Household

| Agri.     | 12,807 | 49.0%                                 |
|-----------|--------|---------------------------------------|
| Livestock | 6,494  | 24.8%                                 |
| Forestry  | 0      | 0.0%                                  |
| Others    | 6,835  | 26.2%                                 |
| Total .   | 26,136 | 100.0%                                |
| Expend    | 13,259 | · · · · · · · · · · · · · · · · · · · |
| Saving    | 12,877 |                                       |

# Education Ratio

| Education   | Village | ars over 7 ye | ars old | Child | ren (7-123 ea | rs old) |
|-------------|---------|---------------|---------|-------|---------------|---------|
| Level       | Tetal   | Male          | Female  | Total | Male          | Female  |
| None        | 80 0%   | 68.4%         | 91.9%   |       | · · · · ·     |         |
| Koranie     | 20.0°6  | 31.6%         | 8.1%    |       |               |         |
| Fundamental | 13.3%6  | 21.1%         | 5.4%    | 40.0% | 66.7%i        | 18.2%   |

# Land holding and Cultivated land (ha household)

| Tota]          |           |           | Cul     | ivated Crops | (ha househa | old)       |         |       |
|----------------|-----------|-----------|---------|--------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Potatoes    | Olive, Alm | Apples, | Total |
| 1.91           | 1.03      | 0.33      | 0.00    | 0.03         | 0.44        | 0.01       | 0.32    | 2.17  |
| Sold Ratio (%) | 0.0       | 0.0       | 0.0     | 63.1         | 95.3        | 100.0      | 98.9    |       |
| Irrigation (%) | 63.3      | 85.7      | 0.0     | 50.0         | 90.9        | 50.0       | 48.0    |       |

# Number heads of Livestock per household

| Cattle | Sheep | Goat | Peultry | Mule   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 1.50   | 2.67  | 0.33 | 14 25   | 1.00   | 0.00  | 0.00   | 19.75 |

# Water Sources, Satisfaction, Water Quality, and Water Shortage

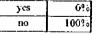
| Hydrological   |       | Drinkin | g Water |          | i,    | rigation Wate | r    |
|----------------|-------|---------|---------|----------|-------|---------------|------|
| Conditions     | River | Spring  | Well    | Tank     | River | Spring        | Well |
| Water Source   | 0%5   | 100%    | 0° o    | 0%6      | 8%6   | 100%          | 0%   |
| Satisfaction   | 0%    | 106%6   | 0%      |          | 100%  | 100%          | 0%   |
| Quality        |       | good    |         | <u> </u> |       | good          |      |
| Shortage       |       | no      |         |          |       | <br>no        |      |
| Frequency (ST) |       | 1/0     |         |          |       | 1/20          |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

| yes | 100% |
|-----|------|
| no  | 0º.c |

# Opinion of Leader on Irrigation water

| for | Hyd | opower | Generation. |  |
|-----|-----|--------|-------------|--|
|     |     |        |             |  |



| ne   |
|------|
| none |
|      |

| Possible Alto | emative Energ | gy of Firewo | od |
|---------------|---------------|--------------|----|
| Paseau        |               |              |    |

| energy      | yes  | nə   |
|-------------|------|------|
| Gas         | 0°6  | 100% |
| Electricity | 100% | 0%   |

| DISASTERS | y e 5 |
|-----------|-------|
| Floods    | 0%6   |
| Landslide | 0%ó   |

| No.<br>C.R. | 360 Douar |                | Addouz |            |           |
|-------------|-----------|----------------|--------|------------|-----------|
|             |           |                |        | <b>N</b> I |           |
|             | 31        | Anougal        | Cercle | <u> </u>   | Amizmiz   |
| ecation     |           |                | W8 16  | 3 Altitude | 1,460 (m) |
| atitude     | N31       | 7 42 Longitude | W8 10  | 5/7.0000   | 1,100 ()  |

| [          | Yr 1996 | Yr 2010 |
|------------|---------|---------|
| Households | 50      | 59      |
| Population | 300     | 363     |

| Working Mer | nter per ho | usehold     |
|-------------|-------------|-------------|
| Agriculture | 1.25        | household   |
| Non-agri    | 0.88        | household   |
| Total       | 2.13        | .'household |

| Pist  | 12 5 | (I.n.) |
|-------|------|--------|
| Path  | 05   | (km)   |
| Fotal | 13.0 | (km)   |

10,415

5,408

3,838

19,660

10,474

9,186

A

53.0%

27.5%

0.0%

19.5%

100.0%

Annual Budget per Household

Livestock

Ferestry

Others

Total

Expend.

Saving

Agn.

# **Heuse Conditions**

| House size 1 | nouscheld | Structure | of House | Number of houses |        |  |
|--------------|-----------|-----------|----------|------------------|--------|--|
| Recuis       | (m2)      | Tradition | Modern   | Single           | Plucal |  |
| 5            | 200       | 100%      | 0° i     | 88%              | 13%    |  |

# Education Ratio

| Education   | Villagers over 7 years old |       |        | Child | ren (7-12yea | rs old)        |
|-------------|----------------------------|-------|--------|-------|--------------|----------------|
| Level       | Total                      | Male  | Female | Total | Male         | Female         |
| None        | 70.7%                      | 64.7% | 75.0%  |       |              |                |
| Koranie     | 29.3%                      | 35.3% | 25.0%6 |       |              |                |
| Fundamental | 14.6%                      | 11.8% | 16.7%  | 60.0% | 66.7°6       | <b>57.1</b> %ö |

# Land holding and Cultivated land (ha household)

| Tetal          |           |           | Cul     | ivated Crops | (ha househo | 1d)        |         |       |
|----------------|-----------|-----------|---------|--------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Potatoes    | Olive,Alm. | Apples, | Total |
| 2 53           | 1.53      | 0.50      | 0.00    | 0.09         | 0.47        | 0.34       | 0.17    | 3.11  |
| Sold Ratio (%) | 0.0       | 0.0       | 0.0     | 80.8         | 94.1        | 96.0       | 99.3    |       |
| Irrigation (%) | 68.8      | 75.0      | 0.0     | 100.0        | 87.5        | 40.0       | 50.0    |       |

# Number heads of Livestock per household

| Cattle | Sheep | Geat | Poultry | Mule   | Horse | Others | Totał |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 2.00   | 0.88  | 0.50 | 9.13    | 0.75   | 0.00  | 0.00   | 13.25 |

# Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drickin | g Water |      | l Is  | rigation Wale | r    |
|----------------|-------|---------|---------|------|-------|---------------|------|
| Conditions     | River | Spring  | Well    | Tank | River | Spring        | Well |
| Water Source   | 38%   | 63%     | 13%6    | 0%   | 50%   | 75%           | 0%6  |
| Satisfaction   | 67%   | 100%    | 100%    |      | 50°ö  | 67%           | 0%6  |
| Quality        |       | peer    |         |      |       | good          |      |
| Shortage       |       | yes     |         |      |       | yes           |      |
| Frequency (57) |       | 1/1     |         |      | · ·   | . 1/1         |      |

<Environmental Conditions informed by Village Leader>

Awareness of over deforestation causing soil erosion =

| Over-cutting | no   |
|--------------|------|
| Degree       | none |
|              |      |
|              |      |
| Over-grazing | yes  |

| yes | 106%6       |
|-----|-------------|
| no  | <b>6</b> %6 |

| Possible Alt | emative Energ | y of Firewood |
|--------------|---------------|---------------|
|              |               |               |

| Energy      | y.ss  | no   |
|-------------|-------|------|
| Gas         | 100%5 | 0%5  |
| Electricity | 6?5   | 100% |

Opinion of Leader on Irrigation water

| for Hydropower Generation |       |  |
|---------------------------|-------|--|
| yes                       | 100%6 |  |
| no                        | 0%6   |  |

# Damages by Natural Disasters

| Disasters | yes   |
|-----------|-------|
| Hoeds     | 100%6 |
| Landslide | 0°,0  |

| No.      | 370 Dous | r       | Ain Ghad |   |                                       |
|----------|----------|---------|----------|---|---------------------------------------|
| CR.      | 31       | Anougal | Cercle   | 3 | Amizmiz                               |
| Location |          | ······  | ·····    | l | · · · · · · · · · · · · · · · · · · · |

| neusciotas aj | a reputation |         |
|---------------|--------------|---------|
|               | Yr 1996      | Yr 2010 |
| Households    | 43           | 51      |
| Population    | 206          | 249     |

| Working Memb | per per ho | usenoid   |
|--------------|------------|-----------|
| Agriculture  | 2.33       | household |
| Non-agri.    | 0.00       | heusehold |
| Total        | 2 33       | household |

| Access (km) |      |       |
|-------------|------|-------|
| Pist        | 11.5 | (ł.m) |
| Path        | 0.0  | (km)  |
| Total       | 11.5 | (km)  |

# **House Conditions**

| House size-1 | nousehold | Structure | of House | Number of houses |        |  |
|--------------|-----------|-----------|----------|------------------|--------|--|
| Reoms        | (m2)      | Tradition | Medern   | Single           | Plural |  |
| 8            | 168       | 100%      | 6%a      | 67%              | 33%    |  |

# **Education Ratio**

| Education   | Villagers over 7 years old |       |        | Child | cen (7-12yea | rs old) |
|-------------|----------------------------|-------|--------|-------|--------------|---------|
| Level       | Total                      | Male  | Female | Tota  | Male         | Female  |
| None        | 58.8%                      | 38.9% | 81 2%  |       |              |         |
| Keranie     | 41.2°6                     | 61.1% | 18 8%  |       | · · · · · ·  |         |
| Fundamental | 35.3%                      | 50.0% | 18.8%  | 87.5% | 100.0%       | 66.7%   |

# Annual Budget per Household

| Agri.     | 29,238 | 69.7°  |
|-----------|--------|--------|
| Livestock | 12,717 | 30.3%  |
| Ferestry  | 0      | 0.0%   |
| Others    | 0      | 0.0%   |
| Total     | 41,955 | 100.0% |
| Expend.   | 17,343 |        |
| Saving    | 24,612 |        |

# Land holding and Cultivated land (ha household)

| Total          |           | Cultivated Crops (ha household) |         |           |          |            |         |      |
|----------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|------|
| Land (ha)      | W. Cereal | S. Cereal                       | Legumes | Vegetable | Potatoes | Olive Alm. | Apples, | Teta |
| 2 08           | 1.03      | 0.73                            | 0.00    | 0.00      | 0.67     | 0.26       | 1.01    | 3.69 |
| Sold Ratio (%) | 0.0       | 0.0                             | 0.0     | 0.0       | 91.7     | 96.6       | 90.9    |      |
| Irrigation (%) | 91.7      | 100.0                           | 0.0     | 0.0       | 100.0    | 100.0      | 66.7    |      |

# Number heads of Livestock per household

| Cattle | Sheep | Goat | Poultry | Mole   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 2.83   | 3.17  | 0.00 | 7.17    | 0.83   | 0.00  | 0.00   | 14.00 |

# Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |         |      | l Iı | rigation Wate | ĩ      |      |
|----------------|----------------|---------|------|------|---------------|--------|------|
| Conditions     | River          | Spring  | Well | Tank | River         | Spring | Well |
| Water Source   | 0?i            | 83%     | 17%  | 0%   | 0%6           | 100%   | 0%   |
| Satisfaction   | 0%6            | 100%    | 100% |      | 0%6           | 67%    | 0%   |
| Quality .      |                | good    |      |      | 1             | good   |      |
| Shortage       |                | પ્રેલ્ડ |      |      |               | yes    |      |
| Frequency (yr) |                | 1/1     |      |      |               | 1/10   |      |

<Fnvironmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100% |
|-----|------|
| no  | 0%   |

# Opinion of Leader

on Irrigation water for Undernauter Gaussia

| for Hydropower Generation |      |  |
|---------------------------|------|--|
| yes                       | 6?6  |  |
| no                        | 100% |  |

| Over-cutting | ก่อ  |
|--------------|------|
| Degree       | none |
|              |      |
| Over-grazing | ກອ   |
|              |      |

# Possible Alternative Energy of Firewood

| rustgy.     | yes  | no    |
|-------------|------|-------|
| Gas         | 0%   | 100%5 |
| Electricity | 100% | 0%    |

| Damages by Natural Disasters |
|------------------------------|
|------------------------------|

| Disasters | <u> </u> |
|-----------|----------|
| Floods    | 100%     |
| Landslide | 0%       |

| <br>380 Douar |         | Inzaine |   |          |
|---------------|---------|---------|---|----------|
| <br>31        | Anougal | Cercle  | 3 | Amizaviz |

| Latitude | N31 | 8 | 2 Longitude | W8 | 15 | 42 Altitude | 1,420 (m) |
|----------|-----|---|-------------|----|----|-------------|-----------|
|----------|-----|---|-------------|----|----|-------------|-----------|

| Households and Population |         |         |  |  |  |
|---------------------------|---------|---------|--|--|--|
|                           | Yr 1996 | Yr 2010 |  |  |  |
| Households                | 70      | 83      |  |  |  |
| Population                | 420     | 508     |  |  |  |

| Werking Member per household |      |           |  |  |  |
|------------------------------|------|-----------|--|--|--|
| Agriculture                  | 2 89 | household |  |  |  |
| Non-agri.                    | 1.22 | household |  |  |  |
| Total                        | 4.11 | household |  |  |  |

| Access (km | )    |       |
|------------|------|-------|
| Pist       | 10 0 | (kni) |
| Path       | 0.0  | (km)  |
| Total      | 10.0 | (km)  |

#### House Conditions

| House size household |      | household Structure of House |        | Number of | of houses |
|----------------------|------|------------------------------|--------|-----------|-----------|
| Reoms                | (m2) | Tradition                    | Modern | Single    | Plural    |
| 7                    | 177  | 89%                          | 11%    | 78%       | 22%       |
|                      |      | A                            |        |           |           |

#### Education Ratio

| Education   | Villagers over 7 years old |        |        | Child | ren (7-12 yea | rs old) |
|-------------|----------------------------|--------|--------|-------|---------------|---------|
| Level       | Total                      | Male   | Female | Total | Male          | Female  |
| None        | 70.5%                      | 46.4%  | 90.9%  |       |               |         |
| Koranie     | 29.5°i                     | \$3.6% | 9.1%   |       |               |         |
| Fundamental | 9.8%                       | 14.3%  | 6.1%   | 25.0% | 50.0%         | 20.0%   |

### Land holding and Cultivated land (ha household)

| Total          |           | Cukivated Crops (ha household) |         |           |          |            |         |       |  |
|----------------|-----------|--------------------------------|---------|-----------|----------|------------|---------|-------|--|
| Land (ha)      | W. Cereal | S. Cereal                      | Legumes | Vegetable | Polatoes | Olive,Alm. | Apples, | Total |  |
| 2 81           | 2.25      | 0.44                           | 0.00    | 0.02      | 1.21     | 0.26       | 1.03    | 5.20  |  |
| Sold Ratio (%) | 8.3       | 83                             | 0.0     | 81.7      | 92.3     | 79.4       | 96.5    |       |  |
| Irrigation (%) | 67.9      | 100.0                          | 0.0     | 100.0     | 100.0    | 100.0      | 83.3    |       |  |

#### Number heads of Livestock per household

| Cattle | Sheep | Geat  | Poultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        |       |
| 3.11   | 6.56  | 13.00 | 13.44   | 0.89   | 0.00  | 0.00   | 37.00 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        |      |      | li li | rigation Wate | r    |
|----------------|----------------|--------|------|------|-------|---------------|------|
| Conditions     | River          | Scring | Well | Tank | River | Spring        | Well |
| Water Source   | 44%            | 67%    | 33%  | 0°5  | 100%  | 67%           | 0%6  |
| Satisfaction   | 100%           | 100%   | 100% |      | 100%5 | 100%          | 0%6  |
| Quality        |                | good   |      |      |       | good          |      |
| Shortage       |                | yes    |      |      |       | yes           |      |
| Frequency ()T) | ·              | 1/1    |      |      |       | 1/10          |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100% |
|-----|------|
| 60  | 0%5  |

| Forest Condition |      |
|------------------|------|
| Over-cutting     | yes  |
| Degree           | none |
| Over-grazing     | yes  |
| Degree           | fair |

| Possible Alt | emative Ener | gy of Firew | ioodi |
|--------------|--------------|-------------|-------|
| Fortes       | 168          | no          | 1     |

| 1.3.6.57    |      | 1J    |
|-------------|------|-------|
| Gas         | 0?6  | 100%5 |
| Electricity | 100% | 0%    |

Opinion of Leader on Irrigation water for Hydropower Generation.

| yes | 100% |
|-----|------|
| nə  | 0%   |
|     |      |

#### Damages by Natural Disasters

| Disasters | yes   |
|-----------|-------|
| Floods    | 100%5 |
| Landslide | 0%ò   |

#### Annual Budget per Household

| Agri.     | 36,066 | 67.6°i           |
|-----------|--------|------------------|
| Livestock | 11,656 | 21.9%            |
| Forestry  | 0      | 0.0%             |
| Others    | 5,600  | 10.5%            |
| Total     | 53,322 | 10 <b>0</b> .0%; |
| Expend.   | 20,735 |                  |
| Saving    | 32,587 |                  |

| Number                | of Selected V | illages | 1]             |               |         |             |           |
|-----------------------|---------------|---------|----------------|---------------|---------|-------------|-----------|
| No.                   | 390           | Douar   | - Inii N'isty  |               |         |             |           |
| C.R.                  | - 31          | 1       | Anougal Cercle |               |         | 3           | Amizmiz   |
| Location<br>I atitude | N31           | 9       | 0 Longitude    | 11.8          | 15      | 51 Altitude | 1,350 (m) |
| Households ar         | nd Population |         | Working Menit  | er per houset | iold    | Access (k   | m)        |
|                       | Yr 1996       | Yr 2010 | Agriculture    | 2.58 he       | usehold | Pist        | 140 (km)  |
| Households            | 86            | 102     | Non-agri.      | 0.58 ho       | usehold | Path        | 0.0 (km)  |

household

3.17

#### House Conditions

Population

| House size | House size household |           | of House | Number of houses |        |  |
|------------|----------------------|-----------|----------|------------------|--------|--|
| Rooms      | (m2)                 | Tradition | Medern   | Single           | Plural |  |
| 5          | 143                  | 92%       | 8.0      | 92%              | 83%    |  |

544

#### Education Ratio

| Education   | Village | Villagers over 7 years old |        |       | Children (7-12 years old) |        |  |
|-------------|---------|----------------------------|--------|-------|---------------------------|--------|--|
| Level       | Total   | Male                       | Female | Total | Male                      | Female |  |
| None        | 79.7%   | 60.6%                      | 97.2°6 |       | 1                         |        |  |
| Koranie     | 20.3%   | 39.4%                      | 2.8%   |       |                           | -      |  |
| Fundamental | 7.2%    | 12 1%                      | 2 8%   | 11.1% | 12.5%                     | 10.0%  |  |

#### Annual Budget per Household 9,093 Agri. 43 2% 28.0% Livestock 5,896 0.0% Forestry Û Others 6,042 28.7% Total 21,030 100.0% 10,784 Expend. Saving 10,246

14.0 (km)

Total

#### Land holding and Cultivated land (ha household)

450

| Total          |           | Cultivated Crops (ha household) |         |           |          |            |         |       |
|----------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal                       | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Total |
| 2 44           | 1.61      | 0.29                            | 0.00    | 0.08      | 0.63     | 0.00       | 0.08    | 2.69  |
| Sold Ratio (%) | 0.0       | 14.3                            | 0.0     | 100.0     | 98.2     | 0.0        | 95.1    |       |
| Irrigation (%) | 45.5      | 100.0                           | 0.0     | 100.0     | 100.0    | 0.0        | 57.1    |       |

Total

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Poultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        | •     |
| 1 33   | 5.17  | 13.25 | 15.00   | 0.75   | 0.00  | 0.00   | 35.50 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        |      | Irrigation Water |       |        |      |
|----------------|----------------|--------|------|------------------|-------|--------|------|
| Conditions     | River          | Spring | Well | Tank             | River | Spring | Well |
| Water Source   | Ū°á            | 58%    | 42%  | 0%               | 0%    | 75°.0  | 25%  |
| Satisfaction   | Û°:0           | 100%5  | 60%  |                  | 0%    | 100%   | 67%  |
| Quality        |                | good   |      |                  |       | good   |      |
| Shortage       |                | yes    |      |                  |       | yes    |      |
| Frequency (yr) |                | 1/1    |      |                  | [     | 1/10   |      |

. ...

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<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100%6 |
|-----|-------|
| nø  | 0%    |

.

#### Opinion of Leader

on Inigation water for Hydropower Generation

| yes | 0°o   |
|-----|-------|
| no  | 100°è |

| 00    |
|-------|
| 15008 |
|       |
| 165   |
| 0005  |
|       |

| ressible Alb | smanus Pu | istgy of Fi | nene pe |
|--------------|-----------|-------------|---------|
| [            | r         |             |         |

| taxegy      | yes   | 01   |
|-------------|-------|------|
| Gas         | 0%    | 100% |
| Electricity | 100%5 | 0%6  |

| Damages | by | Natural | Disasters |
|---------|----|---------|-----------|
| r       | ·  |         | -         |

| Disasters | yes |
|-----------|-----|
| Floods    | 0%0 |
| Landslide | Ŭ?o |

Socio-36

| No.  | f Selected Villages<br>400 Douar | · · · · · · · · · · · · · · · · · · · | Dou Anan | ner |         |
|------|----------------------------------|---------------------------------------|----------|-----|---------|
| C.R. | 31                               | Arougal                               | Cercle   | 3   | Amizmiz |

|          | ····· | A.1 | 4) Longitude | W8 | 151 | 28 Altitude | 1.3203(su) |
|----------|-------|-----|--------------|----|-----|-------------|------------|
| Hatitude | N31   | 81  | 4) Longitude |    |     |             |            |
|          |       |     |              |    |     |             |            |
|          |       |     |              |    |     |             |            |

| Households and Population |         |         |  |  |
|---------------------------|---------|---------|--|--|
|                           | Yr 1996 | Yr 2010 |  |  |
| Households                | 35      | 42      |  |  |
| Population                | 220     | 266     |  |  |

| Working Member per household |      |           |  |  |
|------------------------------|------|-----------|--|--|
| Agriculture                  | 3.25 | household |  |  |
| Non-agri                     | 0.75 | household |  |  |
| Total                        | 4 00 | household |  |  |

| Pist  | 8.5 | (km) |
|-------|-----|------|
| Path  |     | (km) |
| Total |     | (km) |

#### House Conditions

| House size household |      | Structure of House |        | Number o | f houses |
|----------------------|------|--------------------|--------|----------|----------|
| Rooms                | (m2) | Tradition          | Modern | Single   | Plural   |
| 7                    | 167  | 100%               | Û%i    | 75%      | 25%      |

#### Education Ratio

| Education   | Village | rs over 7 ye | ars old | Child | ren (7-12) ea | rs old) |
|-------------|---------|--------------|---------|-------|---------------|---------|
| Level       | Total   | Male         | Female  | Total | Male          | Female  |
| None        | 83.9%   | 70.6°5       | 100.0%  |       |               |         |
| Koranie     | 16.1%   | 29.4%        | 0.0%    |       |               |         |
| Fundamental | 0.0%    | 0.0%         | 0.0%    | 0.0%  | 0.0%          | 0.0%    |

#### Annual Budget per Household

| Agri.     | 17,348 | 53.0%  |
|-----------|--------|--------|
| Livestock | 12,663 | 38.7%  |
| Forestry  | 0      | 0.0%   |
| Others    | 2,750  | 8.4%   |
| Total     | 32,760 | 100.0% |
| Expend    | 12,000 |        |
| Saving    | 20,760 |        |

#### Land holding and Cultivated land (ha household)

| Total          | Cultivated Crops (ha household) |           |         |           |          |            |         |       |
|----------------|---------------------------------|-----------|---------|-----------|----------|------------|---------|-------|
| Land (ha)      | W. Cerea                        | S. Cereal | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Total |
| 1.53           | 1.38                            | 0.69      | 0.00    | 0.19      | 0.50     | 0.15       | 0.45    | 2.76  |
| Sold Ratio (%) |                                 | 0.0       | 0.0     | 93.1      | 100.0    | 97.8       | 98.9    |       |
| Irrigation (%) | 100.0                           | 100.0     | 0.0     | 0.0       | 100.0    | 0.0        | 25.0    |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Peultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       | · ·   |         | Donkey |       |        |       |
| 2.25   | 3.25  | 25.50 | 10.00   | 1.25   | 0.00  | 0.00   | 42 25 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking | g Waler |      | 1     | rigation Wate | :r   |
|----------------|-------|----------|---------|------|-------|---------------|------|
| Cenditions     | River | Spring   | Well    | Tank | River | Spring        | Well |
| Water Source   | 100%6 | 25%      | 0%      | 0%   | 50%   | 75%           | 0%   |
| Satisfaction   | 100%6 | 100%     | 0%      |      | 100%  | 100%          | 0%   |
| Quality        | ····· | poor     |         |      |       | good          |      |
| Shortage       |       | yrs      |         |      |       | Jes           |      |
| Frequency (yr) |       | 1/1      |         |      |       | 1/1           |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100% |
|-----|------|
| no  | 0%6  |

# Forest Condition Over-cutting no Degree none Over-grazing yes Degree none

| Possible Alt | emative Energ | gy of Firewood | J. |
|--------------|---------------|----------------|----|
| (F           |               |                |    |

| 1110157                               | ,     |       |  |
|---------------------------------------|-------|-------|--|
| Gas                                   | 100%5 | Û%á   |  |
| Electricity                           | 0%    | 100%5 |  |
| · · · · · · · · · · · · · · · · · · · |       |       |  |

Opinion of Leader on Irrigation water

| for Hydropower Generation. |      |  |  |  |  |
|----------------------------|------|--|--|--|--|
| yes                        | 100% |  |  |  |  |
| nə                         | 0?6  |  |  |  |  |

| Disasters | Yes  |  |
|-----------|------|--|
| Fleods    | 100% |  |
| Landslide | 100% |  |

| No.      | 410 Dous | 1       | Igoundem |   |         |
|----------|----------|---------|----------|---|---------|
| C.R.     | 31       | Anougal | Cercle   | 3 | Amizmiz |
|          |          |         | I        | 1 |         |
| Location |          |         |          |   |         |

| Households and Population |         |         |  |  |  |
|---------------------------|---------|---------|--|--|--|
|                           | Yr 1996 | Yr 2010 |  |  |  |
| Households                | 13      | 15      |  |  |  |
| Population                | 100     | 121     |  |  |  |

| Working Member per household |      |           |  |  |
|------------------------------|------|-----------|--|--|
| Agriculture                  | 4.00 | household |  |  |
| Non-agri.                    | 0.33 | household |  |  |
| Total                        | 4.33 | household |  |  |

| Access (km) | )        |
|-------------|----------|
| Pist        | 7.0 (km) |
| Path        | 0.6 (km) |
| Total       | 7.0 (km) |

#### House Conditions

| House size 1 | nousehold | Structure | of House | Number o | of houses |
|--------------|-----------|-----------|----------|----------|-----------|
| Rooms        | (m2)      | Tradition | Modern   | Single   | Ploral    |
| <u>5</u> .   | 198       | 100%      | 0%       | 33%      | 67%       |

#### Education Ratio

| Education   | Villagers over 7 years old |       |        | Children (7-12 years old) |        |        |
|-------------|----------------------------|-------|--------|---------------------------|--------|--------|
| Level       | Total                      | Male  | Female | Total                     | Male   | Female |
| None        | 60.0%                      | 33.3% | 81.8%  |                           | 1 :    |        |
| Koranie     | 40.0%                      | 66.7% | 18.2%  |                           |        |        |
| Fundamental | 25.0%                      | 33.3% | 18.2%  | 71.4%                     | 100.0% | 50.6%  |

#### Annual Budget per Household

| Agri. 🕐   | 39,213 | 61.5%  |
|-----------|--------|--------|
| Livestock | 19,595 | 30.7%  |
| Forestry  | 0      | 0.0%   |
| Others    | 5,000  | 7.8%   |
| Total     | 63,808 | 100.0% |
| Expend    | 20,932 | ······ |
| Saving    | 42,876 |        |

#### Land holding and Cultivated land (ha household)

| Total          |           | Cultivated Crops (ha household) |         |           |          |            |         |       |
|----------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|-------|
| Land (ba)      | W. Cereal | S. Cereal                       | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Tetal |
| 7.33           | 3.17      | 0.53                            | 0 00    | 0.33      | 1.17     | 0.42       | 1.01    | 6.62  |
| Sold Ratio (%) | 0.0       | 0.0                             | 0.0     | 100.0     | 100.0    | 100.0      | 98.5    |       |
| Inigation (%)  | 55.6      | 100.0                           | 0.0     | 100.0     | 100.0    | 33.3       | 33.3    | ····· |

#### Number heads of Livestock per household

| Cattle | Sheep | Geat  | Poultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        |       |
| 4.67   | 0.00  | 40 00 | 36.67   | 1.00   | 0.00  | 0.00   | 82.33 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking Water |      |      | Irrigation Water |        |      |
|----------------|-------|----------------|------|------|------------------|--------|------|
| Conditions     | River | Spring         | Well | Tank | River            | Spring | Well |
| Water Source   | 67%5  | 67%            | 33%  | (ies | 33%              | 100%   | 0%   |
| Satisfaction   | 0%    | 100%           | 100% |      | 100%             | 100%   | 0%   |
| Quality .      |       | good           |      |      |                  | good   |      |
| Shortage       |       | yes            |      |      | <b>_</b>         | yes    |      |
| Frequency (yr) |       | 1/1            |      |      |                  | 1/10   |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| પ્રહ | 100% |
|------|------|
| nə   | 0%   |

#### Opinion of Leader on Irrigation water

| for Hydrep | ower Generation |
|------------|-----------------|
| yes        | 390             |
| no         | 100%            |

| Forest Condition |                                       |
|------------------|---------------------------------------|
| Over-cutting     | no                                    |
| Degree           | กงหล                                  |
|                  | · · · · · · · · · · · · · · · · · · · |
| Over-grazing     | no                                    |
|                  |                                       |

|        |      | gy of Firewoo | d |
|--------|------|---------------|---|
| Enermy | 5:20 | 5.2           |   |

| rucig)      | 342  | τiO  |
|-------------|------|------|
| Gas         | 0%o  | 100% |
| Electricity | 100% | 0%6  |

| Damages | Եյ | Natura | al I | Disasters |
|---------|----|--------|------|-----------|
|         |    |        |      |           |

| Disasters | yes   | ļ |
|-----------|-------|---|
| Floods    | 100%6 |   |
| Landslide | 0%    |   |

|     | f Selected Villages<br>420 Douar | <u></u> | Toug Lkhe | if |         |
|-----|----------------------------------|---------|-----------|----|---------|
| NR. | 31                               | Anougal | Cercle    | 3  | Amizmiz |

|           |      |     | 1211          | 11/0 | 5.6.] | 28 Aftitude  | 1 2001/m3   |   |
|-----------|------|-----|---------------|------|-------|--------------|-------------|---|
| li attuda | N31  | Q'  | S711 onestude | W8   | 121   | 20 /11111000 | 1,290 ((11) |   |
| atitude   | 1.51 | 1 1 |               |      | 1     |              |             | _ |
|           |      |     |               |      |       |              |             |   |

| Households ar | Households and Population |         |  |  |  |  |
|---------------|---------------------------|---------|--|--|--|--|
| [             | Yr 1996                   | Yr 2010 |  |  |  |  |
| Households    | 40                        | 48      |  |  |  |  |
| Population    | 250                       | 302     |  |  |  |  |

| Working Mer | Working Member per household |           |  |  |  |
|-------------|------------------------------|-----------|--|--|--|
| Agriculture | 4 20                         | household |  |  |  |
| Non-agri.   | 0.40                         | household |  |  |  |
| Total       | 4.60                         | heusehold |  |  |  |

| Access (km) | )   |      |
|-------------|-----|------|
| Pist        | 4.5 | (km) |
| Path        | 2.5 | (km) |
| Total       | 7.0 | (km) |

House Conditions

| House size 1 | neusehold | Structure | of House | Number o | of houses |
|--------------|-----------|-----------|----------|----------|-----------|
| Rooms        | (1)2)     | Tradition | Modern   | Single   | Plural    |
| 7            | 145       | 100%      | 0%5      | 100%     | 0%        |

Education Ratio

| Education   | Villagers over 7 years old |       |        | Children (7-12 years old) |       |        |
|-------------|----------------------------|-------|--------|---------------------------|-------|--------|
| Level       | Total                      | Male  | Female | Total                     | Male  | Female |
| None        | 77.8%                      | 66.7% | 100.0% |                           |       |        |
| Koranie     | 22 2°6                     | 33.3% | 0.0%   |                           |       |        |
| Fundamental | 2.8%                       | 4 2%  | 0.0%   | 12.5%                     | 20.0% | 0.0%   |

Annual Budget per Household

| Agri.     | 25,308 | 65.7%  |
|-----------|--------|--------|
| Livestock | 10,512 | 27.3%  |
| Forestry  | 0      | 0.0%   |
| Others    | 2,700  | 7.0%   |
| Totəl     | 38,520 | 100.0% |
| Expend.   | 15,960 |        |
| Saving    | 22,560 |        |

Land holding and Cultivated land (ha household)

| Total          | Cultivated Crops (ha household) |           |         |           |          |            |         |       |
|----------------|---------------------------------|-----------|---------|-----------|----------|------------|---------|-------|
| Land (ha)      | W Cereal                        | S. Cereal | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Total |
| 4 20           | 2.70                            | 0.68      | 0.00    | 0.40      | 1.00     | 0.40       | 0.41    | 5.59  |
| Sold Ratio (%) | 5.3                             | 0.0       | 0.0     | 100.0     | 100.0    | 81.1       | 99.4    |       |
| Irrigation (%) | 53.3                            | 100.0     | 0.0     | 100.0     | 100.0    | 50.0       | 40.0    |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Poukry | Mule   | Horse | Others | Total |
|--------|-------|-------|--------|--------|-------|--------|-------|
|        |       |       |        | Donkey |       |        |       |
| 2.00   | 0.00  | 38.00 | 0 20   | 0.80   | 0.00  | 0.00   | 41.00 |

Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        |      |      | Irrigation Water |        |      |
|----------------|----------------|--------|------|------|------------------|--------|------|
| Conditions     | River          | Spring | Well | Tank | River            | Spring | Well |
| Water Source   | 80?5           | 60%    | 0°a  | 0°6  | 100%             | 60%    | 0°6  |
| Satisfaction   | 75%            | 100%6  | 0%   |      | 100%             | 67%    | 0%   |
| Quality        |                | poor   |      |      |                  | poor   |      |
| Sheitage       |                | yes    |      |      |                  | yes    |      |
| Frequency ()T) |                | 1/1    |      |      |                  | 1/4    |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crosion =

|     | -    |
|-----|------|
| yes | 100% |
| nə  | 0%è  |

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| Forest Condition |      |  |  |
|------------------|------|--|--|
| Over-cutting     | no   |  |  |
| Degree           | none |  |  |
|                  |      |  |  |
| Over-grazing     | กง   |  |  |
| Degree           | none |  |  |

| Possible Alt- | emative | Energy of | Fuewood |
|---------------|---------|-----------|---------|
| <b>In</b>     |         |           |         |

| Energy      | yes  | по    |
|-------------|------|-------|
| Gas         | 100% | 0%    |
| Electricity | 0%   | 100%6 |

Opinion of Leader on Irrigation water for Hydropower Generation.



| Disasters | 3.62 |
|-----------|------|
| Floods    | 100% |
| Landslide | 0° é |

| No.      | 430 | Douar | ··· ·   | Ait Ouzk | п |         |
|----------|-----|-------|---------|----------|---|---------|
| C.R.     | 31  |       | Anougal | Cercle   | 3 | Amizmiz |
|          | 11  |       |         | I I      | l |         |
|          |     |       |         |          |   |         |
| Location |     |       |         |          |   |         |

| Heuseholds and Population |         |         |  |  |  |  |
|---------------------------|---------|---------|--|--|--|--|
| [                         | Yr 1996 | Yr 2010 |  |  |  |  |
| Households                | -10     | 48      |  |  |  |  |
| Population                | 250     | 302     |  |  |  |  |

| Working Me  | mber per ho | usehold   |
|-------------|-------------|-----------|
| Asticulture | 1.80        | household |
| Non-agri.   | 1.40        | household |
| Total       | 3.20        | household |

| Access (km) |     |      |
|-------------|-----|------|
| Pist        | 3.0 | (km) |
| Path        | 0.0 | (km) |
| Total       | 3.0 | (km) |

#### House Conditions

| House size/1 | House size/household |           | Structure of House |        | of houses |
|--------------|----------------------|-----------|--------------------|--------|-----------|
| Rooms        | (m2)                 | Tradition | Modern             | Single | Plura)    |
| 5            | 110                  | 80%       | 20%ô               | 100%   | 0% o      |

#### Education Ratio

| Education   | Villagers over 7 years old |       | ars old | Children (7-12years old) |        |        |
|-------------|----------------------------|-------|---------|--------------------------|--------|--------|
| Level       | Total                      | Male  | Female  | Total .                  | Male   | Female |
| None        | 96.6%                      | 92.9% | 100.0%  |                          |        |        |
| Koranie     | 3.4%                       | 7.1%  | 0.0%    |                          |        |        |
| Fundamental | 3.4%                       | 7.1%  | 0.0%    | 25.0%                    | 100.0% | 0.0%   |

#### Annual Budget per Household

| Agri.     | 2,273  | 10.9%  |
|-----------|--------|--------|
| Livestock | 7,160  | 34.5%  |
| Forestry  | 1,200  | 5.8%   |
| Others    | 10,140 | 48.8%  |
| Total     | 20,773 | 100.0% |
|           |        |        |
| Expend.   | 9,660  |        |
| Saving    | 11,113 | · · ·  |

#### Land holding and Cultivated land (ha household)

| Tetal          |           |           | Cult    | ivated Crops | (ha househo | əld)      |         |       |
|----------------|-----------|-----------|---------|--------------|-------------|-----------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Potatoes    | Olive,Alm | Apples, | Total |
| 4.61           | 4.20      | 0.00      | 0.00    | 0.12         | 0.15        | 0.05      | 0.00    | 4.52  |
| Sold Ratio (%) | 0.0       | 0.0       | 0.0     | 88.6         | 92.0        | 68.2      | 0.0     |       |
| Inigation (?o) | 25.0      | 100.0     | 0.0     | 100.0        | 100.0       | 100.0     | 100.0   |       |

#### Number heads of Livestock per household

| Caule | Sheep | Goat  | Poultry | Mule   | Horse | Others | Total |
|-------|-------|-------|---------|--------|-------|--------|-------|
|       |       |       |         | Donkey | · .   |        |       |
| 1.40  | 2.00  | 30.00 | 10.00   | 0.80   | 0.00  | 0.00   | 44 20 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water |      | l la  | rigation Wate | т    |
|----------------|-------|---------|---------|------|-------|---------------|------|
| Conditions     | River | Spring  | Well    | Tank | River | Spring        | Well |
| Water Source   | 0%6   | 60%6    | 60%ó    | 0%6  | 40%5  | 0%            | 0%   |
| Satisfaction   | 0?6   | 100%5   | 67%     |      | 0%    | 0%            | 0%   |
| Quality        |       | good    |         |      | 1     | good          |      |
| Shortage       |       | yes     |         |      |       | yes           | · ·  |
| Frequency (yr) |       | 1/1     |         | ·    |       | 1/4           |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crosion =

| Jies | 100% |
|------|------|
| no   | 0%6  |

#### Opinion of Leader on Irrigation water for Hydropower Generation. 100% yes 0% no

| Forest Condition |      |   |
|------------------|------|---|
| Over-cutting     | no   |   |
| Degree           | none | J |
| Over-grazing     | no   | h |
| Degree           | no0e | + |

| inergy     | 1.62  | ກວ   |
|------------|-------|------|
| Gas        | 100%6 | 0%s  |
| lectricity | 0%6   | 100% |

| Disasters | yes |
|-----------|-----|
| Floods    | 0?6 |
| Landslide | 0%6 |

| S | 00 | in | .1 | A |
|---|----|----|----|---|

|                                  | to Doular                |                      |     | f Selected Villages | ·       | Ait Hma | 1 |       |
|----------------------------------|--------------------------|----------------------|-----|---------------------|---------|---------|---|-------|
| C P Anougal [Cercle ] 3] Tanimum | Anougal Certie 3 January | CR 31 Anogai Cerei - | No. | 440 Douar           |         | r       |   | 71017 |
|                                  |                          |                      | CR. | 31                  | Anougai |         |   |       |

| Households ar | nd Population |         |
|---------------|---------------|---------|
|               | Yr 1996       | Yr 2010 |
| Households    | 50            | 59      |
| Population    | 300           | 363     |

| Working Memb | er per bo | usehold   |
|--------------|-----------|-----------|
| Agriculture  | 1.50      | household |
| Non-agri.    | 1.83      | household |
| Total        | 3 33      | household |

| Access (km) | )   |      |
|-------------|-----|------|
| Pist        | 5.5 | (km) |
| Path        | 0.0 | (km) |
| Total       | 5.5 | (km) |

#### House Conditions

| House size it | ieusehold | Structure | offlouse | Number o | f houses |
|---------------|-----------|-----------|----------|----------|----------|
| Rooms         | (m2)      | Tradition | Modern   | Single   | Plural   |
| 5             | 108       | 100%      | 0%       | 100%5    | 0%       |

#### Education Ratio

| Education   | Village | ers over 7 ye | ars old | Child | ren (7-12yea | rs old) |
|-------------|---------|---------------|---------|-------|--------------|---------|
| Level       | Tetal   | Male          | Female  | Total | Male         | Female  |
| None        | 86 8°6  | 77.3%         | 100.0%  |       |              |         |
| Koranic     | 13 2%   | 22.7%         | 0.0%    |       |              | 7       |
| Fundamental | 0.0° o  | 0.0%          | 0.0%    | 0.0%  | 0.0?5        | 0 0%    |

#### Annual Budget per Household

| Agri.     | 3,146  | 15.8%         |
|-----------|--------|---------------|
| Livestock | 7,789  | <b>39.1</b> % |
| Forestry  | 0      | 3,000         |
| Others    | 9,000  | 45.1%         |
| Total     | 19,934 | 100.0°6       |
| Expend    | 8,800  |               |
| Saving    | 11,134 |               |

#### Land helding and Cultivated land (ha household)

| Total          |           |           | Cult    | ivated Crops | (ha househo | dJ)         |         |       |
|----------------|-----------|-----------|---------|--------------|-------------|-------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Potatoes    | Olive, Alm. | Apples, | Total |
| 2 50           | 2 25      | 0.00      | 0.00    | 0.00         | 0.25        | 0.02        | 0.00    | 2 52  |
| Seld Ratio (%) | 0.0       | 0.0       | 0.0     | 0.0          | 830         | 68.2        | 0.0     |       |
| Irrigation (%) | 8.0       | 0.0       | 0.0     | 0.0          | 100.0       | 100.0       | 0.0     |       |

#### Number heads of Livestock per household

| Catile | Sheep | Goal | Poultry | Mule   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 1.67   | 7.50  | 0.00 | 2 50    | 1.00   | 0.00  | 0.00   | 12.67 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |          | Donkin | g Water |      | L Li  | rigation Wate | 21   |
|----------------|----------|--------|---------|------|-------|---------------|------|
| Conditions     | River    | Spring | Well    | Tank | River | Spring        | Well |
| Water Source   | 0%       | 100%   | 0%      | 0%6  | 0%6   | 100%          | 000  |
| Satisfaction   | 0%       | 100%   | 0%      |      | Ûġ    | 50%           | 0%   |
| Quality        | <u>.</u> | good   |         |      |       | good          |      |
| Shortage       |          | yes    |         |      |       | yes           |      |
| Frequency (ST) |          | 1/1    |         |      |       | 1/10          |      |

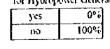
<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100%6 |
|-----|-------|
| пә  | 0%    |

#### Forest Condition Over-cutting no กงกะ Degree Over-grazing nə none Degree

| Possible Alte | mative Ener | gy of Firewoo |
|---------------|-------------|---------------|
| Energy        | )'8         | ால            |
| Gas           | 0%          | 100%          |
| Electricity   | 100%        | 0%            |

Opinion of Leader on Irrigation water for Hydropower Generation



| Disasters | yes   |
|-----------|-------|
| Flocos    | 100%6 |
| Landslide | 0%ö   |

| Number o<br>No. | of Selected Villages<br>450 Douar | 1       | Tizgui | <u> </u> | ,       |
|-----------------|-----------------------------------|---------|--------|----------|---------|
| C.R.            | 31                                | Anougal | Cercle | 3        | Amizmiz |
|                 | Level and the second second       | ¥       |        |          |         |
| ocation         | ······                            |         |        |          |         |

|            | Yr 1996 | Yr 2010 |
|------------|---------|---------|
| Households | 60      | 71      |
| Population | 250     | 302     |

| Working Member per household |      |           |  |  |
|------------------------------|------|-----------|--|--|
| Agriculture                  | 2.14 | household |  |  |
| Non-agri.                    | 0.86 | household |  |  |
| Total                        | 3.00 | household |  |  |

| Access (kn | ı)  |       |
|------------|-----|-------|
| Pist       | 4.5 | (km)  |
| Path       | 0.0 | (km)  |
| Total      | 4.5 | (հոս) |

#### House Conditions

| House size | House size household |           | of House | Number e | of houses |
|------------|----------------------|-----------|----------|----------|-----------|
| Rooms      | (m2)                 | Tradition | Modern   | Single   | Plurat    |
| -1         | 143                  | 100%      | 0%       | 100%     | 0%        |

#### **Education Ratio**

| Education   | Village | ers over 7 ye | ars old | Child | ren (7-12) es | rs old) |
|-------------|---------|---------------|---------|-------|---------------|---------|
| Level       | Total   | Male          | Female  | Total | Male          | Female  |
| None        | 86.0%   | 83.3%         | 89.5%   |       |               |         |
| Koranie     | 14.0%   | 16.7%         | 10.5%   | · · · |               |         |
| Fundamental | 14.0%   | 16.7%         | 10.5%   | 71.4% | 66.7%         | 109.0%  |

#### Annual Budget per Household

| Agri.     | 7,151  | 35.6%  |
|-----------|--------|--------|
| Livesteck | 6,789  | 33.8%  |
| Forestry  | 0      | 0.0%   |
| Others    | 6,143  | 30.6%  |
| Total     | 20,082 | 100 0% |
| Expend.   | 11,883 |        |
| Saving    | 8,199  |        |

#### Land holding and Cultivated land (ha household)

| Total          |           |           | Cult    | ivated Crops | (ha househa | old)       |         |       |
|----------------|-----------|-----------|---------|--------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Pelatoes    | Olive,Alm. | Apples, | Total |
| 2 32           | 1.07      | 0.32      | 0.00    | 0.47         | 0.31        | 0.05       | 0.06    | 2.29  |
| Sold Ratio (%) | 0.0       | 0.0       | 0.0     | 67.9         | 72.1        | 92.1       | 88.9    | !     |
| Irrigation (%) | 16.7      | 100.0     | 0.0     | 75.0         | 83.3        | 66.7       | 66.7    |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Geat | Poultry | Mule   | Horse | Others | Tetal |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 2.00   | 4 00  | 4.29 | 12.43   | 0.57   | 0.00  | 0.00   | 23.29 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking Water |                   |          |       | rigation Wate | r    |
|----------------|-------|----------------|-------------------|----------|-------|---------------|------|
| Conditions     | River | Spring         | Well              | Tank     | River | Spring        | Well |
| Water Source   | 100%5 | ()°5           | 0%                | 0°6      | 100%  | 0%            | 0%   |
| Satisfaction   | 86%   | 0%             | 0?a               | <u> </u> | 86%   | Ū%ä           | 0%   |
| Quality        |       | good           |                   |          |       | good          |      |
| Shortage       |       | yes            | • • • • • • • • • |          |       | yes           |      |
| Frequency (31) |       | 1/1            |                   |          |       | 1/10          |      |

<Environmental Conditions informed by Village Leader>

Awareness of over deforestation causing soil erosion =

|   | ves | 100%        |
|---|-----|-------------|
| Г | no  | <u>(</u> °, |

#### Opinion of Leader on Irrigation water

for Hydropower Generation.

| in nyurepower traierat |       |  |  |
|------------------------|-------|--|--|
| yes                    | 100%5 |  |  |
| no                     | 0%    |  |  |

| 1     |
|-------|
| nə    |
| none  |
|       |
| ):es  |
| snone |
|       |

|            | gy of Firewood |
|------------|----------------|
| Can be not |                |

| rnergy<br>Gas | <u> </u> | 100% |
|---------------|----------|------|
| Electricity   | 100%     | 0%   |

Damages by Natural Disasters Disasters yes

|           | 2     |
|-----------|-------|
| Floods    | 100%5 |
| Landslide | 0° o  |
|           |       |

| <br>0, | of Selected Villages<br>460 Douar |         | Adardour |   |         |
|--------|-----------------------------------|---------|----------|---|---------|
| .R.    | 31                                | Anougal | Cercle   | 3 | Amizmiz |

| Latitude | N31 | 4' | 31 Longitude | W8 | 16' | 50 Altitude | 1,800 (m) | ļ |
|----------|-----|----|--------------|----|-----|-------------|-----------|---|
|          |     |    |              |    |     |             |           |   |

| Households ar | nd Population |         |
|---------------|---------------|---------|
|               | Yr 1996       | Yr 2010 |
| Households    | 160           | 190     |
| Population    | 700           | 847     |

| Working Member per household |      |           |  |
|------------------------------|------|-----------|--|
| Agriculture                  | 3.00 | household |  |
| Non-agri                     | 0.79 | household |  |
| Total                        | 3.79 | household |  |

| Pist  | 20.0 | (km)         |
|-------|------|--------------|
| Path  | 05   | <b>(k</b> m) |
| Total | 20.5 | (kni)        |

#### **House Conditions**

| House size-1 | House size-household Structure of House |           |        | Number o | of houses |
|--------------|---|-----------|--------|----------|-----------|
| Rooms        | (m2)                                    | Tradition | Modern | Single   | Plurai    |
| 10           | 165                                     | 89%       | 11%    | 95%      | 5%        |

#### Education Ratio

| Education   | Village | ers over 7 ye | ars old | Child | ren (7-12 yea | rs old) |
|-------------|---------|---------------|---------|-------|---------------|---------|
| Level       | Total   | Male          | Female  | Total | Male          | Female  |
| None        | 73.0°6  | 62.6%         | 88.5%   |       |               |         |
| Koranie     | 27.0%   | 37.4%         | 11.5%   |       |               |         |
| Fundamental | 13.2%   | 15.4%         | 9.8%    | 37.2% | 38.5%         | 35.3%   |

#### Annual Budget per Household

| Agri      | 22,444 | 58.1%  |
|-----------|--------|--------|
| Livestock | 10,717 | 27.7%  |
| Forestry  | 0      | 0,0%   |
| Others    | 5,489  | 14.2%  |
| Tetal     | 38,651 | 100.0% |
| Expend.   | 16,955 |        |
| Saving    | 21,696 |        |

#### Land holding and Cultivated land (ha household)

| Total          |           | Cultivated Crops (ha household) |         |           |          |            |         |       |
|----------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal                       | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Total |
| 2.49           | 1.42      | 0.50                            | 0.00    | 0.06      | 0.74     | 0.01       | 0.65    | 3 3 3 |
| Sold Ratio (%) | 0.0       | 0.0                             | 0.0     | 91.5      | 95.1     | 93.3       | 99.9    |       |
| Inigation (%)  | 81.8      | 100.0                           | 0.0     | 100.0     | 100.0    | 100.0      | 60.5    |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Poultry | Mole   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        |       |
| 1.84   | 19.11 | 15.79 | 10.53   | 1.00   | 0.00  | 0.00   | 48 26 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |                |      |      | Irrigation Water |        | er en en en en en en en en en en en en en |
|----------------|----------------|----------------|------|------|------------------|--------|---|
| Conditions     | River          | Spring         | Well | Tank | River            | Spring | Well                                      |
| Water Source   | 32%            | 84%            | 0%   | 0%6  | 74%              | 63%    | 5%  |
| Satisfaction   | 100%           | 94%            | 0%   |      | 86%              | 83%    | 0%6                                       |
| Quality        |                | good           |      |      |                  | good   |   |
| Shortage       |                | <u></u><br>yes |      |      |                  | yes    |   |
| Frequency (yr) |                | 1/1            |      |      |                  | 14     |   |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

| Over-cutting | no.       |  |
|--------------|-----------|--|
| Degree       | none      |  |
|              |           |  |
| Over-grazing | <u>no</u> |  |
| Degree       | none      |  |

| yes | 100% |
|-----|------|
| no  | 0%6  |

Possible Alternative Energy of Firewood

| Energy      | yes  | no   |
|-------------|------|------|
| Gas         | 100% | 0%   |
| Electricity | 0%   | 100% |

Opinion of Leader on Irrigation water for Hydropower Generation.

| iel njorepsner orner |       |  |  |  |
|----------------------|-------|--|--|--|
| yes                  | 100%6 |  |  |  |
| פת                   | 0%6   |  |  |  |

| Disasters | yes   |
|-----------|-------|
| Floods    | 100%  |
| Landslide | 100%a |

| Number o<br>No. | of Selected Village<br>470 Do |      | Lemdinat                |  |  |          |         |
|-----------------|-------------------------------|------|-------------------------|--|--|----------|---------|
| C.R.            | 32                            | ···· | Azgour Cercle 3 Amizmiz |  |  |          | Amizmiz |
|                 | ·I                            |      |                         |  |  | <u>_</u> |         |
| Location        | J                             |      |                         |  |  | <b>I</b> |         |

|            | Yr 1996 | Yr 2010 |
|------------|---------|---------|
| Households | 160     | 190     |
| Population | 985     | 1,192   |

| 2.60 | household |
|------|-----------|
| 1.10 | household |
| 2 70 | household |
|      | 1.10      |

| Access (km) |          |
|-------------|----------|
| Pist        | 0.0 (km) |
| Path        | 0.0 (km) |
| Total       | 0.0 (km) |

**House Conditions** 

| llouse size 1 | House size household |           | Structure of House |        | of houses |
|---------------|----------------------|-----------|--------------------|--------|-----------|
| Rooms         | (m2)                 | Tradition | Medern             | Single | Plucal    |
| 7             | 225                  | 100%      | 0%i                | 75%    | 25%       |

#### Education Ratio

| Education   | Villagers over 7 years old |       |        | Children (7-12years old) |       |                   |
|-------------|----------------------------|-------|--------|--------------------------|-------|-------------------|
| Level       | Total                      | Male  | Female | Total                    | Male  | Female            |
| None        | 70.4%                      | 47.4% | 97.0%  | · ·                      |       | • • • • • • • • • |
| Koranie     | 29.6%                      | 52.6% | 3.0%   | •                        |       |                   |
| Fundamental | 17.6%                      | 32 9% | 0.0%   | 25.8%                    | 53.3% | 0.0%              |

#### Annual Budget per Heusehold

| Agri.     | 60,880 | 68.7%  |
|-----------|--------|--------|
| Livestock | 8,785  | 9.9?   |
| Ferestry  | 0      | 0.0%   |
| Others    | 18,897 | 21.3%  |
| Tota]     | 88,562 | 100.0% |
| Expend,   | 17,210 |        |
| Saving    | 71,352 |        |

#### I and holding and Cultivated land (ha household)

| Total          | Cultivated Crops (ha household) |           |         |           |          |             |         |       |
|----------------|---------------------------------|-----------|---------|-----------|----------|-------------|---------|-------|
| Land (ha)      | W. Cereal                       | S. Cereal | Legumes | Vegetable | Petatoes | Olive, Aim. | Apples, | Total |
| 6.91           | 4 69                            | 1.06      | 0.00    | 0.03      | 0.95     | 0.16        | 2.12    | 9.00  |
| Sold Ratio (%) | 7.5                             | 0.0       | 0.0     | 100.0     | 94.3     | 98.7        | 100.0   |       |
| Irrigation (%) | 25.4                            | 84.6      | 0.0     | 100.0     | 93.3     | 12.5        | 37.5    |       |

۰.

#### Number heads of Livestock per household

| Cattle | Sheep | Goat | Poultry | Mule<br>Donkey | Horse | Others | Total |
|--------|-------|------|---------|----------------|-------|--------|-------|
| 1.90   | 15.65 | 3.25 | 3.75    | 1 2 5          | 0.00  | 0.00   | 25.80 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        |      | Inigation Water |       |        |      |
|----------------|----------------|--------|------|-----------------|-------|--------|------|
| Conditions     | River          | Spring | Well | Tank            | River | Spring | Well |
| Water Source   | 0%6            | 100%   | 0%6  | 000             | 100%  | 25%    | 0%   |
| Satisfaction   | 0%             | 100%   | 0%6  | · · · ·         | 55%   | 100%   | Ú°.5 |
| Quality        |                | good   |      |                 |       | good   |      |
| Shortage       |                | yes    |      |                 |       | yes    |      |
| Frequency (yr) |                | 1/1    | · ·  |                 | h     | 1/1    | ···  |

Electricity

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

| yes | 100% |
|-----|------|
| C:N | 0%5  |

#### Opinion of Leader

on Irrigation water for Hydropower Generation.

| tot murop | ower Gener |
|-----------|------------|
| yes       | 100%       |
| กอ        | 0°,6       |
|           |            |

| Disasters | yes  | ]   |
|-----------|------|-----|
| Fleeds    | 100% | 1   |
| Landslide | 0%6  | 1 · |

| Forest Condition | L    |
|------------------|------|
| Over-cutting     | no   |
| Degree           | none |

| Over-grazing | yes -  |
|--------------|--------|
| Degree       | severe |

| Energy | yes  | ¢π |
|--------|------|----|
| Gas    | 100% | 0% |

100%

Possible Alternative Energy of Firewood

0%

| Socio-44 |  |
|----------|--|

| No.  | 480 Douar |        | Init   |   |         |
|------|-----------|--------|--------|---|---------|
| C.R. | 32        | Azgour | Cercle | 3 | Amizmiz |

| LANGUAGE ST |     |   |              |     |    |             |           |
|-------------|-----|---|--------------|-----|----|-------------|-----------|
| Latitude    | N31 | 6 | 31 Longitude | W.8 | 19 | 13 Altitude | 1,750 (m) |

| Households and Population |         |         |  |  |
|---------------------------|---------|---------|--|--|
| [                         | Yr 1996 | Yr 2010 |  |  |
| Househelds                | 230     | 273     |  |  |
| Population                | 1,416   | 1,713   |  |  |

| Working Memb | er per ho | usehold   |
|--------------|-----------|-----------|
| Agriculture  | 1.96      | household |
| Non-agri.    | 1.04      | household |
| Tetal        | 3.00      | household |

| Access (km) | ) .       |
|-------------|-----------|
| Pist        | 0.0 (kin) |
| Path        | 4.0 (km)  |
| Total       | 4.0 (km)  |

#### House Conditions

| House size 1 | House size household Structure of House |           | of House | Number o | of houses |
|--------------|---|-----------|----------|----------|-----------|
| Reoms        | (m2)                                    | Tradition | Modem    | Single   | Plural    |
| 8            | 207                                     | 89%       | 1196     | 78º.6    | 22%       |

#### Education Ratio

| Education   | Village | rs over 7 ye | ars old | Child | ren (7-12yea | rs old) |
|-------------|---------|--------------|---------|-------|--------------|---------|
| Level       | Total   | Male         | Fernale | Total | Male         | Female  |
| None        | 60.9°6  | 33.3%        | 86.7%   | :     | <u> </u>     |         |
| Koranie     | 39.1%   | 66.7%        | 13.3%   |       |              |         |
| Fundamental | 33 5%   | 55.1%        | 13.3%   | 55.3% | 87.5%        | 31.8%   |

#### Annual Budget per Household

| Agri.     | 27,274 | 63.4%  |
|-----------|--------|--------|
| Livestock | 9,697  | 22.5°. |
| Forestry  | 267    | 0.6%   |
| Others    | 5,802  | 13.5%  |
| Total     | 43,039 | 100.0% |
| Expend.   | 16,582 |        |
| Saving    | 26,457 |        |

#### Land holding and Cultivated land (ha household)

| Total          |           |           | Cult    | tivated Crops | (ha househa | eld)       |         |       |
|----------------|-----------|-----------|---------|---------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable     | Potatoes    | Olive,Alm. | Apples, | Total |
| 8.71           | 6.50      | 0.63      | 0.02    | 0.14          | 0.76        | 0.09       | 0.84    | 8.98  |
| Sold Ratio (%) | 0.0       | 5.8       | 0.0     | 59.8          | 76.4        | 96.6       | 96.0    |       |
| Irrigation (%) | 43.2      | 80.8      | 100.0   | 80.0          | 93.3        | 28.6       | 17.5    |       |

#### Number heads of Livestock per household

| Catile | Sheep | Goat  | Poultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        |       |
| 1.19   | 10.85 | 29.07 | 8.67    | 0.96   | 0.04  | 0.00   | 50.78 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water |      | ıI       | rigation Wate | r    |
|----------------|-------|---------|---------|------|----------|---------------|------|
| Conditions     | River | Spring  | Well    | Tank | River    | Spring        | Well |
| Water Source   | 30°.6 | 78°6    | 4%      | 0%5  | 37%      | 78%           | 0%   |
| Satisfaction   | 75%   | 95%     | 100%    |      | 60%      | 81%           | 0%   |
| Quality        |       | good    |         |      | <u> </u> | geod          |      |
| Shortage       |       | nə      |         |      |          | 2.52          |      |
| Frequency (JT) |       | 1/1     |         |      |          | 1/20          |      |

#### <Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

2

| Forest Condition | -    |
|------------------|------|
| Over-cutting     | กง   |
| Degree           | none |
|                  | ·    |
| Over-grazing     | nə   |
| Degree           | none |

,

| પુરક | 100% |
|------|------|
| กอ   | 0%ö  |

| Possible Alt | emative Energy | gy of Firewood |  |
|--------------|----------------|----------------|--|
| E- score     |                | 70             |  |

| Energy      | yes        | по    |
|-------------|------------|-------|
| Gas         | <u>0</u> % | 100%5 |
| Electricity | 100%       | 0%    |

Opinion of Leader on Irrigation water for Hydropower Generation.

| 1:05 | Ú° ö  |
|------|-------|
| กจ   | 100%6 |

| Disasters | yes   |
|-----------|-------|
| Floods    | 100%6 |
| Landslide | 0%6   |

| No.  | 490 Douar |        | Anemai | · |         |
|------|-----------|--------|--------|---|---------|
| C.R. | 32        | Azgour | Cercle | 3 | Amizmiz |

| Latitude | N31 | 15 | Longitude                             | W8 | 19 | Ahitude | 1,700 (m) |
|----------|-----|----|---------------------------------------|----|----|---------|-----------|
|          |     |    | · · · · · · · · · · · · · · · · · · · |    |    | <br>    |           |
|          |     |    |                                       |    |    |         |           |

| Households and Population |         |         |  |  |  |
|---------------------------|---------|---------|--|--|--|
|                           | Yr 1996 | Yr 2010 |  |  |  |
| Households                | 90      | 107     |  |  |  |
| Pepulation                | 540     | 653     |  |  |  |

| Working Menit | er per ho | usehold   |
|---------------|-----------|-----------|
| Agriculture   | 2 00      | household |
| Non-agri.     | 0.91      | household |
| Total         | 2.91      | household |

| Access (km) | )<br>} |      |
|-------------|--------|------|
| Pi-t        | . 0.0  | (km) |
| Path        | 25     | (km) |
| Total       | 2 5    | (km) |

#### House Conditions

| House size 1 | nousehold | Structure | ofllouse | Number of houses |        |  |
|--------------|-----------|-----------|----------|------------------|--------|--|
| Rooms        | (m2)      | Tradition | Modern   | Single           | Plural |  |
| 6            | 166       | 100%      | 0%       | 100%             | 0%     |  |

#### Education Ratio

| Education   | Villagers over 7 years old |       |        | Child | ren (7-12) ea | rs old) |
|-------------|----------------------------|-------|--------|-------|---------------|---------|
| Level       | Tetal                      | Male  | Female | Total | Male          | Female  |
| None        | 50.8°6                     | 23.5% | 80.6%  |       |               |         |
| Koranie     | 49.2%                      | 76.5% | 19.4%  |       |               |         |
| Fundamental | 41.5%                      | 67.6% | 12.9%  | 62.5% | 100.0%        | 25.0%   |

#### Annual Budget per Household

| Agri.     | 36,848 | 72.1%  |
|-----------|--------|--------|
| Livestock | 10,323 | 20.2%  |
| Ferestry  | 636    | 1 2°ė  |
| Others    | 3,327  | 6.5%   |
| Total     | 51,135 | 100.0% |
| Expend.   | 15,436 |        |
| Saving    | 35,699 |        |

#### Land holding and Cultivated land (ha household)

| Total          |           | Cultivated Crops (ha household)                                       |      |      |      |      |      |      |  |
|----------------|-----------|---|------|------|------|------|------|------|--|
| Land (ha)      | W. Cereal | W. Cereal S. Cereal Legumes Vegetable Potatoes Olive, Alm. Apples, To |      |      |      |      |      |      |  |
| 2.91           | 2.05      | 0.68  | 0.00 | 0.00 | 0.68 | 0.04 | 1.29 | 4.74 |  |
| Sold Ratio (%) | 0.0       | 0.0   | 0.0  | 0.0  | 927  | 93.3 | 99.3 |      |  |
| lirigation (%) | 50.0      | 82.6  | 0.0  | 0.0  | 80.0 | 0.0  | 27.3 | · ·  |  |

#### Number heads of Livestock per household

| Cattle | Sheep | Gest  | Poultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        |       |
| 1.36   | 7.45  | 23.27 | 8.64    | 1.09   | 0.00  | 0.00   | 41.82 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        |      |      | Inigation Water |        |      |  |
|----------------|----------------|--------|------|------|-----------------|--------|------|--|
| Conditions [   | River          | Spring | Well | Tank | River           | Spring | Well |  |
| Water Source   | 0%             | 100%   | 0%6  | 0%6  | 36%             | 100%   | 0%   |  |
| Satisfaction   | Û?i            | 91%    | 0%6  |      | 0?i             | 91%    | 0%   |  |
| Quality .      | · · · · ·      | good   |      |      | Ì               | good   |      |  |
| Shortage       |                | no     |      |      | <b> </b>        | yes    |      |  |
| Frequency (yr) |                | 1/1    |      |      |                 | 1/20   |      |  |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

|     | •    |
|-----|------|
| yes | 100% |
| ຄວ  | 0%   |

# Forest Condition Over-cutting yes Degree none Over-grazing yes Degree severe

| Possible Alt | emative Free | gy of Firewood |
|--------------|--------------|----------------|
| Passage      |              |                |

| Energy      | Yes   | no   |
|-------------|-------|------|
| Gas         | 0%0   | 100% |
| Electricity | 100%6 | 0%   |

#### Opinion of Leader on Irrigation water for Hydropower Generation.

| - As tigoice | ond otherand | ſ |
|--------------|--------------|---|
| yes          | 0%           |   |
| no           | 100%         |   |

#### Damages by Natural Disasters Disasters yes

| Constantis | ,    |
|------------|------|
| Floods     | 100% |
| Landstide  | 0%0  |

| Number        | of Selected Vil | lages   | 1             |           |                      |     |                     |              |
|---------------|-----------------|---------|---------------|-----------|----------------------|-----|---------------------|--------------|
| No.           | 500             | Douar   | Ansmrou       |           |                      |     |                     |              |
| C.R.          | 32              |         | Azgour        |           | Cercle               | 3   |                     | Amizmiz      |
| atitude       | N31             | 6'      | 45 Longitude  | W8        | 21                   | -46 | Altitude            | 1,780 (m)    |
| Languac -     | 1,31            |         | TICANGROUN    |           |                      |     |                     | · · ·        |
|               | d Population    | L L     | Working Menil | er per ho | usehold              |     | Access (km)         | )            |
| Households an | d Population    | Yr 2010 | Working Memi  |           | usehold<br>household |     | Access (km)<br>Pist | )<br>0.0 (km |

3.00 household

#### House Conditions

Population

| House size | House size/household Strue |           | of House | Number of houses |        |  |
|------------|----------------------------|-----------|----------|------------------|--------|--|
| Rooms      | (m2)                       | Tradition | Medern   | Single           | Ploral |  |
| 9          | 177                        | 100%      | 0%6      | 84%              | 16%    |  |

1,192

#### Education Ratio

| Education   | Villagi | rs over 7 ye | ars old | Children (7-12) ears old) |       |        |
|-------------|---------|--------------|---------|---------------------------|-------|--------|
| Level       | Tetal   | Male         | Female  | Total                     | Male  | Female |
| None        | 70.9%   | 56.9%        | 85.5%   |                           | 2     |        |
| Koranie     | 29.1%   | 43.1%        | 14 5%   |                           |       |        |
| Fundamental | 20.6%   | 27.8%        | 13.0%   | 73.5%                     | 88.9% | 56.3%  |

#### Annual Budget per Household

Total

| Agri.     | 34,598 | 72 2°6 |
|-----------|--------|--------|
| Livesteck | 10,726 | 22.4%  |
| Forestry  | 0      | 0.0%   |
| Others    | 2,621  | 5.5%   |
| Total     | 47,945 | 100.0% |
| Expend.   | 15,382 |        |
| Saving    | 32,563 | <br>   |

3.5 (km)

#### Land holding and Cultivated land (ha household)

985

| Total          |           |           | Cult    | ivated Crops | (hahouseho | 4d)        |         |       |
|----------------|-----------|-----------|---------|--------------|------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Potatoes   | Olive,Alm. | Apples, | Tetal |
| 5.75           | 4.39      | 0.43      | 0.00    | 0.00         | 0.83       | 0.45       | 1.14    | 7.25  |
| Sold Ratio (%) | 0.0       | 0.0       | 0.0     | 76.7         | 82.0       | 91.6       | 97.7    |       |
| Irrigation (%) | 15.6      | 74.0      | 0.0     | 100.0        | 83.3       | 0.0        | 60.8    |       |

Tetal

#### Number heads of Livestock per household

| Cattle | Sheep | Geat  | Poultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        |       |
| 1.53   | 26.16 | 17.42 | 4.74    | 1.16   | 0.00  | 0.00   | 51.00 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking | g Water |      | I.      | rigation Wate | ж -  |
|----------------|-------|----------|---------|------|---------|---------------|------|
| Conditions     | River | Spring   | Well    | Tank | River   | Spring        | Well |
| Water Source   | 6%    | 100%     | 0%      | 0%5  | 95%     | 42%           | Ú°o  |
| Satisfaction   | 0%5   | 100%     | Ú%ó     |      | 56%6    | 75%           | Ú%   |
| Quality        |       | good     |         |      |         | good          |      |
| Shortage       |       | yes      |         |      | · · · · | yes           |      |
| Frequency (yr) |       | 1/1      |         |      | -       | 1/1           |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

|    | 100% |
|----|------|
| Πð | 0%5  |

| Forest Condition       | ·           |
|------------------------|-------------|
| Over-cutting           | yes         |
| Degree                 | fair        |
| Over-grazing<br>Dogree | yes<br>fair |

| Energy      | J:05 | กง   |
|-------------|------|------|
| Gas         | 100% | 6%6  |
| Electricity | 0%6  | 100% |

Possible Alternative Energy of Firewood

Opinion of Leader on Irrigation water for Hydropower Generation.

| yes | 0%   |
|-----|------|
| no  | 100% |

| Disasters | yes   |
|-----------|-------|
| Floods    | 100%5 |
| Landslide | 0%    |

| lo.  | 510 Douar |        | Talat Ait Ih | la |         |
|------|-----------|--------|--------------|----|---------|
| . R. | 32        | Azeour | Cercle       | 3  | Amizmiz |

| Latitude | 31 6 | 0 Longitude | W.8 | 20 | 59 Altitude | <b>1,760 (m)</b> |
|----------|------|-------------|-----|----|-------------|------------------|
| <b>L</b> | <br> |             |     |    |             |                  |

| Households ar | nd Population |         |
|---------------|---------------|---------|
|               | Yr 1996       | Yr 2010 |
| Households    | 70            | 83      |
| Population    | 210           | 254     |

| Working Memi | ver per ho | usehold   |
|--------------|------------|-----------|
| Agriculture  | 2 20       | household |
| Non-agri.    | 0.70       | household |
| Total        | 2.90       | household |

#### Access (km) 0.0 (km) Pist 0.0 (km) Path Total 0.0 (km)

#### House Conditions

| House size 1 | House size household |           | of House | Number o | of houses |
|--------------|----------------------|-----------|----------|----------|-----------|
| Reoras       | (6)2)                | Tradition | Modern   | Single   | Plural    |
| 7            | 156                  | 90%       | 10%      | 90%      | 10%6      |

#### **Education Ratio**

| Education   | Villagers over 7 years old |       |        | Child | ren (7-12yea | rs old) 🐳 |
|-------------|----------------------------|-------|--------|-------|--------------|-----------|
| Level       | Total                      | Male  | Female | Total | Male         | Female    |
| None        | 52.5%                      | 17.9% | 81.8%  |       | · ·          |           |
| Koranie     | 47.5%ó                     | 82.1% | 18.2%  |       |              |           |
| Fundamental | 32 8%                      | 50.0% | 18.2%  | 58.3% | 100.0%       | 37.5%     |

#### Annual Budget per Household

| Agri.     | 51,219 | 63.7%     |
|-----------|--------|-----------|
| Livestock | 26,299 | 32.7°c    |
| Forestry  | 0      | 0.0%      |
| Others    | 2,850  | 3.5%      |
| Total     | 80,368 | 100.0%    |
| Expend.   | 24,860 |           |
| Saving    | 55,508 | <b>__</b> |

#### Land holding and Cultivated land (ha household)

| Total          |           | Cultivated Crops (ha household) |         |           |          |            |         |       |
|----------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal                       | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Totai |
| 6.95           | 5.09      | 0.13                            | 0.00    | 0.00      | 1.15     | 0.00       | 1.81    | 8.17  |
| Sold Ratio (%) | 0.0       | 0.0                             | 0.0     | 0.0       | 90.0     | 93.3       | 89.4    |       |
| Irrigation (%) | 32.1      | 50.0                            | 0.0     | 0.0       | 75.0     | 100.0      | 20.0    |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat | Poultry | Mole   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey | ÷     |        |       |
| 1.90   | 41 00 | 6.50 | 25.40   | 1.30   | 0.00  | 0.00   | 76.10 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking Water |      |      |       | rigation Wate | er   |
|----------------|-------|----------------|------|------|-------|---------------|------|
| Conditions     | River | Spring         | Well | Tank | River | Spring        | Well |
| Water Source   | 50%6  | 50%            | 10%å | 0%   | 100%  | 20%6          | 10%  |
| Satisfaction   | Û%6   | 100%6          | ()%6 |      | 20%6  | 50%           | 0%   |
| Quality        |       | good           | :    |      |       | good          |      |
| Shortage       |       | yes            |      |      |       | yes           |      |
| Frequency (yr) |       | 1/1            |      |      | 1     | 1/10          |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100% |
|-----|------|
| БЭ  | 0%   |

. .

#### **Opinion of Leader** on Irrigation water for Hydropower Generation.



| Damages | by | Nətoral | Disasters |
|---------|----|---------|-----------|

| Disasters | Lez   |
|-----------|-------|
| Floods    | 100%5 |
| Landslide | 0%    |

| Forest Condition |      |
|------------------|------|
| Over-cutting     | no   |
| Бедгее           | none |
| ·····            |      |
| Over-grazing     | กง   |
| Degree           | กษาะ |

| Possible Al | ternative Ener | gy of Firewood |  |
|-------------|----------------|----------------|--|
| Energy yes  |                |                |  |

| rusted here and the second second second second second second second second second second second second second s | yes  | no   |
|--|------|------|
| Gas  | 0%   | 100% |
| Electricity  | 100% | 0%   |

| No.  | of Selected Villages |        | Toulkine |   |         |
|------|----------------------|--------|----------|---|---------|
| C.R. | 32                   | Azgour | Cercle   | 3 | Amizmiz |

| Latitude N31 9' 52 Longitude W8 19' | 52 Aftitude | 1,710 (m) |  |
|-------------------------------------|-------------|-----------|--|
|-------------------------------------|-------------|-----------|--|

| Households and Population |         |         |  |  |  |  |
|---------------------------|---------|---------|--|--|--|--|
| [                         | Yr 1996 | Yr 2010 |  |  |  |  |
| Households                | 190     | 226     |  |  |  |  |
| Population                | 1,400   | 1,694   |  |  |  |  |

| Working Member per household |      |           |  |  |  |  |
|------------------------------|------|-----------|--|--|--|--|
| Agriculture                  | 1.86 | household |  |  |  |  |
| Non-agri.                    | 0.68 | household |  |  |  |  |
| Total                        | 2 55 | household |  |  |  |  |

| Access (km) | )   |      |
|-------------|-----|------|
| Pist        |     | (km) |
| Path        | 0.0 | (km) |
| Fotal       | 0.0 | (km) |

#### **House Conditions**

| House size 1 | House size household |           | of House | Number o | f houses |
|--------------|----------------------|-----------|----------|----------|----------|
| Rooms        | (m2)                 | Tradition | Modern   | Single   | Plural   |
| 6            | 212                  | 95%       | 5%       | 86° o    | 14%      |

#### Education Ratio

| Education   | Villagers over 7 years old |       |        | Children (7-12 years old) |       |        |  |
|-------------|----------------------------|-------|--------|---------------------------|-------|--------|--|
| Level       | Total                      | Male  | Female | Total                     | Male  | Female |  |
| None        | 70.6%                      | 40.4% | 98.4%  |                           |       |        |  |
| Koranie     | 29.4%                      | 59.6% | 1.6%   |                           |       |        |  |
| Fundamental | 24.4%                      | 49.1% | 1.6%   | 55.6°6                    | 69.2% | 20.0%  |  |

#### Annual Budget per Household

| Agri.     | 8,127  | 34.2%  |
|-----------|--------|--------|
| Livestock | 11,360 | 47.8°6 |
| Forestry  | 0      | 0.0%   |
| Others    | 4,255  | 17.9%  |
| Total     | 23,742 | 100.0% |
| Expend.   | 10,970 |        |
| Saving    | 12,772 |        |

#### Land holding and Cultivated land (ha household)

| Total          |           | Cultivated Crops (ha household) |         |           |          |            |         |       |  |
|----------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|-------|--|
| Land (ha)      | W. Cereal | S. Cereal                       | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Total |  |
| 6.28           | 6.48      | 0.00                            | 0.00    | 0.00      | 0.41     | 0.02       | 0.12    | 7.03  |  |
| Sold Ratio (%) | 7.9       | 0.0                             | 0.0     | 0.0       | 84.2     | 66.9       | 85.1    |       |  |
| Irrigation (%) | 0.0       | 0.0                             | 0,0     | 0.0       | 76.9     | 33.3       | 3.3     |       |  |

#### Number heads of Livestock per household

| Cattle | Sheep | Geat | Poultry | Mule   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       | -    |         | Donkey | •     |        |       |
| 1.64   | 23.23 | 7.95 | 18.05   | 1.14   | 0.05  | 0.00   | 52 05 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        |      |      | Irrigation Water |        |      |
|----------------|----------------|--------|------|------|------------------|--------|------|
| Conditions     | River          | Spring | Well | Tank | River            | Spring | Well |
| Water Source   | 9%             | 50%    | 86%  | 0%   | 23%              | 61%    | 23%  |
| Satisfaction   | 50%6           | 100%   | 79%  |      | 20%              | 43%    | 40%  |
| Quality        |                | good   |      |      |                  | good   |      |
| Shortage       |                | no     |      |      |                  | ુલ્ક   |      |
| Frequency (yr) |                | 1/1    |      |      |                  | 1/20   |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crosion =

| Over-cutting           | no        |
|------------------------|-----------|
| Degree                 | none      |
| Over grazing           |           |
| Over-grazing<br>Degree | ye<br>fai |

| yes  | 100% |
|------|------|
| ri-> | 0°6  |

| Possible Alte | mative Energ | gy of Firewo | bod |
|---------------|--------------|--------------|-----|
| [n]           |              |              |     |

| Energy      | yes  | no   |
|-------------|------|------|
| Gas         | 0?6  | 100% |
| Electricity | 100% | 0%6  |

Opinien of Leader on Irrigation water for Hydropower Generation.

| yes | 0%   |
|-----|------|
| no  | 100% |

| Disasters | ) <i>is</i> |
|-----------|-------------|
| Floods    | 100%        |
| Landslide | 0%          |

| Deuar Adghouss          |
|-------------------------|
|                         |
| Azgour Cercle 3 Amizmiz |
| Azgour Cercle 3 Amizmiz |

| Households ar | nd Pepulation |         |
|---------------|---------------|---------|
|               | Yr 1996       | Yr 2010 |
| Households    | 50            | 59      |
| Population    | 200           | 242     |

| Working Member per household |      |           |  |  |
|------------------------------|------|-----------|--|--|
| Agriculture                  | 1.50 | household |  |  |
| Non-agri.                    | 0.83 | household |  |  |
| Total                        | 2.33 | household |  |  |

# Access (km) Pist 2.0 (km) Path 3.5 (km) Total 5.5 (km)

#### **House Conditions**

| House size h | House size household Str |           | Structure of House |        | of houses |
|--------------|--------------------------|-----------|--------------------|--------|-----------|
| Rooms        | (m2)                     | Tradition | Modern             | Single | Plural    |
| - 5          | 127                      | 67%       | 33%                | 100%   | 6%        |

#### Education Ratio

| Education   | Villagers over 7 years old |       | Children (7-12years old) |       | ırs eld) |        |
|-------------|----------------------------|-------|--------------------------|-------|----------|--------|
| Level       | Total                      | Male  | Female                   | Total | Male     | Female |
| None        | 92.0%                      | 85.7% | 100.0%                   | ~~~   |          |        |
| Koranie     | 8.6%                       | 14 3% | 0.0%                     |       |          |        |
| Fundamental | 0.0%                       | 0.0%  | 0.0%                     | 0.0%  | 0.0%     | 0.0%   |

#### Annual Budget per Household

| Agri.     | 8,091  | 38.2°o |
|-----------|--------|--------|
| Livestock | 10,020 | 47.3°a |
| Forestry  | 0      | 0.0%   |
| Others    | 3,067  | 14 5%  |
| Total     | 21,178 | 100.0% |
| Expend.   | 9,629  | ·      |
| Saving    | 11,549 |        |

#### Land holding and Cultivated land (ha household)

| Total          | Cultivated Crops (ha household) |           |         |           |          |            |         |       |
|----------------|---------------------------------|-----------|---------|-----------|----------|------------|---------|-------|
| l and (ha)     | W. Cereal                       | S. Cereal | Legumes | Vegetable | Polatoes | Olive,Alm. | Apples, | Total |
| 4.29           | 4.50                            | 0.00      | 0.00    | 0.00      | 0.58     | 0.09       | 0.03    | 5.20  |
| Sold Ratio (%) | 33                              | 0.0       | 0.0     | 0.0       | 92.7     | 100.0      | 95.0    |       |
| linigation (%) | 0.0                             | 0.0       | 0.0     | 0.0       | 83.3     | 83.3       | 0.0     |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Peultry | Mule   | Horse | Others | Total | 1. |
|--------|-------|-------|---------|--------|-------|--------|-------|----|
|        |       |       |         | Donkey |       |        |       |    |
| 1.67   | 23.33 | 46.67 | 9.00    | 1.17   | 0.00  | 0.00   | 81.83 | 1  |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Drinking Water |        | Irrigation Wat |         | ar    |        |      |
|----------------|----------------|--------|----------------|---------|-------|--------|------|
| Conditions     | River          | Spring | Welt           | Tank    | River | Spring | Well |
| Water Source   | 0?5            | 100%6  | 0%             | 0%6     | 0%5   | 100%   | 0%5  |
| Satisfaction   | Û?o            | 100%   | 0%             | · · · · | C%o   | 83%    | 6%6  |
| Quality        |                | good   |                |         |       | good   |      |
| Shortage       |                | yes.   |                |         |       | yes    |      |
| Frequency (yr) |                | 1/1    |                |         |       | 1/1    |      |

<Environmental Conditions informed by Village Leader> Awareness of over deferestation causing soil erosion =

| yes | 100% |
|-----|------|
| no  | 0%   |

#### Opinion of Leader

on Irrigation water for Hydropower Generation.

| ier irgu | opower Genera |
|----------|---------------|
| yes      | 0?6           |
| กง       | 100%5         |

| Forest Condition |      |  |  |  |
|------------------|------|--|--|--|
| Over-cutting     | nð   |  |  |  |
| Degree           | none |  |  |  |
|                  |      |  |  |  |
| Over-grazing     | 105  |  |  |  |
| Degree           | 0000 |  |  |  |

| Possible Alte | mative Ener | gy of Firewood |
|---------------|-------------|----------------|
| Energy        | yes         | no             |
| Gas           | 100%        | 0%             |
| Electricity   | 0°á         | 100%           |

| _ | 5          |      |
|---|------------|------|
|   | Damages by | Natu |

| Damages by | Natural Disasters |
|------------|-------------------|
| Disasters  | yes               |
| Floods     | 0%5               |
| Landstide  | 0%                |

|             | Selected Villages<br>540 Deua |    | 1            |       | Douzreu |             |             |
|-------------|-------------------------------|----|--------------|-------|---------|-------------|-------------|
| Vo.<br>2.R. | 32                            |    | Argour       | Cerct |         | 3           | Amizmiz     |
| ocation     |                               |    |              |       |         |             |             |
| atitude     | N31                           | 0. | 45 Longitude | W8    | 231     | 12 Altitude | : 1,820 (m) |

|            | Yr 1996 | Yr 2010 |
|------------|---------|---------|
| Households | 220     | 261     |
| Population | 1,500   | 1,815   |

| Working Memb | er per ho | usehold   |
|--------------|-----------|-----------|
| Agriculture  | 2 36      | household |
| Non-agri.    | 1.04      | household |
| Total        | 3.40      | household |

| Access (km) | )   |       |
|-------------|-----|-------|
| Pist        | 25  | (km)  |
| Path        | 1.5 | (km)  |
| Total       | 4.0 | (i.m) |

House Conditions

| House size? | House size household |           | of House | Number of houses |        |  |
|-------------|----------------------|-----------|----------|------------------|--------|--|
| Rooms       | (m2)                 | Tradition | Modern   | Single           | Plural |  |
| 6           | 191                  | 96%       | 4%6      | 96%              | 4%     |  |

Education Ratio

| Education   | Villagers over 7 years old |       |        | Children (7-12 years old) |       |        |  |
|-------------|----------------------------|-------|--------|---------------------------|-------|--------|--|
| Level       | Total                      | Male  | Female | Total                     | Male  | Female |  |
| None        | 85.3%                      | 70.9% | 100.0% |                           |       |        |  |
| Koranic     | 14.7%                      | 29.1% | 0.0%   |                           |       |        |  |
| Fundamental | 7.6%                       | 15.1% | 0.0%   | 32 3%                     | 65.7% | 0.0%   |  |

Annual Budget per Household

| Agri.     | 6,742  | 28.8°6  |
|-----------|--------|---------|
| Livestock | 10,267 | 43.8° ċ |
| Forestry  | 0      | 0.0° i  |
| Others    | 6,440  | 27.5%   |
| Total     | 23,449 | 100.0%  |
| Expend.   | 12,902 |         |
| Saving    | 10,546 |         |

Land holding and Cultivated land (ha household)

| Total          |           | Cultivated Crops (ha household) |         |           |          |            |         |       |
|----------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal                       | Legumes | Vegetable | Polatoes | Olive,Alm. | Apples, | Total |
| 7.98           | 6.19      | 0.08                            | 0.00    | 0.05      | 0.25     | 0.40       | 0.04    | 7.02  |
| Sold Ratio (%) | 2.1       | 66.7                            | 0.0     | 84.8      | 78.8     | 90.9       | \$9.1   |       |
| Irrigation (%) | 1.6       | 100.0                           | 0.0     | 100.0     | 87.5     | 12.0       | 50.0    |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Poultry | Mule<br>Donkey | Horse | Others | Total |
|--------|-------|-------|---------|----------------|-------|--------|-------|
| 2 04   | 25.60 | 13.80 | 11.80   | 1.44           | 0.08  | 0.12   | 54.88 |

Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking | g Water   |      | I Ir  | rigation Wate | ۲.   |
|----------------|-------|----------|-----------|------|-------|---------------|------|
| Conditions     | River | Spring   | Well      | Tank | River | Spring        | Well |
| Water Source   | 0°6   | 100%     | 0%        | 0°a  | 0%6   | 96%           | 4%   |
| Satisfaction   | 0%    | 100%     | <u>0%</u> |      | 0%    | 71%           | 0%   |
| Quality        |       | good     |           |      |       | good          |      |
| Shortage       |       | no       |           |      |       | yes           |      |
| Frequency (JT) |       | 1/1      |           |      |       | 1/20          |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

no

none

yes

fair

Forest Condition

Over-cutting

Over-grazing

Degree

Degree

| yes | 100% |
|-----|------|
| nə  | 0%6  |

Opinion of Leader on Irrigation water for Hydropower Generation.

| ્રેલ્ડ | 0%   |
|--------|------|
| no     | 100% |

Damages by Natural Disasters

| Disasters | 7.52 |
|-----------|------|
| Floods    | 0°,6 |
| Landslide | C?á  |

|   | Possible Alte | mative Energ | gy of Firewood |
|---|---------------|--------------|----------------|
| г | [n]           |              |                |

| Energy      | yês - | no   |
|-------------|-------|------|
| Gas         | 100%  | 0%6  |
| Electricity | 0%    | 100% |

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| Number          | of Selected Vi | llages        | ,        | ī]          |             | -         |           |             |         |                   |
|-----------------|----------------|---------------|----------|-------------|-------------|-----------|-----------|-------------|---------|-------------------|
| No.             | 550            | Douar         | Ait Outm |             |             | t Outmane |           |             |         |                   |
| C.R.            | 32             |               | Λ        | rgour       |             | Cercle    | 3         |             | Amizmiz |                   |
| Location        |                |               |          |             |             |           |           |             |         |                   |
| Latitude        | N31            | 9             | 23       | Longitude   | W8          | 23        | 40        | Altitude    | 1,450   | (R1)              |
| Households an   | d Population   |               |          | Working Me  | mber per ho | uschold   | •         | Access (kn  | 1)      |                   |
|                 | Yr 1996        | Yr 2010       |          | Agriculture | 1.72        | household | 1         | Pist        | 2.5     | (km)              |
| Households      | 150            | 178           |          | Non-agri.   | 0.91        | household | 1         | Path        |         | (km)              |
| Population      | 600            | 726           |          | Total       | 2.67        | household |           | Total       |         | (km)              |
| House Conditio  | ons            |               |          |             |             |           | , ,       | L           | <b></b> | l <del> i</del> . |
| House size      | household      | Structure     | of House | Number c    | f houses    | :         | Annual Bu | dget per Ho | usehold |                   |
| Rooms           | (m2)           | Tradition     | Mødern   | Single      | Plural      |           | 1         | Agri.       | 9,783   | 39.3              |
| 7               | 187            | 94%           | 6%       | 94%         | 6%          |           |           | Livestock   | 8,129   | 32.6              |
|                 |                |               |          | *           |             |           |           | Forestry    | Û       | 0.0               |
| Education Ratio | 0              |               |          |             |             |           |           | Others      | 7,006   | 28.1              |
| Education       | Villager       | rs over 7 yea | urs old  | Childr      | en (7-12yea | rs old)   | 1         | Total       | 24,918  | 100.0             |
| Level           | Total          | Male          | Female   | Total       | Male        | Female    | ·         |             | ·       |                   |
| None            | 80.0%i         | 73.3%         | 86.7%    |             | ·······     |           | 1 1       | Expend.     | 17,365  |                   |

Land holding and Cultivated land (ha household)

20.0%

15.8%

26.7%

20.0%

Koranie

Fundamental

| Total          |           | Cultivated Crops (ha household) |              |           |          |             |         |       |
|----------------|-----------|---------------------------------|--------------|-----------|----------|-------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal                       | Legumes      | Vegetable | Potatoes | Olive, Alm. | Apples, | Total |
| 7.26           | 6.19      | 0.25                            | 0.07         | 0.06      | 0.21     | 0.62        | 0.12    | 7.52  |
| Sold Ratio (%) | 7.4       | 16.3                            | 7 <b>0.0</b> | 93.1      | 66.9     | 943         | 96.7    |       |
| Irrigation (%) | 19.6      | 87.5                            | 0.0          | 50.0      | 91.7     | 21.4        | 0.0     |       |

66.7%

78.6%

53.8%

#### Number heads of Livestock per household

| Cattle | Sheep | Goat | Poultry | Mule   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 2 33   | 13.39 | 4.00 | 19.17   | 1.56   | 0.00  | 1 28   | 41.72 |

13.3%

11.7%

Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking | g Water |      | I     | rigation Wate | л<br>Т |
|----------------|-------|----------|---------|------|-------|---------------|--------|
| Conditions     | River | Spring   | Well    | Tank | River | Spring        | Well   |
| Water Source   | 0°6   | 100%     | 0%      | 0%5  | 6%    | 100%          | 0°6    |
| Satisfaction   | 0%5   | 100%     | 0%      |      | 100%  | 67%           | 0%     |
| Quality        |       | good     |         |      |       | good          |        |
| Shortage       |       | Jes      |         |      |       | yes           |        |
| Frequency (yr) |       | 1/1      |         |      |       | 1/1           |        |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes. | 100%c |
|------|-------|
| กง   | 0%    |

#### Opinion of Leader on hrigation water for Hydropower Generation.

7,55

Saving

| 0%   |
|------|
| 100% |
|      |

| Forest Condition | l    |  |  |
|------------------|------|--|--|
| Over-cutting     | 305  |  |  |
| Degree           | fair |  |  |
|                  |      |  |  |
| Over-grazing     | en - |  |  |
| Degree           | none |  |  |

| Energy      | yes  | no    |
|-------------|------|-------|
| Gas         | 100% | 6%    |
| Electricity | 0%   | 100%6 |

Possible Alternative Energy of Firewood

| 000 | 0%    | D |
|-----|-------|---|
| )%é | 100%6 | D |
|     | •     | Ē |

| Damages b | y Natural | Disasters  |
|-----------|-----------|------------|
|           |           | - <b>n</b> |

| Disasters | ).se  |
|-----------|-------|
| Floods    | 100%6 |
| Landslide | 0?5   |

| No.  | of Selected Villages<br>560 Douar |        | Tagadirt |   |         |
|------|-----------------------------------|--------|----------|---|---------|
| Ĉ.R. | 32                                | Argour | Cercle   | 3 | Amizmiz |

| Latitude | N31 | 11' | 9 Longitude | W.8 | 23 | 54 Altitude | 1,610 (m) | J |
|----------|-----|-----|-------------|-----|----|-------------|-----------|---|
| L        | L   |     |             |     |    |             |           |   |
|          |     |     |             |     |    |             |           |   |

| Households and Population |         |         |  |  |  |
|---------------------------|---------|---------|--|--|--|
| [                         | Yr 1996 | Yr 2010 |  |  |  |
| Households                | 50      | 59      |  |  |  |
| Pepulation                | 149     | 169     |  |  |  |

| Working Member per household |      |           |  |  |  |
|------------------------------|------|-----------|--|--|--|
| Agriculture                  | 3.25 | household |  |  |  |
| Non-agri.                    | 2.00 | household |  |  |  |
| Total                        | 5.25 | household |  |  |  |

| Access (km) | )        |
|-------------|----------|
| Pist        | 2.5 (km) |
| Path        | 4.5 (km) |
| Total       | 7.0 (km) |

#### House Conditions

| House size/household |      | Structure | of House | Number of houses |        |  |
|----------------------|------|-----------|----------|------------------|--------|--|
| Reoms                | (m2) | Tradition | Modern   | Single           | Piural |  |
| 6                    | 138  | 75%       | 25%      | 100%             | 0%     |  |

#### Education Ratio

| Education   | Villagers over 7 years old |       |        | Children (7-12years old) |       |        |
|-------------|----------------------------|-------|--------|--------------------------|-------|--------|
| Level       | Total                      | Male  | Female | Total                    | Male  | Female |
| None        | 77.1%                      | 60.0% | 100.0% |                          |       |        |
| Koranic     | 22.9%                      | 40.0% | 0.0%   | · · ···                  |       |        |
| Fundamental | 14.3%                      | 25.0% | 0.0%   | 14.3%5                   | 25.0% | 0.0%   |

# Annual Budget per Household

| Agri.     | 3,429  | 26.4%   |
|-----------|--------|---------|
| Livestock | 8,120  | 62.5° é |
| Forestry  | 0      | ه °0.0  |
| Others    | 1,450  | 11.2%   |
| Total     | 12,999 | 100.0%  |
| Expend.   | 21,000 |         |
| Saving    | -8,001 |         |

#### Land holding and Cultivated land (ha household)

| Tetal          |           |           | Cult    | livated Crops | (ha heuseho | old)       |         |       |
|----------------|-----------|-----------|---------|---------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable     | Potatoes    | Olive,Alm. | Apples, | Tetal |
| 2.38           | 3.15      | 0.00      | 0.04    | 0.00          | 0.00        | 0.75       | 0.00    | 3.94  |
| Sold Ratio (%) | 0.0       | 0.0       | 50.0    | 0.0           | 0.0         | 94.1       | 0.0     |       |
| Irrigation (%) | 8.3       | 0.0       | 0.0     | 0.0           | 100.0       | 0.0        | 100.0   |       |

#### Number heads of Livestock per household

| Caitle | Sheep | Goat  | Peoltry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        | -     |
| 1.25   | 27.50 | 10.00 | 15.00   | 1.25   | 0.00  | 0.00   | 55.00 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Dricking | z Water | Irrigation Water |       |        |      |
|----------------|-------|----------|---------|------------------|-------|--------|------|
| Conditions     | River | Spring   | Well    | Tank             | River | Spring | Well |
| Water Source   | 0%    | 100%     | 50%i    | Ú?é              | 0%    | 75%    | 0%i  |
| Satisfaction   | 6%    | 75%      | 50%     |                  | 0%    | 67%    | 0%i  |
| Quality        |       | good     |         |                  |       | good   |      |
| Shortage       |       | yes      |         |                  |       | yes    |      |
| Frequency (yr) |       | 1/1      |         |                  |       | 1/10   |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100% |
|-----|------|
| no  | 0%   |

| Forest Condition | ·    |
|------------------|------|
| Over-cutting     | GU   |
| Degree none      |      |
| Our reation 1    | 1.05 |
| Over-grazing     | )es  |
| Degree           | none |

| Possible Alt |      | gy of Firewood | ł |
|--------------|------|----------------|---|
| England      | 1.00 |                |   |

| encigy      | )0   | 10   |
|-------------|------|------|
| Gas         | 0%   | 100% |
| Electricity | 100% | 0%6  |

**Opinion of Leader** on Irrigation water for Hydropower Generation. ----

| 1.62 | 06   |
|------|------|
| no   | 100% |
|      |      |

| Disasters | ):cs |
|-----------|------|
| Floods    | 100% |
| Landslide | 0%6  |

| Number of Selec | 570 Douar | Tilia  |        |          |         |
|-----------------|-----------|--------|--------|----------|---------|
| CR              | 32        | Azgeur | Cercle | 3        | Amizmiz |
|                 |           |        |        |          |         |
|                 |           |        |        |          |         |
| Location        |           |        |        | <b>-</b> |         |

| ricusenoids and roposation |         |         |  |  |  |
|----------------------------|---------|---------|--|--|--|
| ·                          | Yr 1996 | Yr 2010 |  |  |  |
| Households                 | 90      | 107     |  |  |  |
| Population                 | 150     | 181     |  |  |  |

| Working Member per household |      |           |  |  |
|------------------------------|------|-----------|--|--|
| Agriculture                  | 291  | household |  |  |
| Non-agri.                    | 1.09 | household |  |  |
| Total                        | 4.00 | household |  |  |

| Access (km | )   |      |
|------------|-----|------|
| Pist       | 2.5 | (km) |
| Path       | 3.5 | (km) |
| Total      | 6.0 | (km) |

**House Conditions** 

| House size | household | Structure | of House | Number o | of houses |    |
|------------|-----------|-----------|----------|----------|-----------|----|
| Rooms      | (m2)      | Tradition | Modern   | Single   | Plural    |    |
| 6          | 175       | 100%6     | 0?6      | 73%      | 27%       | ĺ. |

#### Education Ratio

| Education   | Village | ers over 7 ye | ars old | Child | ren (7-12yea | rs old) |
|-------------|---------|---------------|---------|-------|--------------|---------|
| Level       | Total   | Male          | Female  | Total | Male         | Female  |
| None        | 84.2%   | 75.7%         | 92 3%   |       |              |         |
| Keranie     | 15.8%   | 24.3%         | 7.7%    |       |              |         |
| Fundamental | 6.6%    | 5.4%          | 7.7%    | 30.8% | 33.3%        | 28.6%   |

| Agri.     | 6,079  | 31.1%  |
|-----------|--------|--------|
| Livestock | 7,851  | 40.2%  |
| Forestry  | 0      | 0.0%   |
| Others    | 5,620  | 28.7%  |
| Total     | 19,550 | 100.0% |
| Expend.   | 11,047 |        |
| Saving    | 8,503  |        |

Land holding and Cultivated land (ha household)

| Total          | Cultivated Crops (ha household) |           |         |           |          |            |         |       |
|----------------|---------------------------------|-----------|---------|-----------|----------|------------|---------|-------|
| Land (ha)      | W. Cereal                       | S. Cereal | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Total |
| 3.52           | 3.30                            | 0.00      | 0.02    | 6.00      | 0.00     | 1.16       | 0.01    | 4.48  |
| Sold Ratio (%) | 0.0                             | 0.0       | 34.0    | 0.0       | 0.0      | 83.5       | 100.0   |       |
| Inigation (%)  | 4.4                             | 0.0       | 0.0     | 0.0       | 0.0      | 9.4        | 0.0     |       |

#### Number heads of Livestock per household

| Catile | Sheep | Goat  | Poultry | Mule   | Horse | Others | Total |  |
|--------|-------|-------|---------|--------|-------|--------|-------|--|
|        |       |       |         | Donkey |       |        |       |  |
| 1.00   | 12 00 | 28.18 | 15.18   | 0.82   | 0.09  | 0.73   | 58.00 |  |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinking Water |      |   |         | Irrigation Water |      |
|----------------|-------|----------------|------|---|---------|------------------|------|
| Conditions     | River | Spring         | Well | Tank                                    | River   | Spring           | Well |
| Water Source   | 0%6   | 73%            | 45%  | 0%6                                     | 0%      | 73%              | 18%  |
| Satisfaction   | 0°.5  | 100%6          | 60%6 |   | 0%      | 75%              | 6%   |
| Quality        |       | good           |      | - • • • • • • • • • • • • • • • • • • • | <b></b> | good             |      |
| Shortage       |       | yes            |      |   | 1       | 5.42             |      |
| Frequency (yr) |       | 1/4            |      |   |         | 1/1              |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crosion =

|     | -    |
|-----|------|
|     | 1    |
| yes | 100% |
| no  | 0%   |

#### Opinion of Leader on Irrigation water for Hydropower Generation.

| yes | Ū%   |
|-----|------|
| nə  | 100% |

| Damages by | y Natural I | Disasters |
|------------|-------------|-----------|
| Disasters  | 1:5         | 1         |
| Floods     | Ũ° 6        | 1         |
| Landslide  | 0%6         | ]         |

| Forest Condition |      |  |  |  |  |  |
|------------------|------|--|--|--|--|--|
| Over-cutting     | no   |  |  |  |  |  |
| Degree           | none |  |  |  |  |  |
| Over-grazing     | no   |  |  |  |  |  |
| Degree           | none |  |  |  |  |  |

|         | emative Energ | od |
|---------|---------------|----|
| Reason. |               |    |

| Energy      | ુરક   | no  |
|-------------|-------|-----|
| Gas         | 100%  | C%6 |
| Electricity | 100%5 | 0%5 |

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|   |         |   |           |          | Selected Villages | Aumoer u |
|---|---------|---|-----------|----------|-------------------|----------|
|   |         | - | Anfricone | <u> </u> | 580 Douar         | No.      |
| 2 | Amizmiz | 3 | Cercle    | Azgour   | 32                | C.R.     |
| 2 | Anu2mu2 | 3 | Cercle    | Azgour   | 32                | .R.      |

| LOCATION |       |     |              |     |    |             |           |
|----------|-------|-----|--------------|-----|----|-------------|-----------|
| Latitude | . N31 | 11' | 25 Longitude | W'8 | 22 | 17 Aititude | 1,720 (m) |

| Households ar | d Population |         |
|---------------|--------------|---------|
|               | Yr 1996      | Yr 2010 |
| Households    | 60           | 71      |
| Population    | 120          | 145     |

| Working Member per household |      |           |  |  |
|------------------------------|------|-----------|--|--|
| Agriculture                  | 1.43 | household |  |  |
| Non-agri                     | 0.86 | household |  |  |
| Total                        | 2 29 | household |  |  |

| Access (km) | }   | -    |
|-------------|-----|------|
| Pist        | 2.5 | (ml) |
| Path        | 7.0 | (km) |
| Total       | 9.5 | (km) |

#### **House Conditions**

| House size household |      | Structure | of House | Number of houses |        |  |
|----------------------|------|-----------|----------|------------------|--------|--|
| Rooms                | (m?) | Tradition | Modern   | Single           | Pharal |  |
| 4                    | 157  | 100%      | 0%6      | 100%6            | 0%     |  |

#### **Education Ratio**

| Education   | Villagers over 7 years old |        |        | Children (7-12years old) |      |        |
|-------------|----------------------------|--------|--------|--------------------------|------|--------|
| Level       | Total                      | Male   | Female | Total                    | Male | Female |
| None        | 88.4%                      | \$0.8% | 100.0% |                          |      | ·      |
| Koranie     | 11.6%                      | 19.2%  | 0.0%   |                          | T    |        |
| Fundamental | 2 3%                       | 3.8%   | 0.0%   | 0.0%                     | 0.0% | 0.0%   |

#### Annual Budget per Household

| Agri.     | 3,626  | 25.8%  |
|-----------|--------|--------|
| Livestock | 8,096  | 57.5%  |
| Forestry  | Û      | 0.0%   |
| Others    | 2,349  | 16.7%  |
| Total     | 14,070 | 100.0% |
| Expend.   | 10,349 |        |
| Saving    | 3,722  |        |

#### Land holding and Cultivated land (ha household)

| Total            |           | Cultivated Crops (ha household) |         |           |          |            |         |       |  |  |  |
|------------------|-----------|---------------------------------|---------|-----------|----------|------------|---------|-------|--|--|--|
| Land (ha)        | W. Cereal | S. Cereal                       | Legumes | Vegetable | Potatoes | Olive,Alm. | Apples, | Total |  |  |  |
| 2.75             | 2 36      | 0.00                            | 0.00    | 0.00      | 0.25     | 0.00       | 0.00    | 2 61  |  |  |  |
| Sold Ratio (° i) | 3.6       | 0.0                             | 0.0     | 0.0       | 81.5     | 0.0        | 0.0     |       |  |  |  |
| Irrigation (%)   | 12.1      | 0.0                             | 0.0     | 0.0       | 100.0    | 0.0        | 0.0     |       |  |  |  |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Poultry | Mole   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Dorkey |       |        |       |
| 1.71   | 14 29 | 18.43 | 6.14    | 1.43   | 0.00  | 0.57   | 42.57 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   | Dricking Water |        |      |      | Irrigation Water |        |      |
|----------------|----------------|--------|------|------|------------------|--------|------|
| Conditions     | River          | Spring | Well | Tank | River            | Spring | Well |
| Water Source   | 0%             | 100%   | 0%   | 0%   | 0%               | 71%    | 0%   |
| Satisfaction   | 0%             | 100%   | 0%i  |      | 0%               | 80%    | 0%   |
| Quality        |                | good   |      |      | :                | good   |      |
| Shortage       |                | yes    | //   |      |                  | yes    |      |
| Frequency (ST) |                | 1/4    |      |      |                  | 1/1    |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

|     |   | : | :    |
|-----|---|---|------|
| yes |   |   | 100% |
| no  | [ |   | 0° d |

# Forest Condition Over-cutting no Degree none Over-grazing no Degree none

| Possible Alte | mative Ener | gy of Firewo | od |
|---------------|-------------|--------------|----|
| Energy        | yes         | no           |    |
| Gas           | 100%        | 0%6          |    |
| Electricity   | 0%6         | 100%         |    |

Opinion of Leader on Irrigation water for Hydropower Generation.



| Disasters | ) es |
|-----------|------|
| Floods    | 0%   |
| Landslide | 0?ó  |

| Nomber               | of Selected A | fillages | 1           |             |           |            |                  |
|----------------------|---------------|----------|-------------|-------------|-----------|------------|------------------|
| No.                  | 59            | 0 Douar  | Ait Smil    |             |           |            |                  |
| CR.                  | 3             | 3        | Dar Jamaa   |             | Cercle    | 3          | Amizmiz          |
| Location<br>Latitude | N3            | 1 14     | 5 Longitude | W8          | 21'       | 3 Altitude | <b>1,040</b> (m) |
| Households ar        | nd Population |          | Working Mem | ber per hot | usehold   | Access (k  | m)               |
|                      | Yr 1996       | Yr 2010  | Agriculture | 2.86        | household | Pist       | 1.0 (km)         |
| llouseholds          | 150           | 178      | Non-agri    | 1.29        | household | Path       | 1.5 (km)         |
| Population           | 1,400         | 1,694    | Total       | 414         | household | Total      | 2.5 (km)         |

#### **House Conditions**

| House size | household | Structure | of House | Number o | of houses |
|------------|-----------|-----------|----------|----------|-----------|
| Rooms      | (m2)      | Tradition | Modern   | Single   | Piural    |
| 6          | 142       | 86%       | 14%      | 81%      | 19%       |

#### Education Ratio

| Education   | Villagers over 7 years old |               |        | Children (7-12 years old)              |         |        |
|-------------|----------------------------|---------------|--------|--|---------|--------|
| Level       | Total                      | Male          | Female | Total                                  | Male    | Female |
| None        | 57.4%                      | 30.8%         | 92.0%  | ······································ |         |        |
| Koranie     | 42 6%                      | 69.2%         | 8.0%   |  | · · · · |        |
| Fundamental | 30.4%                      | <b>49.2</b> % | 6.0%   | 50.0%                                  | 62.5%   | 33.3%  |

#### Annual Budget per Household

| Agri.     | 5,029  | 24.6° ö |
|-----------|--------|---------|
| Livestock | 9,939  | 48.6%   |
| Forestry  | 0      | 0.0%    |
| Others    | 5,499  | 26.9%   |
| Total     | 20,467 | 100.0%  |
| Expend.   | 10,234 |         |
| Saving    | 10,233 |         |

#### Land helding and Cultivated land (ha household)

| Total          |           |           | Cult    | livated Crops | (ha househo | 년)          |         |       |
|----------------|-----------|-----------|---------|---------------|-------------|-------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable     | Polatoes    | Olive, Alm. | Apples, | Total |
| 3.43           | 3.69      | 0.14      | 0.00    | 0.00          | 0.00        | 0.60        | 0.01    | 4.44  |
| Seld Ratio (%) | 18.0      | 0.0       | 0.0     | 0.0           | 0.0         | 65.6        | 95.5    |       |
| Inigation (?)) | 25        | 0.0       | 0.0     | 0.0           | 0.0         | 7.7         | 0.0     |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Geat | Poultry | Mule   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 2.19   | 2.19  | 0.00 | 16.19   | 1.48   | 0.00  | 0.95   | 23.00 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water |      | h        | nigation Wate | э <b>т</b> |
|----------------|-------|---------|---------|------|----------|---------------|------------|
| Conditions     | River | Spring  | Well    | Tank | River    | Spring        | Well       |
| Water Source   | 0?5   | 71%     | 62%     | 0%   | 0%       | 19%           | 0%         |
| Satisfaction   | 0%    | 73%6    | 69%     |      | Û%6      | 75%a          | 0%         |
| Quality        |       | good    | ·····   |      | <b> </b> | good          |            |
| Shortage       |       | ) es    |         |      |          | yes           |            |
| Frequency (yr) |       | 1/1     |         |      | <u> </u> | 1/1           |            |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing seil erosion =

| yes | 100% |
|-----|------|
| n0  | 0%   |

#### Opinion of Leader on Irrigation water for Hydropower Generation.

| yes | 0%ċ  |
|-----|------|
| no  | 160% |

| Damages by | Natural I | Disasters |
|------------|-----------|-----------|
| Disasters  | yes       | 1         |
| Floods     | 0%6       | 1         |
| Landslide  | 0%        | 1         |

| Ferest Condition |      |
|------------------|------|
| Over-cutting     | no   |
| Degree           | nône |
|                  |      |
| Over-grazing     | yes  |
| Degree           | fair |

| POSSIDIE AIL | ernauve fine    | tgy of filtenoo | a, |
|--------------|-----------------|-----------------|----|
| <b>F</b>     | · · · · · · · · | <b>T</b> ~~~~1  |    |

| thergy      | Jes  | 00   |
|-------------|------|------|
| Gas         | 100% | 0%   |
| Electricity | 0%6  | 100% |

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|      | Selected Villages | 2         |           |   |         |
|------|-------------------|-----------|-----------|---|---------|
| No.  | 600 Doua          | E E       | Tifratine |   |         |
| C.R. |                   | Dar Jamaa | Cetcle    | 3 | Amizmiz |

| Households and Population |         |         |  |  |
|---------------------------|---------|---------|--|--|
|                           | Yr 1996 | Yr 2010 |  |  |
| Households                | 63      | 95      |  |  |
| Population                | 600     | 726     |  |  |

| Working Memb |      |           |
|--------------|------|-----------|
| Agriculture  | 2 67 | neuschold |
| Non-agri.    | 0.67 | household |
| Total        | 3.33 | household |

| Access (kin) | )        |
|--------------|----------|
| Pist         | 3.6 (km) |
| Path         | 0.0 (km) |
| Total        | 3.6 (km) |

House Conditions

| House size 1 | iousehold | Structure | of House | Number of houses |        |  |
|--------------|-----------|-----------|----------|------------------|--------|--|
| Rooms        | (m2)      | Tradition | Mødern   | Single           | Plural |  |
| 4            | 258       | 92%       | 8%       | <u>83%</u> 0     | 17%    |  |

#### Education Ratio

| Education   | Village | ers over 7 ye | ars old | Child | ren (7-12yea | rs eld) |
|-------------|---------|---------------|---------|-------|--------------|---------|
| Level       | Total   | Male          | Female  | Total | Male         | Female  |
| None        | 78.4%   | 68.4%         | 88.9%   |       |              |         |
| Koranie     | 21.6%   | 31.6%         | 11.1%   |       |              |         |
| Fundamental | 18 9%   | 26.3%         | 11.1%   | 30.0% | 60.0%        | 0.0%    |

#### Annual Budget per Household

| Agri.     | 2,881  | 12.8%                                 |
|-----------|--------|---------------------------------------|
| Livesteck | 15,520 | 69.2°ć                                |
| Forestry  | 0      | 0.0%                                  |
| Others    | 4,042  | 18.0%                                 |
| Tətal     | 22,443 | 100.0%                                |
| Expend.   | 12,571 | · · · · · · · · · · · · · · · · · · · |
| Saving    | 9,872  |                                       |

#### Land holding and Cultivated land (ha household)

| Total          |           |           | Cult    | ivated Creps | (ha/houseb: | (b):       |         |       |
|----------------|-----------|-----------|---------|--------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Potatoes    | Olive,Alm. | Apples, | Total |
| 4.33           | 3.96      | 0.00      | 0.00    | 0.08         | 0.00        | 0.08       | 0.00    | 4.12  |
| Seld Ratio (%) | 8.3       | 0.0       | 0.0     | 33.0         | 0.0         | 68 2       | 0.0     |       |
| Irrigation (%) | 0.0       | 0.0       | 0.0     | 0.0          | 0.0         | 0.0        | 0.0     |       |

#### Number heads of Livestock per household

| Catile | Sheep | Goat | Poultry | Mule   | Horse | Others | Tetal |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       | •    |         | Donkey |       |        |       |
| 2 33   | 7.50  | 2.58 | 12.08   | 1.67   | 0.08  | 0.50   | 26.75 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water | •    | . In      | igation Wate | ж<br>Г |
|----------------|-------|---------|---------|------|-----------|--------------|--------|
| Conditions     | River | Spring  | Well    | Tank | River     | Spring       | Well   |
| Water Source   | 33%   | 33%     | 67%     | 0%i  | <u>8%</u> | 1796         | 17%    |
| Satisfaction   | 100%6 | 100%6   | 88%6    |      | 100%      | 50° ö        | 50%    |
| Quality        |       | poor    | · .     |      | <u> </u>  | good         |        |
| Shortage       |       | no      |         |      |           | 765          |        |
| Frequency ()T) |       | 1/1     |         |      |           | 1/20         |        |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

| Over-cutting | no   |
|--------------|------|
| Degree       | none |
|              |      |
|              |      |
| Over-grazing | yes  |

|     | •    |
|-----|------|
| yes | 100% |
| no  | 0%è  |

| Possible Alternative Energy of Firewood |     |    |  |  |  |
|---|-----|----|--|--|--|
| Energy                                  | yes | ຄວ |  |  |  |

| Gas         | 100% | 0%    |
|-------------|------|-------|
| Electricity | 0%   | 100%6 |

Opinion of Leader on Irrigation water for Hydropower Generation.

| tor figurepower General |         |  |  |  |  |
|-------------------------|---------|--|--|--|--|
| પ્રહ                    | #DIV/0! |  |  |  |  |
| no                      | #DIV:01 |  |  |  |  |

|           | •   |  |
|-----------|-----|--|
| Disasters | 755 |  |
| Floods    | 0%  |  |
| Landslide | 0?6 |  |

| Number               | of Selected V           | illages | 1                |           |                       |                  |                |  |
|----------------------|-------------------------|---------|------------------|-----------|-----------------------|------------------|----------------|--|
| No.                  | 610                     | Douar   |                  |           | Aguenze               |                  |                |  |
| CR.                  | 33                      | ,       | Dar Jamaa Cercle |           |                       | 3 Amizmiz        |                |  |
| Location<br>Latitude | N31                     | 17      | 14 Longitude     | W8        | 22'                   | 3 Altitude       | 820 (m)        |  |
|                      |                         |         |                  |           |                       |                  |                |  |
| Households ar        | d Population            |         | Working Memb     | er per ho | usehold               | Access (         | km)            |  |
| Households an        | d Population<br>Yr 1996 | Yr 2010 | Working Memb     |           | usehold<br>Thousehold | Access (<br>Pist | km)<br>3.7(km) |  |

household

5.88

Total

#### House Conditions

Population

| House size household |      | Structure | of House | Number of houses |        |
|----------------------|------|-----------|----------|------------------|--------|
| Rooms                | (m2) | Tradition | Modern   | Single           | Plural |
| 8                    | 165  | 100%      | 0%       | 88%              | 13%    |

242

#### Education Ratio

| Education   | Villagi | ers over 7 ye | ars old | Children (7-12 years old) |       |        |
|-------------|---------|---------------|---------|---------------------------|-------|--------|
| . Level     | Total   | Male          | Female  | Total                     | Mate  | Female |
| None        | 87.3%   | 79.5%         | 100.0%  |                           |       |        |
| Koranie     | 12.7%   | 20.5%         | 0.0%    |                           |       |        |
| Fundamental | 7.9%    | 12.8%         | 0.0%    | 12.5%                     | 25.0% | 0.0%   |

#### Annusi Budget per Household Agri. 4,168 15.0% Livestock 16,915 61.0% Forestry 0.0% 0 Others 6,650 24.0% Total 27,732 100.0% Expend. 15,473 Saving 12,260

3.7 (km)

Total

#### Land holding and Cultivated land (ha/household)

200

| Tetal          | Cultivated Crops (ha household) |           |         |           |          |            |         |       |
|----------------|---------------------------------|-----------|---------|-----------|----------|------------|---------|-------|
| Lanð (ha)      | W. Cereal                       | S. Cereal | Legumes | Vegetable | Polatoes | Olive,Alm. | Apples, | Tetal |
| 6.72           | 6.09                            | 0.00      | 0.00    | 0.00      | 0.00     | 0.11       | 0.00    | 6 20  |
| Sold Ratio (%) | 12.5                            | 0.0       | 00      | 0.0       | 0.0      | 59.1       | 0.0     |       |
| Irrigation (%) | 6.3                             | 0.0       | 0.0     | 0.0       | 0.0      | 33.3       | 0.0     |       |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Peultry | Mule   | Horse | Others | Total | ] |
|--------|-------|-------|---------|--------|-------|--------|-------|---|
| 1      |       |       |         | Donkey | -     |        |       |   |
| 2.13   | 35.75 | 12.38 | 18.88   | 2.25   | 0 25  | 2.50   | 74.13 |   |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water | _    | Inigation Water |        |      |  |
|----------------|-------|---------|---------|------|-----------------|--------|------|--|
| Conditions     | River | Spring  | Well    | Tank | River           | Spring | Well |  |
| Water Source   | 25%   | 50%     | 75%     | 100% | 13%             | 13%    | 0%   |  |
| Satisfaction   | 100%5 | 100%6   | 83%     |      | 100%            | 100%6  | 0%   |  |
| Quality        |       | peor    |         |      |                 | good   |      |  |
| Shortage       |       | yes     | ·       |      |                 | yes    |      |  |
| Frequency (yr) |       | 1/1     |         |      |                 | 1/1    |      |  |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100% |
|-----|------|
| nə  | 6%   |

#### **Opinion of Leader** on Irrigation water for Hydronower Generation.

| rea transh | ower Generali |
|------------|---------------|
| yes        | 0%            |
| no         | 100%          |

| Forest Condition |      |
|------------------|------|
| Over-cutting     | nð   |
| Degree           | none |
| []               |      |
| Over-grazing     | 7.52 |
| Degree           | none |

| emative Energy of Firewood |
|----------------------------|
|                            |

| rueigy.     | yes  | no   |
|-------------|------|------|
| Gas         | 100% | 0%   |
| Electricity | 0%6  | 100% |

Damages by Natural Disasters Diesetore .....

| DISASIEFS | yes  |
|-----------|------|
| Floods    | 0°.6 |
| Landslide | 0%   |

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| Number o                               | f Selected Vill | ages  | l            |        |           |                     |           |
|--|-----------------|-------|--------------|--------|-----------|---------------------|-----------|
| No.                                    | 620             | Douar |              | 16     | t Baragha |                     |           |
| Ċ.R.                                   | 33              | ,     | Dar Jamaa    | Cercle |           | 3                   | Amiznuz   |
| ocation                                |                 |       |              |        |           |                     |           |
|  | N31             | 15    | 57 Longitude | W8     | 20'       | 57 Akituð           | e 850 (m) |
| Location<br>Latitude<br>Households and | I               | 15    |              | W8     | <u></u>   | 57 Akitud<br>Access | <u> </u>  |

Non-agri.

Total

0.60 household

2.80 household

#### House Conditions

Households

Population

| House size | household | Structure | of House | Number | of houses |
|------------|-----------|-----------|----------|--------|-----------|
| Rooms      | (m2)      | Tradition | Modern   | Single | Plural    |
| 4          | 166       | 80%       | 20%      | 100%5  | 0°é       |

42

302

#### Education Ratio

| Education   | Village | rs over 7 ye | ars old | Child | ren (7-12year | rs old) |
|-------------|---------|--------------|---------|-------|---------------|---------|
| Level       | Total   | Male         | Female  | Total | Male          | Female  |
| None        | 75.0%   | 46.2%        | 100.0%  |       |               | -       |
| Koranie     | 25.0%   | 53.8%        | 0.0%    |       |               |         |
| Fundamental | 25.0%   | 53.8%        | 0.0%    | 14 3% | 100.0%        | 0.0%i   |

#### Annual Budget per Household

Path

Total

| Agri.     | 7,675  | 20.9%   |
|-----------|--------|---------|
| Livestock | 28,095 | 76.4%   |
| Forestry  | 0      | 0.0%    |
| Others    | 1,000  | 2.7%    |
| Total     | 36,770 | 100.0%  |
| Expend.   | 22,600 | <u></u> |
| Saving    | 14,170 |         |

0.3 (km)

2.0 (km)

#### Land holding and Cultivated land (ha household)

35

250

| Total          | :         |           | Cult    | livated Crops | (ha househo | lJ)        |         |       |
|----------------|-----------|-----------|---------|---------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legunes | Vegetable     | Potatoes    | Olive,Alm. | Apples, | Total |
| 5.40           | 5.30      | 0.00      | 0.00    | 0.00          | 0.00        | 0.47       | 0.00    | 5.77  |
| Sold Ratio (%) | 19.8      | 0.0       | 0.0     | 0.0           | 0.0         | 55 5       | 0.0     |       |
| Irrigation (%) | 0.0       | 0.0       | 0.0     | 0.0           | 0.0         | 0.0        | 0.0     |       |

#### Number heads of Livestock per household

| Catile | Sheep | Goat | Poultry | Mule   | Horse | Others | Total |
|--------|-------|------|---------|--------|-------|--------|-------|
|        |       |      |         | Donkey |       |        |       |
| 4.20   | 13.40 | 0.80 | 20.60   | 1.40   | 0.00  | 0.00   | 40.40 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water |      | I     | rigation Wale | u –  |
|----------------|-------|---------|---------|------|-------|---------------|------|
| Conditions     | River | Spring  | Well    | Tark | River | Spring        | Welt |
| Water Source   | 20%   | 40%     | 40%     | 0%a  | 0%    | 0%6           | 0%6  |
| Satisfaction   | 100%  | 100%    | 100%    |      | 0%5   | 0° ó          | 0°6  |
| Quality        |       | good    |         |      |       | good          |      |
| Shortage       |       | yes     |         |      |       | yes           |      |
| Frequency (yr) |       | 1/1     |         |      |       | 1/4           |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

| Over-cutting | nə   |
|--------------|------|
| Degree       | none |
|              |      |
| ·····        |      |
| Over-grazing | yes  |

| yes | 0%5   |
|-----|-------|
| กง  | 100%5 |
|     |       |

Possible Alternative Energy of Firewood

| Energy      | yes   | no   |
|-------------|-------|------|
| Gas         | 0%5   | 100% |
| Electricity | 100%6 | 0ºó  |

Opinion of Leader on Irrigation water for Hydropower Generation.

| yes | 0%o   |
|-----|-------|
| no  | 100%6 |
|     |       |

| Disasters | ) રડ |
|-----------|------|
| Hoods     | 0%   |
| Landstide | 0%   |

| No.      | 630]Dx | -UAr | Agadir Baragha                        |          |   |          |         |
|----------|--------|------|---------------------------------------|----------|---|----------|---------|
| CR       | 33     | t    | Dar Jamaa                             | Cercle   | I | 3        | Amizmiz |
|          |        |      | · · · · · · · · · · · · · · · · · · · |          |   | <u>t</u> |         |
| <u> </u> |        |      |                                       |          | I | <u>t</u> |         |
| Location | J      |      |                                       | <b>I</b> | I | t        |         |

| nouseholds ar | a reputation |         |  |
|---------------|--------------|---------|--|
|               | Yr 1996      | Yr 2010 |  |
| Households    | 40           | 48      |  |
| Population    | 300          | 363     |  |

| Working Memb | Working Member per household |           |  |  |  |
|--------------|------------------------------|-----------|--|--|--|
| Agriculture  | 3.25                         | household |  |  |  |
| Non-agri.    | 1.13                         | household |  |  |  |
| Total        | 4.38                         | heuschold |  |  |  |

| Access (km) | ).  |      |
|-------------|-----|------|
| Pist        | 2 0 | (km) |
| Path        | 0.0 | (km) |
| Total       | 2.0 | (km) |

House Conditions

| House size 1 | nousehold | Structure | Structure of House Number of house |        |        |
|--------------|-----------|-----------|------------------------------------|--------|--------|
| Rooms        | (m2)      | Tradition | Modern                             | Single | Plural |
| · 6          | 153       | 88%       | 13%                                | 100%6  | Û%6    |

Education Ratio

| Education   | Villagers over 7 years old |                              |       | Children (7-12 years old) |        |      |
|-------------|----------------------------|------------------------------|-------|---------------------------|--------|------|
| Level       | Tota                       | Total Male Female Total Male |       | Male                      | Female |      |
| None        | 71.7%                      | 45.5%                        | 95.8% |                           |        |      |
| Koranie     | 28.3%                      | 54.5%                        | 4.2%  |                           |        |      |
| Fundamental | 21.7%                      | 45.5%                        | 0.0%  | 14.3%                     | 50.0%  | 0.0% |

Annual Budget per Household

| Agri.     | 6,681  | 27.1%  |
|-----------|--------|--------|
| Livestock | 10,955 | 41.4%  |
| Forestry  | 0      | 0.0%   |
| Others    | 7,038  | 28.5%  |
| Total     | 24,673 | 100.0% |
| Expend.   | 13,913 |        |
| Saving    | 10,761 |        |

Land holding and Cultivated land (ha household)

| Tetal          |           | Cultivated Crops (ha household)                                   |      |      |      |      |      |      |  |
|----------------|-----------|---|------|------|------|------|------|------|--|
| Land (ha)      | W. Cereal | Cereal S. Cereal Legumes Vegetable Potatoes Olive, Alm. Apples, T |      |      |      |      |      |      |  |
| 4.41           | 4.13      | 0.00  | 0.00 | 0.00 | 0.00 | 1.18 | 0.00 | 5.30 |  |
| Sold Ratio (%) | 3.0       | 0.0   | 0.0  | 0.0  | 88.0 | 68.3 | 0.0  |      |  |
| Inigation (%)  | 0.0       | 00  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |      |  |

#### Number heads of Livestock per household

| ſ | Caitle | Sheep | Geat | Poultry | Mule   | Horse | Others | Tota] |   |
|---|--------|-------|------|---------|--------|-------|--------|-------|---|
|   |        |       | -    |         | Donkey |       | -      |       |   |
|   | 2 63   | 6 25  | 0.00 | 17.50   | 1.38   | 0.13  | 0.00   | 27.88 | ] |

Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water |      | I     | rigation Wate | ÷ r  |
|----------------|-------|---------|---------|------|-------|---------------|------|
| Conditions     | River | Spring  | Well    | Tank | River | Spring        | Well |
| Water Source   | 0%6   | 63%ö    | 50%a    | 0%   | 0%    | 2506          | 6?5  |
| Satisfaction   | 0%6   | 80° o   | 75%     |      | 0%    | 100%6         | 0%   |
| Quality        |       | good    |         |      |       | good          |      |
| Shortage       |       | no      |         |      | 1     | no            |      |
| Frequency (yr) |       | 1.0     |         |      | 1     | 1/20          |      |

<Environmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion =

| yes | 100% |
|-----|------|
| no  | 0%6  |

#### Opinion of Leader on Inigation water for Hydropower Generation. yes #DIV:01

| Forest Condition |      |
|------------------|------|
| Over-cutting     | กจ   |
| Degree           | none |
| Over-grazing     | 1.52 |
| O tel grazing    | ,    |

| Possible Alt | ossible Alternative Energy of Firewood |    |  |  |
|--------------|--|----|--|--|
| Energy       | 1765                                   | nə |  |  |

| 100%6 | 0%i  |
|-------|------|
| 0%    | 100% |
|       |      |

#DIV 0! nə

| Damages | by Natural | Disasters |
|---------|------------|-----------|
|         |            |           |

| Disasters | yes  |
|-----------|------|
| Floods    | 0°e  |
| Landslide | 0°.e |

| Number       | of Selected Vi | llages  | 1                |           | · · · · · · · · · · · · · · · · · · · |            |              |
|--------------|----------------|---------|------------------|-----------|---------------------------------------|------------|--------------|
| No.          | 650            | Douar   | Adar Baragha     |           |                                       |            |              |
| C.R.         | 33             |         | Dar Jamaa Cercle |           |                                       | 3          | Amizmiz      |
|              |                |         | • • • • •        |           |                                       |            |              |
| Location     |                |         |                  |           |                                       |            |              |
| Latitude     | N31            | 13'     | 1 Longitude      | W8        | 20'                                   | 22 Altitus | de 1,070 (m) |
| Households a | nd Population  |         | Working Memb     | er per ho | uschold                               | Acces      |              |
|              | Yr 1996        | Yr 2010 | Agriculture      | 2.50      | household                             | Pist       | 2.5 (km)     |
| Households   | 1)             | 13      | Non-agri.        | 0.00      | household                             | Path       | 1.5 (km)     |
|              | 4              |         | Total            | 0.00      | household                             | Tetal      | 4.0 (km)     |

#### House Conditions

| House size? | nousehold | Structure of House Number of hou |        | fhouses |        |
|-------------|-----------|----------------------------------|--------|---------|--------|
| Rooms       | (m2)      | Tradition                        | Medern | Single  | Plural |
| 5           | 131       | 100%5                            | 0%     | 100%    | 0%*    |

#### **Education Ratio**

| Education   | Village | rs over 7 ye | ars old | Children (7-12 years old) |        |        |  |
|-------------|---------|--------------|---------|---------------------------|--------|--------|--|
| Level       | Tetal   | Male         | Female  | Tota1                     | Male   | Female |  |
| None        | 87.0%   | 66.7%        | 100.0%  |                           |        |        |  |
| Koranie     | 13.0%   | 33.3%        | 0.0%    |                           |        |        |  |
| Fundamental | 13.0%   | 33.3%        | 0.0%    | 28.6%                     | 100.0% | 0.0%6  |  |

#### Annual Budget per Heusehold 8,618 36.9% Agri 11744 63.1% Livestock 0.0% Forestry 0 0.0% Û Others 100.0% 23,362 **Total** Expend. 14,483 Saving 8,879

#### Land holding and Cultivated land (ha household)

| Total          | Cultivated Crops (ha household) |           |         |           |          |             |         |       |  |
|----------------|---------------------------------|-----------|---------|-----------|----------|-------------|---------|-------|--|
| Land (ha)      | W. Ceteal                       | S. Cereal | Legumes | Vegetable | Potatoes | Olive, Alm. | Apples, | Total |  |
| 4.60           | 6.38                            | 0.00      | 0.00    | 0.03      | 0.03     | 0.81        | 0.15    | 7.40  |  |
| Sold Ratio (%) | 3.7                             | 0.0       | 0.0     | 100.0     | 100.0    | 73.9        | 95.5    |       |  |
| Imigation (%)  | 0.0                             | 0.0       | 0.0     | 0.0       | 0.0      | 0.0         | 0.0     |       |  |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat  | Poultry | Mule   | Horse | Others | Total |
|--------|-------|-------|---------|--------|-------|--------|-------|
|        |       |       |         | Donkey |       |        |       |
| 2.00   | 14.75 | 17.50 | 12 25   | 1.00   | 0.00  | 0.00   | 47.50 |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Waler |      | 1     | rigation Wate | r    |
|----------------|-------|---------|---------|------|-------|---------------|------|
| Conditions     | River | Spring  | Well    | Tank | River | Spring        | Well |
| Water Source   | 0%    | 100%6   | 75%     | 0%   | 6%:   | 50%6          | 0%   |
| Satisfaction   | 0%ó   | 100%6   | 100%    |      | 0%5   | 50%           | 0%   |
| Quality        |       | good    |         |      |       | good          |      |
| Shortage       |       |         |         |      | 1     | yes           |      |
| Frequency ()T) |       | 1/1     |         |      |       | 1/1           |      |

<Fnvironmental Conditions informed by Village Leader> Awareness of over deforestation causing soil erosion ==

| Over-cutting                           | yes                                   |
|--|---------------------------------------|
| Degree                                 | fair                                  |
|  | -                                     |
| ······································ | · · · · · · · · · · · · · · · · · · · |
| Over-grazing                           | yes                                   |

| Possible Alt | emative Eper | gy of Firewe | ød |
|--------------|--------------|--------------|----|
| Energy       | 105          | no           |    |

| Gas         | 100%6 | 0%6   |
|-------------|-------|-------|
| Electricity | 0%    | 100%6 |

| Opinion of Leader          |
|----------------------------|
| on Inigation water         |
| for Hydropower Generation. |

| yes | 0%e   |
|-----|-------|
| กว  | 100%6 |
|     |       |

| Damages | by | Natural | Disasters |
|---------|----|---------|-----------|
|---------|----|---------|-----------|

| Disasters | yes  |
|-----------|------|
| Floods    | 100% |
| Landslide | 100% |

100%

0%

2.se

no

| No.      | of Selected Vil<br>660 | Dousr | <b>* </b> | Tadehert |   |         |
|----------|------------------------|-------|-----------|----------|---|---------|
| CR.      | 33                     |       | Dar Jamaa | Cercle   | 3 | Amizmiz |
|          |                        |       |           |          |   |         |
|          |                        |       |           |          |   |         |
| Location |                        |       |           |          |   |         |

| Households as | nd Population |         |
|---------------|---------------|---------|
|               | Yr 1996       | Yr 2010 |
| Households    | 30            | 36      |
| Population    | 200           | 242     |

| Agriculture | 3.50 | household |
|-------------|------|-----------|
| Non-agri.   | 1.50 | household |

| Access (km) | )         |
|-------------|-----------|
| Pist        | 2.5 (km)  |
| Path        | 0.0 (km)  |
| Total       | 2 5 (lim) |

#### House Conditions

| House size-1 | ousehold | Structure | of House | Number o | f houses |
|--------------|----------|-----------|----------|----------|----------|
| Rooms        | (m2)     | Tradition | Modern   | Single   | Plural   |
| • 4          | 120      | 100%      | 0%6      | 100%     | 0%       |

#### Education Ratio

| Education   | Village | ers over 7 ye | ars old | Child | ren (7-12yea | rs eld) |
|-------------|---------|---------------|---------|-------|--------------|---------|
| Level       | Total   | Male          | Female  | Total | Male         | Female  |
| None - 1    | 76 2%   | 61.5%         | 100.0%5 |       | 1            | · · ·   |
| Koranic     | 23.8%   | 38.5%         | 0.0%    |       |              |         |
| Fundamental | 19.0%   | 30.8%         | 0.0%    | 50.0% | 100.0%       | 0.0%    |

#### Annual Budget per Housebold

| Agri.     | 1,800 | 18.6%  |
|-----------|-------|--------|
| Livestock | 6,426 | 66.5%  |
| Forestry  | 0     | 0.0%   |
| Others    | 1,438 | 14.9%  |
| Tetal     | 9,664 | 100.6% |
| Expend.   | 6,767 |        |
| Saving    | 2,897 |        |

#### Land holding and Cultivated land (ha household)

| Total          |           |           | Cuit    | ivated Crops | (ha househo | sld)       |         |       |
|----------------|-----------|-----------|---------|--------------|-------------|------------|---------|-------|
| Land (ha)      | W. Cereal | S. Cereal | Legumes | Vegetable    | Potatoes    | Olive,Alm. | Apples, | Total |
| 1.43           | 1.55      | 0.00      | 0.00    | 0.00         | 0.00        | 0.10       | 0.00    | 1.65  |
| Sold Ratio (%) | 12.5      | 0.0       | 0.0     | 0.0          | 0.0         | 59.1       | 0.0     |       |
| Irrigation (%) | 0.0       | 0.0       | 0.0     | 0.0          | 0.0         | 0.0        | 00      | -     |

#### Number heads of Livestock per household

| Cattle | Sheep | Goat | Poukry | Mule   | Horse | Others | Total |  |
|--------|-------|------|--------|--------|-------|--------|-------|--|
|        |       |      |        | Donkey |       |        |       |  |
| 1.50   | 2.50  | 0.00 | 4.25   | 0.75   | 0.00  | 0.00   | 9.00  |  |

#### Water Sources, Satisfaction, Water Quality, and Water Shortage

| Hydrological   |       | Drinkin | g Water |      | li I  | rigation Wate | а <b>г</b> |
|----------------|-------|---------|---------|------|-------|---------------|------------|
| Conditions     | River | Spring  | Well    | Tank | River | Spring        | Well       |
| Water Scoree   | 0%à   | 100%    | 0%      | 6%   | 25%   | 50%           | 0%6        |
| Satisfaction   | 0%5   | 100%    | 0%      |      | 100%  | 50%           | 0°6        |
| Quality        |       | good    |         |      |       | poor          |            |
| Shortage       | · · · | yes     |         |      |       | yes           |            |
| Frequency (yr) |       | 1/1     |         |      |       | 1/1           | · · · ·    |

<Frevironmental Conditions informed by Village Leader> Awareness of over deforestation causing soil crossion =

| ····· |      |
|-------|------|
| yes   | 100% |
| no -  | 0%6  |

#### Opinion of Leader

on Irrigation water

| for Hydrop | ower Generation. |
|------------|------------------|
| yes        | 0%6              |
| no         | 100%             |

| Over-cutting | nə   |
|--------------|------|
| Degree       | none |
|              |      |
| Over-grazing | D.)  |

| Possible | Alternative Energy of Firewood |
|----------|--------------------------------|
|          |                                |

| freigy      | yes  | no   |
|-------------|------|------|
| Gas         | 100% | 0%   |
| Electricity | Û°6  | 100% |

| Damages  | by Natural | Disasters |
|----------|------------|-----------|
| <b>r</b> | T          | _         |

| Disasters | yes   |
|-----------|-------|
| Floods    | 100%6 |
| Landslide | 100%  |