

# APPENDIXES

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## 1. Breakdown of Costs and Benefits of Each Project

### 1.1 Project for Irrigation System Improvement

#### 1.1.1 Cost

(Unit: 1,000RIs)

		Payer	2013	2014	2015	2016	2017	Total
1	Survey and design	JAO	365,750	0	0	0	0	365,750
		Farmers	156,750	0	0	0	0	156,750
		<b>Sub-total</b>	<b>522,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>522,500</b>
2 Construction of irrigation facilities								
2.1	Felarg, Bozghong	JAO	0	578,340	0	0	0	578,340
		Farmers	0	247,860	0	0	0	247,860
		<b>Sub-total</b>	<b>0</b>	<b>826,200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>826,200</b>
2.2	Mafriz, Sang Abad	JAO	0	0	571,480	0	0	571,480
		Farmers	0	0	244,920	0	0	244,920
		<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>816,400</b>	<b>0</b>	<b>0</b>	<b>816,400</b>
2.3	Alghor, Sheikhan, Garmidar	JAO	0	0	0	528,570	0	528,570
		Farmers	0	0	0	226,530	0	226,530
		<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>755,100</b>	<b>0</b>	<b>755,100</b>
Sub-total	JAO	0	578,340	571,480	528,570	0	1,678,390	
	Farmers	0	247,860	244,920	226,530	0	719,310	
	<b>Sub-total</b>	<b>0</b>	<b>826,200</b>	<b>816,400</b>	<b>755,100</b>	<b>0</b>	<b>2,397,700</b>	
3	Training on operation and management	JAO	0	5,040	5,040	5,040	0	15,120
		Farmers	0	2,160	2,160	2,160	0	6,480
		<b>Sub-total</b>	<b>0</b>	<b>7,200</b>	<b>7,200</b>	<b>7,200</b>	<b>0</b>	<b>21,600</b>
4	Operation and management	JAO	0	0	0	0	0	0
		Farmers	0	24,786	49,278	71,931	71,931	217,926
		<b>Sub-total</b>	<b>0</b>	<b>24,786</b>	<b>49,278</b>	<b>71,931</b>	<b>71,931</b>	<b>217,926</b>
<b>Total</b>	JAO	365,750	583,380	576,520	533,610	0	2,059,260	
	Farmers	156,750	274,806	296,358	300,621	71,931	1,100,466	
	<b>Total</b>	<b>522,500</b>	<b>858,186</b>	<b>872,878</b>	<b>834,231</b>	<b>71,931</b>	<b>3,159,726</b>	

(Cost for drip irrigation: Case ① – 1) and ② – 1))

(Unit: 1,000RIs)

		Payer	2013	2014	2015	2016	2017	Total
1	Survey and design	JAO	198,550	0	0	0	0	198,550
		Farmers	85,093	0	0	0	0	85,093
		<b>Sub-total</b>	<b>283,643</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>283,643</b>
2 Construction of irrigation facilities								
2.1	Felarg, Bozghong	JAO	0	480,690	0	0	0	480,690
		Farmers	0	206,010	0	0	0	206,010
		<b>Sub-total</b>	<b>0</b>	<b>686,700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>686,700</b>
2.2	Mafriz, Sang Abad	JAO	0	0	473,830	0	0	473,830
		Farmers	0	0	203,070	0	0	203,070
		<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>676,900</b>	<b>0</b>	<b>0</b>	<b>676,900</b>
2.3	Alghor, Sheikhan, Garmidar	JAO	0	0	0	203,070	0	203,070
		Farmers	0	0	0	87,030	0	87,030
		<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>290,100</b>	<b>0</b>	<b>290,100</b>
Sub-total	JAO	0	480,690	473,830	203,070	0	1,157,590	
	Farmers	0	206,010	203,070	87,030	0	496,110	
	<b>Sub-total</b>	<b>0</b>	<b>686,700</b>	<b>676,900</b>	<b>290,100</b>	<b>0</b>	<b>1,653,700</b>	
3	Training on operation and management	JAO	0	2,736	2,736	2,736	0	8,208
		Farmers	0	1,173	1,173	1,173	0	3,518
		<b>Sub-total</b>	<b>0</b>	<b>3,909</b>	<b>3,909</b>	<b>3,909</b>	<b>0</b>	<b>11,726</b>
4	Operation and management	JAO	0	0	0	0	0	0
		Farmers	0	20,601	40,908	49,611	49,611	160,731
		<b>Sub-total</b>	<b>0</b>	<b>20,601</b>	<b>40,908</b>	<b>49,611</b>	<b>49,611</b>	<b>160,731</b>
<b>Total</b>	JAO	198,550	483,426	476,566	205,806	0	1,364,348	
	Farmers	85,093	227,784	245,151	137,814	49,611	745,452	
	<b>Total</b>	<b>283,643</b>	<b>711,210</b>	<b>721,717</b>	<b>343,620</b>	<b>49,611</b>	<b>2,109,800</b>	

(Cost for pipeline with diversion box: Case ①–2))

(Unit: 1,000RIs)

		Payer	2013	2014	2015	2016	2017	Total
1	Survey and design	JAO	167,200	0	0	0	0	167,200
		Farmers	71,657	0	0	0	0	71,657
		<b>Sub-total</b>	<b>238,857</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>238,857</b>
2	Construction of irrigation facilities							
2.1	Felarg, Bozghong	JAO	0	97,650	0	0	0	97,650
		Farmers	0	41,850	0	0	0	41,850
		<b>Sub-total</b>	<b>0</b>	<b>139,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>139,500</b>
2.2	Mafriz, Sang Abad	JAO	0	0	97,650	0	0	97,650
		Farmers	0	0	41,850	0	0	41,850
		<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>139,500</b>	<b>0</b>	<b>0</b>	<b>139,500</b>
2.3	Alghor, Sheikhan, Garmidar	JAO	0	0	0	325,500	0	325,500
		Farmers	0	0	0	139,500	0	139,500
		<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>465,000</b>	<b>0</b>	<b>465,000</b>
	Sub-total	JAO	0	97,650	97,650	325,500	0	520,800
		Farmers	0	41,850	41,850	139,500	0	223,200
		<b>Sub-total</b>	<b>0</b>	<b>139,500</b>	<b>139,500</b>	<b>465,000</b>	<b>0</b>	<b>744,000</b>
3	Training on operation and management	JAO		2,304	2,304	2,304	0	6,912
		Farmers		987	987	987	0	2,962
		<b>Sub-total</b>	<b>0</b>	<b>3,291</b>	<b>3,291</b>	<b>3,291</b>	<b>0</b>	<b>9,874</b>
4	Operation and management	JAO	0	0	0	0	0	0
		Farmers	0	4,185	8,370	22,320	22,320	57,195
		<b>Sub-total</b>	<b>0</b>	<b>4,185</b>	<b>8,370</b>	<b>22,320</b>	<b>22,320</b>	<b>57,195</b>
<b>Total</b>		JAO	167,200	99,954	99,954	327,804	0	694,912
		Farmers	71,657	47,022	51,207	162,807	22,320	355,014
		<b>Total</b>	<b>238,857</b>	<b>146,976</b>	<b>151,161</b>	<b>490,611</b>	<b>22,320</b>	<b>1,049,926</b>

(1) Survey and Design

	Item	Specification	Quantity	Unit	Unit cost (RIs/unit)	Cost (RIs)	Note
1	<b>Topographic survey</b>		35	ha	3,500,000	<b>122,500,000</b>	
2	<b>Design</b>						
	Detailed design	Including drawings	35	ha	10,000,000	350,000,000	
	Preparing tender document		1	set	50,000,000	50,000,000	
	<b>Sub-total</b>					<b>400,000,000</b>	
	<b>Total</b>					<b>522,500,000</b>	

(2) Construction of Irrigation Facilities

	Irrigation block name	System type	Quantity	Unit	Unit cost (RIs/unit)	Cost (RIs)	Target irrigation area
1	Felarg	Case ①–1)	6	ha	76,300,000	457,800,000	Barberry
2	Bozghong (Bozghong)	do.	3	ha	76,300,000	228,900,000	Barberry
3	Mafriz	Case ②–1)	5	ha	96,700,000	483,500,000	Barberry
4	Garmidar	do.	3	ha	96,700,000	290,100,000	Barberry
5	Sang Abad (Sang Abad)	do.	2	ha	96,700,000	193,400,000	Barberry
6	Sheikhan	Case ①–2)	6	ha	46,500,000	279,000,000	Barberry & others
7	Bozghong (Dinouki)	do.	3	ha	46,500,000	139,500,000	Barberry & others
8	Alghor	do.	4	ha	46,500,000	186,000,000	Barberry & others
9	Sang Abad (Hussein Abad)	do.	3	ha	46,500,000	139,500,000	Barberry & others
	<b>Total</b>		<b>35</b>	<b>ha</b>		<b>2,397,700,000</b>	

Case ①-1) Felarg

	Item	Specification	Quantity	Unit	Unit cost (Rls/unit)	Cost (Rls)	Note
<b>1</b>	<b>Water distribution tank</b>	V= 105m <sup>3</sup>					
	Earth work	Excavation & backfilling	370	m <sup>3</sup>	20,000	7,400,000	
	Reinforced concrete	Including form work	50	m <sup>3</sup>	600,000	30,000,000	
	Reinforcing bar		4,000	kg	20,000	80,000,000	
	Incidental equipment	Pipes, valves, cover, etc.	1	set	10,000,000	10,000,000	
	<b>Sub-total</b>					<b>127,400,000</b>	
<b>2</b>	<b>Water conveyance pipelines</b>						
	Polyethylene pipe 90mm dia.	PE 80, 6kg atmosphere	30	m	79,800	2,394,000	
	Pipe laying of 90mm dia.	Trench depth 1.0 m	30	m	16,200	486,000	
	Polyethylene pipe 63mm dia.	PE 80, 6kg atmosphere	280	m	39,410	11,034,800	
	Pipe laying of 63mm dia.	Trench depth 0.5m	280	m	14,500	4,060,000	
	Polyethylene pipe 50mm dia.	PE 80, 6kg atmosphere	1,240	m	25,270	31,334,800	
	Pipe laying of 50mm dia.	Trench depth 0.5 m	1,240	m	14,100	17,484,000	
	Other equipment	Pipe joint, valves, etc	1	set	20,038,080	20,038,080	1
	<b>Sub-total</b>					<b>86,831,680</b>	
<b>3</b>	<b>Drip irrigation facilities</b>						
	Polyethylene pipe 16mm dia.	PE 80, 6kg atmosphere	15,000	m	4,000	60,000,000	
	Pipe laying of 16mm dia.	Laying on the ground	15,000	m	100	1,500,000	
	Emitter	4lit/hr x 3 droppers.	5,000	no.	4,500	22,500,000	
	Fixing emitters		5,000	no.	400	2,000,000	
	Other equipment	Pipe joint, valves, etc	1	set	9,225,000	9,225,000	2
	<b>Sub-total</b>					<b>95,225,000</b>	
<b>4</b>	<b>Filtration system</b>		1	set	30,000,000	30,000,000	
	Total (1~4)					339,456,680	
<b>5</b>	<b>Overhead expenses</b>	Including transportation	1	set	118,809,838	<b>118,809,838</b>	3
	<b>Grand total</b>					<b>458,266,518</b>	
	<b>Cost per hectare</b>		<b>1</b>	<b>ha</b>	<b>76,300,000</b>		<b>A=6 ha</b>

Note: [1] 30% of pipe cost; [2] 15% of pipe cost; [3] 35% of total cost

Case ②-1) Mafriz

	Item	Specification	Quantity	Unit	Unit cost (Rls/unit)	Cost (Rls)	Note
<b>1</b>	<b>Pumping station</b>						
	a) Equipment						
	Pump & motor	Q= 250lit/min, 18m head	1	no.	30,000,000	30,000,000	
	Other equipment	Steel pipes, valves, etc.	1	set	9,000,000	9,000,000	1
	b) Installation pump equipment		1	set	4,000,000	4,000,000	
	c) Concrete work	Suction sump	1	set	5,000,000	5,000,000	
	<b>Sub-total</b>					<b>48,000,000</b>	
<b>2</b>	<b>Water distribution tank</b>	V= 81m <sup>3</sup>					
	Earth work	Excavation & backfilling	250	m <sup>3</sup>	20,000	5,000,000	
	Reinforced concrete	Including form work	41	m <sup>3</sup>	600,000	24,600,000	
	Reinforcing bar		3,300	kg	20,000	66,000,000	
	Incidental equipment	Pipes, valves, cover, etc.	1	set	12,000,000	12,000,000	
	<b>Sub-total</b>					<b>107,600,000</b>	
<b>3</b>	<b>Water conveyance pipelines</b>						
	Polyethylene pipe 90mm dia.	PE 80, 6kg atmosphere	250	m	79,800	19,950,000	
	Pipe laying of 90mm dia.	Trench depth 1.0 m	250	m	16,200	4,050,000	
	Polyethylene pipe 50mm dia.	PE 80, 6kg atmosphere	1,150	m	25,270	29,060,500	
	Pipe laying of 50mm dia.	Trench depth 0.5 m	1,150	m	14,100	16,215,000	
	Other equipment	Pipe joint, valves, etc	1	set	20,782,650	20,782,650	2
	<b>Sub-total</b>					<b>90,058,150</b>	
<b>4</b>	<b>Drip irrigation facilities</b>						
	Polyethylene pipe 16mm dia.	PE 80, 6kg atmosphere	12,500	m	4,000	50,000,000	
	Pipe laying of 16mm dia.	Laying on the ground	12,500	m	100	1,250,000	
	Emitter	4lit/hr x 3 droppers.	4,200	no.	4,500	18,900,000	
	Fixing emitters		4,200	no.	400	1,680,000	
	Other equipment	Pipe joint, valves, etc	1	set	10,774,500	10,774,500	3
	<b>Sub-total</b>					<b>82,604,500</b>	
<b>5</b>	<b>Filtration system</b>		1	set	30,000,000	30,000,000	
	Total (1~5)					358,262,650	
<b>6</b>	<b>Overhead expenses</b>	Including transportation	1	set	125,391,928	<b>125,391,928</b>	4
	<b>Grand total</b>					<b>483,654,578</b>	
	<b>Cost per hectare</b>		<b>1</b>	<b>ha</b>	<b>96,700,000</b>		<b>A=5 ha</b>

Note: [1] 30% of pump and motor; [2] 30% of pipe cost; [3] 15% of pipe cost; [4] 35% of total cost

Case ①-2) Sheikhan

	Item	Specification	Quantity	Unit	Unit cost (Rls/unit)	Cost (Rls)	Note
<b>1</b>	<b>Intake structure</b>						
	Concrete work		1	set	3,000,000	3,000,000	
	<b>Sub-total</b>					<b>3,000,000</b>	
<b>2</b>	<b>Water conveyance pipelines</b>						
	Polyethylene pipe 90 mm dia.	PE 80, 6kg atmosphere	1,000	m	79,800	79,800,000	
	Pipe laying of 90mm dia.	Trench depth 1.25 m	1,000	m	16,200	16,200,000	
	Other equipment	Pipe joint, valves, etc	1	set	28,800,000	28,800,000	1
	<b>Sub-total</b>					<b>124,800,000</b>	
<b>3</b>	<b>Distribution box</b>	V= 1.0m3	20	nos.	3,960,000	79,200,000	
	(Cost per one place)						
	Earth work	Excavation & backfilling	8	m3	20,000	160,000	
	Concrete work	Plain concrete	3	m3	600,000	1,800,000	
	Incidental equipment	Pipes, valves, gate, etc.	1	set	2,000,000	2,000,000	
	<b>Sub-total</b>					<b>3,960,000</b>	
	<b>Total (1~3)</b>					207,000,000	
<b>4</b>	<b>Overhead expenses</b>	Including transportation	1	set	72,450,000	<b>72,450,000</b>	2
	<b>Grand total</b>					<b>279,450,000</b>	
	<b>Cost per hectare</b>		<b>1</b>	<b>ha</b>	<b>46,500,000</b>		<b>A=6 ha</b>

Note: [1] 30% of pipe cost; [2] 35% of total cost

(3) Training on operation and management of irrigation facilities

	Item	Specification	Quantity	Unit	Unit cost (Rls/unit)	Cost (Rls)	Note
<b>1</b>	<b>Technical training for farmers</b>						
	Lecture (3 times)	Expert & Hiring minibus	3	day	3,000,000	9,000,000	
	Guidance at each field	Expert	9	day	1,000,000	9,000,000	1
	<b>Sub-total</b>					<b>18,000,000</b>	
<b>2</b>	<b>Overhead</b>	20%	1	set	3,600,000	<b>3,600,000</b>	
	<b>Total</b>					<b>21,600,000</b>	

Note: [1] 0.5day x 9places x 2times

APPENDIX 1  
Breakdown of Project Costs and Benefits

1.1.2 Farmers' Benefit and Net Benefit for 10 Years

		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	Note	
<b>Benefit</b>														
Felarg, Bozghong	Area (ha)		6	6	6	6	6	6	6	6	6		1	
	Yield (kg/ha)		27	67	268	402	536	771	1,005	1,089	1,173		2	
	Yield down in off-year		1	0.35	1	0.35	1	0.35	1	0.35	1		3	
	Quantity produced (kg)		161	141	1,608	844	3,216	1,618	6,031	2,287	7,036		22,943	
	Selling price (Rls/kg)		60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000		60,000	4
	<b>Benefit (Rls)</b>	<b>0</b>	<b>9,649,485</b>	<b>8,443,299</b>	<b>96,494,845</b>	<b>50,659,794</b>	<b>192,989,691</b>	<b>97,097,938</b>	<b>361,855,670</b>	<b>137,203,608</b>	<b>422,164,948</b>	<b>1,376,559,278</b>		
Mafriz, Sang Abad	Area (ha)			4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67		1	
	Yield (kg/ha)			27	67	268	402	536	771	1,005	1,089		2	
	Yield down in off-year			0.35	1	0.35	1	0.35	1	0.35	1		3	
	Quantity produced (kg)			44	313	438	1,878	876	3,599	1,643	5,085		13,876	
	Selling price (Rls/kg)			60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000		60,000	4
	<b>Benefit (Rls)</b>	<b>0</b>	<b>0</b>	<b>2,628,680</b>	<b>18,776,289</b>	<b>26,286,804</b>	<b>112,657,732</b>	<b>52,573,608</b>	<b>215,927,320</b>	<b>98,575,515</b>	<b>305,114,691</b>	<b>832,540,639</b>		
Alghor, Sheikhan, Garmidar	Area (ha)				2	2	2	2	2	2	2		1	
	Yield (kg/ha)				27	67	268	402	536	771	1,005		2	
	Yield down in off-year				1	0.35	1	0.35	1	0.35	1		3	
	Quantity produced (kg)				54	47	536	281	1,072	539	2,010		4,540	
	Selling price (Rls/kg)				60,000	60,000	60,000	60,000	60,000	60,000	60,000		60,000	4
	<b>Benefit (Rls)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,216,495</b>	<b>2,814,433</b>	<b>32,164,948</b>	<b>16,886,598</b>	<b>64,329,897</b>	<b>32,365,979</b>	<b>120,618,557</b>	<b>272,396,907</b>		
<b>Total Benefit (Rls)</b>	<b>0</b>	<b>9,649,485</b>	<b>11,071,979</b>	<b>118,487,629</b>	<b>79,761,031</b>	<b>337,812,371</b>	<b>166,558,144</b>	<b>642,112,887</b>	<b>268,145,103</b>	<b>847,898,196</b>	<b>2,481,496,825</b>			
<b>Cost</b>														
Survey and design	85,092,857	0	0	0	0	0	0	0	0	0	0	85,092,857	5	
Construction of irrigation facilities	0	206,010,000	203,070,000	87,030,000	0	0	0	0	0	0	0	496,110,000	5	
Training on operation and management	0	1,172,571	1,172,571	1,172,571	0	0	0	0	0	0	0	3,517,714	5	
Operation and management	0	20,601,000	40,908,000	49,611,000	49,611,000	49,611,000	49,611,000	49,611,000	49,611,000	49,611,000	49,611,000	408,786,000	5	
<b>Total Cost (Rls)</b>	<b>85,092,857</b>	<b>227,783,571</b>	<b>245,150,571</b>	<b>137,813,571</b>	<b>49,611,000</b>	<b>49,611,000</b>	<b>49,611,000</b>	<b>49,611,000</b>	<b>49,611,000</b>	<b>49,611,000</b>	<b>49,611,000</b>	<b>993,506,571</b>		
<b>Net Benefit</b>														
<b>Net Benefit (Rls)</b>	<b>-85,092,857</b>	<b>-218,134,087</b>	<b>-234,078,592</b>	<b>-19,325,943</b>	<b>30,150,031</b>	<b>288,201,371</b>	<b>116,947,144</b>	<b>592,501,887</b>	<b>218,534,103</b>	<b>798,287,196</b>	<b>1,487,990,253</b>			

Note: For both the benefit and cost, only incremental values are counted: for the benefit, it means the values of barberries additionally produced and sold through introduction of drip irrigation, compared to the values of barberries produced and sold under the current situation; and for the cost, it means the cost for participating in the project. As it is difficult to estimate the benefit of installing pipelines with diversion boxes (Case ①-2)), only the benefit and cost for introducing drip irrigation (Case ①-1) and ②-1)) are analyzed.

[1] Incremental cultivated area of barberries = 2/3 of area for which the drip irrigation is introduced (See Chapter 5); [2] It is assumed that four-years-old seedlings of barberries are planted after installation of drip irrigation system. Yield in each year was estimated, based on the literature review on barberry and average yield in South Khorassan Province and Birjand township; [3] Yield in off-years is estimated to decrease to 35% of the yield in on-years; [4] Average price of dried barberries sold by farmers in the Study area, derived based on the surveys conducted by the Study team; [5] From 1.1.1.

## 1.2 Program for Crop and Livestock Productivity Improvement

### 1.2.1 Cost

(Unit: 1,000RIs)

		Payer	2013	2014	2015	2016	2017	Total
<b>1. Project for Net-house</b>								
1.1	Irrigation materials	JAO	0	12,670	12,670	0	0	25,340
		Farmers	0	5,430	5,430	0	0	10,860
		<b>Sub-total</b>	<b>0</b>	<b>18,100</b>	<b>18,100</b>	<b>0</b>	<b>0</b>	<b>36,200</b>
1.2	Net-house construction	JAO	0	17,500	17,500	0	0	35,000
		Farmers	0	7,500	7,500	0	0	15,000
		<b>Sub-total</b>	<b>0</b>	<b>25,000</b>	<b>25,000</b>	<b>0</b>	<b>0</b>	<b>50,000</b>
1.3	Agricultural inputs	JAO	1,996	5,286	5,286	0	0	12,568
		Farmers	855	5,117	7,968	8,554	8,554	31,047
		<b>Sub-total</b>	<b>2,851</b>	<b>10,403</b>	<b>13,254</b>	<b>8,554</b>	<b>8,554</b>	<b>43,615</b>
Total	JAO	1,996	35,456	35,456	0	0	72,908	
	Farmers	855	18,047	20,898	8,554	8,554	56,907	
	<b>Total</b>	<b>2,851</b>	<b>53,503</b>	<b>56,354</b>	<b>8,554</b>	<b>8,554</b>	<b>129,815</b>	
<b>2. Project for Vegetable Cultivation for Self-consumption in Winter</b>								
2.1	Materials for sprout cultivation	JAO	238	289	289	0	0	816
		Farmers	102	464	676	765	765	2,772
		<b>Sub-total</b>	<b>340</b>	<b>753</b>	<b>965</b>	<b>765</b>	<b>765</b>	<b>3,588</b>
2.2	Installation of vinyl house	JAO	917	4,296	4,296	0	0	9,509
		Farmers	393	3,151	3,971	2,949	2,949	13,413
		<b>Sub-total</b>	<b>1,311</b>	<b>7,447</b>	<b>8,266</b>	<b>2,949</b>	<b>2,949</b>	<b>22,921</b>
2.3	Agricultural inputs	JAO	1,081	886	886	0	0	2,852
		Farmers	463	1,924	2,889	3,474	3,474	12,223
		<b>Sub-total</b>	<b>1,544</b>	<b>2,809</b>	<b>3,774</b>	<b>3,474</b>	<b>3,474</b>	<b>15,075</b>
Total	JAO	2,236	5,470	5,470	0	0	13,176	
	Farmers	958	5,539	7,535	7,188	7,188	28,408	
	<b>Total</b>	<b>3,195</b>	<b>11,009</b>	<b>13,005</b>	<b>7,188</b>	<b>7,188</b>	<b>41,584</b>	
<b>3. Project for Forage Cultivation</b>								
3.1	Forage crop cultivation	JAO	343	0	0	0	0	343
		Farmers	147	490	490	490	490	2,107
		<b>Sub-total</b>	<b>490</b>	<b>490</b>	<b>490</b>	<b>490</b>	<b>490</b>	<b>2,450</b>
3.2	Sprout cultivation	JAO	826	0	0	0	0	826
		Farmers	354	780	780	780	780	3,474
		<b>Sub-total</b>	<b>1,180</b>	<b>780</b>	<b>780</b>	<b>780</b>	<b>780</b>	<b>4,300</b>
Total	JAO	1,169	0	0	0	0	1,169	
	Farmers	501	1,270	1,270	1,270	1,270	5,581	
	<b>Total</b>	<b>1,670</b>	<b>1,270</b>	<b>1,270</b>	<b>1,270</b>	<b>1,270</b>	<b>6,750</b>	
<b>4. Project for Small-scale Chicken Rearing</b>								
4.1	Chicken	JAO	0	2,100	2,100	0	0	4,200
		Farmers	0	900	900	0	0	1,800
		<b>Sub-total</b>	<b>0</b>	<b>3,000</b>	<b>3,000</b>	<b>0</b>	<b>0</b>	<b>6,000</b>
4.2	Chicken house construction	JAO	0	2,648	2,648	0	0	5,296
		Farmers	0	1,135	1,135	0	0	2,270
		<b>Sub-total</b>	<b>0</b>	<b>3,783</b>	<b>3,783</b>	<b>0</b>	<b>0</b>	<b>7,565</b>
4.3	Chicken rearing materials	JAO	0	973	973	0	0	1,947
		Farmers	0	417	778	721	721	2,637
		<b>Sub-total</b>	<b>0</b>	<b>1,391</b>	<b>1,751</b>	<b>721</b>	<b>721</b>	<b>4,584</b>
4.4	Incubator	JAO	0	6,629	6,629	0	0	13,257
		Farmers	0	2,841	2,841	0	0	5,682
		<b>Sub-total</b>	<b>0</b>	<b>9,470</b>	<b>9,470</b>	<b>0</b>	<b>0</b>	<b>18,939</b>
4.5	Materials for chicks	JAO	0	280	280	0	0	560
		Farmers	0	120	120	0	0	240
		<b>Sub-total</b>	<b>0</b>	<b>400</b>	<b>400</b>	<b>0</b>	<b>0</b>	<b>800</b>
Total	JAO	0	12,630	12,630	0	0	25,260	
	Farmers	0	5,413	5,413	721	721	12,628	
	<b>Total</b>	<b>0</b>	<b>18,043</b>	<b>18,403</b>	<b>721</b>	<b>721</b>	<b>37,888</b>	
<b>Four projects total</b>			<b>7,716</b>	<b>83,824</b>	<b>89,032</b>	<b>17,732</b>	<b>17,732</b>	<b>216,036</b>

1.2.1.1 Project for Net-house

	Cost/participant					Cost/year for JAO and farmers												Total cost	Note
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	Life period (year)	2013		2014		2015		2016		2017		Total			
						JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers		
<b>1 Irrigation materials</b>																			
Pump	1	No.	1,500,000	1,500,000	10	0	0	5,250,000	2,250,000	5,250,000	2,250,000	0	0	0	0	10,500,000	4,500,000	15,000,000	
Water tank (550 liter)	1	No.	2,000,000	2,000,000	10	0	0	7,000,000	3,000,000	7,000,000	3,000,000	0	0	0	0	14,000,000	6,000,000	20,000,000	
Watering can	2	No.	30,000	60,000	10	0	0	210,000	90,000	210,000	90,000	0	0	0	0	420,000	180,000	600,000	
Cover for the tank	1	No.	60,000	60,000	10	0	0	210,000	90,000	210,000	90,000	0	0	0	0	420,000	180,000	600,000	
<b>Sub-total</b>				<b>3,620,000</b>		<b>0</b>	<b>0</b>	<b>12,670,000</b>	<b>5,430,000</b>	<b>12,670,000</b>	<b>5,430,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25,340,000</b>	<b>10,860,000</b>	<b>36,200,000</b>	
<b>2 Net-house construction</b>																			
Steel pipe to construct net-house	1	No.	2,500,000	2,500,000	10	0	0	8,750,000	3,750,000	8,750,000	3,750,000	0	0	0	0	17,500,000	7,500,000	25,000,000	
Net (100m <sup>2</sup> , about 16 mesh/inch)	1	No.	2,500,000	2,500,000	5	0	0	8,750,000	3,750,000	8,750,000	3,750,000	0	0	0	0	17,500,000	7,500,000	25,000,000	
<b>Sub-total</b>				<b>5,000,000</b>		<b>0</b>	<b>0</b>	<b>17,500,000</b>	<b>7,500,000</b>	<b>17,500,000</b>	<b>7,500,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35,000,000</b>	<b>15,000,000</b>	<b>50,000,000</b>	
<b>3 Agricultural inputs</b>																			
Tomato nursery	40	No.	2,000	80,000	1	280,000	120,000	280,000	520,000	280,000	920,000	0	1,200,000	0	1,200,000	840,000	3,960,000	4,800,000	
Carrot seeds	1	g	1,250	1,250	1	4,375	1,875	4,375	8,125	4,375	14,375	0	18,750	0	18,750	13,125	61,875	75,000	
Radish seeds	1	g	2,000	2,000	1	7,000	3,000	7,000	13,000	7,000	23,000	0	30,000	0	30,000	21,000	99,000	120,000	
Animal manure (200kg/farmer)	200	kg	2,000	400,000	1	1,400,000	600,000	1,400,000	2,600,000	1,400,000	4,600,000	0	6,000,000	0	6,000,000	4,200,000	19,800,000	24,000,000	
Chemical fertilizer (compound)	1	kg	10,000	10,000	1	35,000	15,000	35,000	65,000	35,000	115,000	0	150,000	0	150,000	105,000	495,000	600,000	
Agricultural chemicals	0.2	liter	10,000	2,000	1	7,000	3,000	7,000	13,000	7,000	23,000	0	30,000	0	30,000	21,000	99,000	120,000	
Transplanting trowel	1	No.	30,000	30,000	10	0	0	105,000	45,000	105,000	45,000	0	0	0	0	210,000	90,000	300,000	
Shovel for ridging	1	No.	100,000	100,000	10	0	0	350,000	150,000	350,000	150,000	0	0	0	0	700,000	300,000	1,000,000	
Balance	1	No.	350,000	350,000	10	0	0	1,225,000	525,000	1,225,000	525,000	0	0	0	0	2,450,000	1,050,000	3,500,000	
Prop for crop (2m high)	40	No.	10,000	400,000	10	0	0	1,400,000	600,000	1,400,000	600,000	0	0	0	0	2,800,000	1,200,000	4,000,000	
Mulching and shadowing materials	3	kg	25,000	75,000	1	262,500	112,500	262,500	487,500	262,500	862,500	0	1,125,000	0	1,125,000	787,500	3,712,500	4,500,000	
Gardening scissors	1	No.	60,000	60,000	10	0	0	210,000	90,000	210,000	90,000	0	0	0	0	420,000	180,000	600,000	
<b>Sub-total</b>				<b>1,510,250</b>		<b>1,995,875</b>	<b>855,375</b>	<b>5,285,875</b>	<b>5,116,625</b>	<b>5,285,875</b>	<b>7,967,875</b>	<b>0</b>	<b>8,553,750</b>	<b>0</b>	<b>8,553,750</b>	<b>12,567,625</b>	<b>31,047,375</b>	<b>43,615,000</b>	
<b>Total</b>				<b>10,130,250</b>		<b>1,995,875</b>	<b>855,375</b>	<b>35,455,875</b>	<b>18,046,625</b>	<b>35,455,875</b>	<b>20,897,875</b>	<b>0</b>	<b>8,553,750</b>	<b>0</b>	<b>8,553,750</b>	<b>72,907,625</b>	<b>56,907,375</b>	<b>129,815,000</b>	
Number of participants																			
Since previous year																			
New																			

Note: [1] Size W2.5m x L10m x H2.5m (including construction and installation costs); [2] 10kg/farmer; [3] Straw, 50kg/farmer;

Unit prices are mainly derived based on information and data obtained through: (1) implementation of pilot projects; (2) baseline survey; and (3) observation in retail shops.

In 2013, JAO subsidizes inputs to the five participants of the pilot project, to use their net-houses for demonstration (JAO pays 70%, and the participants pay 30%); in 2014 and 2015, JAO subsidizes all the necessary equipment and materials for new five participants each year for demonstration (again, JAO pays 70%, and the participants pay 30%); and each participating farmer pays for the inputs by themselves from the second year onwards.



1.2.1.2 Project for Vegetable Cultivation for Self-consumption in Winter

	Cost/participant					Cost/year for JAO and farmers												Total cost
	Quantity	Unit	Unit price (RIs/unit)	Cost (RIs)	Life period (year)	2013		2014		2015		2016		2017		Total		
						JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	
<b>1 Materials for sprout cultivation</b>																		
Mung bean seeds	1	kg	35,000	17,500	1	98,000	42,000	61,250	166,250	61,250	253,750	0	315,000	0	315,000	220,500	1,092,000	1,312,500
Barley seeds	1	kg	14,000	7,000	1	39,200	16,800	24,500	66,500	24,500	101,500	0	126,000	0	126,000	88,200	436,800	525,000
Bucket with a drainer	2	No.	20,000	40,000	10	0	0	140,000	60,000	140,000	60,000	0	0	0	0	280,000	120,000	400,000
Sponge	0.3	block	60,000	18,000	1	100,800	43,200	63,000	171,000	63,000	261,000	0	324,000	0	324,000	226,800	1,123,200	1,350,000
<b>Sub-total</b>				<b>82,500</b>		<b>238,000</b>	<b>102,000</b>	<b>288,750</b>	<b>463,750</b>	<b>288,750</b>	<b>676,250</b>	<b>0</b>	<b>765,000</b>	<b>0</b>	<b>765,000</b>	<b>815,500</b>	<b>2,772,000</b>	<b>3,587,500</b>
<b>2 Installation of vinyl house</b>																		
<b>Materials for non-heating vinyl house</b>																		
Galvanized wire	1	set	3,500	3,500	10	0	0	12,250	5,250	12,250	5,250	0	0	0	0	24,500	10,500	35,000
Polyethylene pipe	24	m	44,000	1,056,000	10	0	0	3,696,000	1,584,000	3,696,000	1,584,000	0	0	0	0	7,392,000	3,168,000	10,560,000
Vinyl sheet (white; 5m wide/m)	4	m	31,500	126,315	1	707,364	303,156	442,103	1,199,993	442,103	1,831,568	0	2,273,670	0	2,273,670	1,591,569	7,882,056	9,473,625
String	5	m	7,500	37,500	1	210,000	90,000	131,250	356,250	131,250	543,750	0	675,000	0	675,000	472,500	2,340,000	2,812,500
Hand saw	0.1	No.	40,000	4,000	10	0	0	14,000	6,000	14,000	6,000	0	0	0	0	28,000	12,000	40,000
<b>Sub-total</b>				<b>1,227,315</b>		<b>917,364</b>	<b>393,156</b>	<b>4,295,603</b>	<b>3,151,493</b>	<b>4,295,603</b>	<b>3,970,568</b>	<b>0</b>	<b>2,948,670</b>	<b>0</b>	<b>2,948,670</b>	<b>9,508,569</b>	<b>13,412,556</b>	<b>22,921,125</b>
<b>Agricultural inputs</b>																		
Watering can	1	No.	30,000	30,000	10	0	0	105,000	45,000	105,000	45,000	0	0	0	0	210,000	90,000	300,000
Transplanting trowel	1	No.	30,000	30,000	10	0	0	105,000	45,000	105,000	45,000	0	0	0	0	210,000	90,000	300,000
Lettuce seeds	20	g	4,000	80,000	1	448,000	192,000	280,000	760,000	280,000	1,160,000	0	1,440,000	0	1,440,000	1,008,000	4,992,000	6,000,000
Spinach seeds	40	g	1,700	68,000	1	380,800	163,200	238,000	646,000	238,000	986,000	0	1,224,000	0	1,224,000	856,800	4,243,200	5,100,000
Chemical fertilizer (NPK)	1	kg	10,000	5,000	1	28,000	12,000	17,500	47,500	17,500	72,500	0	90,000	0	90,000	63,000	312,000	375,000
Animal manure (20kg/farmer)	20	kg	2,000	40,000	1	224,000	96,000	140,000	380,000	140,000	580,000	0	720,000	0	720,000	504,000	2,496,000	3,000,000
<b>Sub-total</b>				<b>253,000</b>		<b>1,080,800</b>	<b>463,200</b>	<b>885,500</b>	<b>1,923,500</b>	<b>885,500</b>	<b>2,888,500</b>	<b>0</b>	<b>3,474,000</b>	<b>0</b>	<b>3,474,000</b>	<b>2,851,800</b>	<b>12,223,200</b>	<b>15,075,000</b>
<b>Total</b>				<b>1,562,815</b>		<b>2,236,164</b>	<b>958,356</b>	<b>5,469,853</b>	<b>5,538,743</b>	<b>5,469,853</b>	<b>7,535,318</b>	<b>0</b>	<b>7,187,670</b>	<b>0</b>	<b>7,187,670</b>	<b>13,175,869</b>	<b>28,407,756</b>	<b>41,583,625</b>
Number of participants																		
Since previous year								8	8	13	18	18	18					
New								0	5	5	0	0	0					

Note: Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.

In 2013, JAO subsidizes inputs to the eight participants of the pilot project, to use their non-heating vinyl house and sprout cultivation for demonstration (JAO pays 70%, and the participants pay 30%); in 2014 and 2015, JAO subsidizes all the necessary equipment and materials for new five participants each year for demonstration (again, JAO pays 70%, and the participants pay 30%); and each participating farmer pays for the inputs by themselves from the second year onwards.

1.2.1.3 Project for Forage Cultivation

	Cost/participant					Cost/year for JAO and farmers												Total cost
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	Life period (year)	2013		2014		2015		2016		2017		Total		
						JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	
<b>1 Forage crop cultivation</b>																		
Sorghum seeds	1	kg	35,000	35,000	1	245,000	105,000	0	350,000	0	350,000	0	350,000	0	350,000	245,000	1,505,000	1,750,000
Barley seeds	1	kg	14,000	14,000	1	98,000	42,000	0	140,000	0	140,000	0	140,000	0	140,000	98,000	602,000	700,000
<b>Sub-total</b>				<b>49,000</b>		<b>343,000</b>	<b>147,000</b>	<b>0</b>	<b>490,000</b>	<b>0</b>	<b>490,000</b>	<b>0</b>	<b>490,000</b>	<b>0</b>	<b>490,000</b>	<b>343,000</b>	<b>2,107,000</b>	<b>2,450,000</b>
<b>2 Sprout cultivation</b>																		
Barley seeds	0.5	kg	14,000	7,000	1	49,000	21,000	0	70,000	0	70,000	0	70,000	0	70,000	49,000	301,000	350,000
Mung bean seeds	1	kg	35,000	35,000	1	245,000	105,000	0	350,000	0	350,000	0	350,000	0	350,000	245,000	1,505,000	1,750,000
Sponge (100cm x 200cm x 1cm)	0.6	No.	60,000	36,000	1	252,000	108,000	0	360,000	0	360,000	0	360,000	0	360,000	252,000	1,548,000	1,800,000
Bucket with a drainer	2	No.	20,000	40,000	10	280,000	120,000	0	0	0	0	0	0	0	0	280,000	120,000	400,000
<b>Sub-total</b>				<b>118,000</b>		<b>826,000</b>	<b>354,000</b>	<b>0</b>	<b>780,000</b>	<b>0</b>	<b>780,000</b>	<b>0</b>	<b>780,000</b>	<b>0</b>	<b>780,000</b>	<b>826,000</b>	<b>3,474,000</b>	<b>4,300,000</b>
<b>Total</b>				<b>167,000</b>		<b>1,169,000</b>	<b>501,000</b>	<b>0</b>	<b>1,270,000</b>	<b>0</b>	<b>1,270,000</b>	<b>0</b>	<b>1,270,000</b>	<b>0</b>	<b>1,270,000</b>	<b>1,169,000</b>	<b>5,581,000</b>	<b>6,750,000</b>
Number of participants																		
Since previous year								0	10		10		10		10			
New								10	0		0		0		0			

Note: Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.

In 2013, JAO subsidizes inputs to ten new participants, to use their forage fields and sprout cultivation for demonstration (JAO pays 70%, and the participants pay 30%); and each participating farmer pays for the inputs by themselves from the second year onwards.

1.2.1.4 Project for Small-scale Chicken Rearing

	Cost/participant					Cost/year for JAO and farmers												Total cost
	Quantity	Unit	Unit price (RIs/unit)	Cost (RIs)	Life period (year)	2013		2014		2015		2016		2017		Total		
						JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	JAO	Farmers	
<b>1 Chicken</b>																		
Chicken	10	No.	60,000	600,000	3	0	0	2,100,000	900,000	2,100,000	900,000	0	0	0	0	4,200,000	1,800,000	6,000,000
<b>Sub-total</b>				<b>600,000</b>		<b>0</b>	<b>0</b>	<b>2,100,000</b>	<b>900,000</b>	<b>2,100,000</b>	<b>900,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,200,000</b>	<b>1,800,000</b>	<b>6,000,000</b>
<b>2 Chicken house construction</b>																		
Cement	0.3	packet	45,000	13,500	15	0	0	47,250	20,250	47,250	20,250	0	0	0	0	94,500	40,500	135,000
Stone powder	0.2	packet	15,000	3,000	15	0	0	10,500	4,500	10,500	4,500	0	0	0	0	21,000	9,000	30,000
Bricks	400	No.	1,000	400,000	15	0	0	1,400,000	600,000	1,400,000	600,000	0	0	0	0	2,800,000	1,200,000	4,000,000
Windows, doors, and hinge	2	No.	170,000	340,000	15	0	0	1,190,000	510,000	1,190,000	510,000	0	0	0	0	2,380,000	1,020,000	3,400,000
<b>Sub-total</b>				<b>756,500</b>		<b>0</b>	<b>0</b>	<b>2,647,750</b>	<b>1,134,750</b>	<b>2,647,750</b>	<b>1,134,750</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,295,500</b>	<b>2,269,500</b>	<b>7,565,000</b>
<b>3 Chicken rearing materials</b>																		
Poultry feeder	1	No.	70,000	70,000	10	0	0	245,000	105,000	245,000	105,000	0	0	0	0	490,000	210,000	700,000
Feed	10.3	kg	7,000	72,100	1	0	0	252,350	108,150	252,350	468,650	0	721,000	0	721,000	504,700	2,018,800	2,523,500
Waterer	1	No.	18,000	18,000	10	0	0	63,000	27,000	63,000	27,000	0	0	0	0	126,000	54,000	180,000
Medicine	10	No.	11,800	118,000	1	0	0	413,000	177,000	413,000	177,000	0	0	0	0	826,000	354,000	1,180,000
<b>Sub-total</b>				<b>278,100</b>		<b>0</b>	<b>0</b>	<b>973,350</b>	<b>417,150</b>	<b>973,350</b>	<b>777,650</b>	<b>0</b>	<b>721,000</b>	<b>0</b>	<b>721,000</b>	<b>1,946,700</b>	<b>2,636,800</b>	<b>4,583,500</b>
<b>4 Incubator</b>																		
Incubator	0.3	No.	6,313,000	1,893,900	10	0	0	6,628,650	2,840,850	6,628,650	2,840,850	0	0	0	0	13,257,300	5,681,700	18,939,000
<b>Sub-total</b>				<b>1,893,900</b>		<b>0</b>	<b>0</b>	<b>6,628,650</b>	<b>2,840,850</b>	<b>6,628,650</b>	<b>2,840,850</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13,257,300</b>	<b>5,681,700</b>	<b>18,939,000</b>
<b>5 Materials for chicks</b>																		
Breeding box (W1.0m x L1.2m x H0.6m)	0.3	No.	250,000	75,000	10	0	0	262,500	112,500	262,500	112,500	0	0	0	0	525,000	225,000	750,000
Heater for breeding box (light bulb)	1	No.	5,000	5,000	5	0	0	17,500	7,500	17,500	7,500	0	0	0	0	35,000	15,000	50,000
<b>Sub-total</b>				<b>30,000</b>		<b>0</b>	<b>0</b>	<b>280,000</b>	<b>120,000</b>	<b>280,000</b>	<b>120,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>560,000</b>	<b>240,000</b>	<b>800,000</b>
<b>Total</b>				<b>3,558,500</b>		<b>0</b>	<b>0</b>	<b>12,629,750</b>	<b>5,412,750</b>	<b>12,629,750</b>	<b>5,773,250</b>	<b>0</b>	<b>721,000</b>	<b>0</b>	<b>721,000</b>	<b>25,259,500</b>	<b>12,628,000</b>	<b>37,887,500</b>
Number of participants																		
Since previous year								0	0	5	10	10						
New								0	5	5	0	0						

Note: Unit prices are mainly derived based on information and data obtained through: (1) implementation of pilot projects; and (2) baseline survey.

In 2013, JAO provides technical trainings in the villages where the pilot project was implemented; in 2014 and 2015, JAO subsidizes all the necessary equipment and materials for new five participants each year for demonstration (JAO pays 70%, and the participants pay 30%); and each participating farmer pays for the inputs by themselves from the second year onwards.

### 1.2.2 Farmers' Benefit and Net Benefit for 10 Years

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	Note
<b>1. Project for Net-house</b>												
Number of participants	5	10	15	15	15	15	15	15	15	15		1
Benefit per participant	2,466,923	2,466,923	2,466,923	2,466,923	2,466,923	2,466,923	2,466,923	2,466,923	2,466,923	2,466,923		2
Benefit	12,334,615	24,669,230	37,003,845	37,003,845	37,003,845	37,003,845	37,003,845	37,003,845	37,003,845	37,003,845	333,034,605	
Cost	855,375	18,046,625	20,897,875	8,553,750	8,553,750	8,553,750	8,553,750	8,553,750	8,553,750	8,553,750	99,676,125	1
Net Benefit	11,479,240	6,622,605	16,105,970	28,450,095	28,450,095	28,450,095	28,450,095	28,450,095	28,450,095	28,450,095	233,358,480	
<b>2. Project for Vegetable Cultivation for Self-consumption in Winter</b>												
Number of participants	8	13	18	18	18	18	18	18	18	18		3
Benefit per participant	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000		4
Benefit	6,200,000	10,075,000	13,950,000	13,950,000	13,950,000	13,950,000	13,950,000	13,950,000	13,950,000	13,950,000	127,875,000	
Cost	958,356	5,538,743	7,535,318	7,187,670	7,187,670	7,187,670	7,187,670	7,187,670	7,187,670	7,187,670	64,346,106	3
Net Benefit	5,241,644	4,536,258	6,414,683	6,762,330	6,762,330	6,762,330	6,762,330	6,762,330	6,762,330	6,762,330	63,528,894	
<b>3. Project for Forage Cultivation</b>												
Number of participants	10	10	10	10	10	10	10	10	10	10		5
Benefit per participant	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000		6
Benefit	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	55,000,000	
Cost	501,000	1,270,000	1,270,000	1,270,000	1,270,000	1,270,000	1,270,000	1,270,000	1,270,000	1,270,000	11,931,000	5
Net Benefit	4,999,000	4,230,000	4,230,000	4,230,000	4,230,000	4,230,000	4,230,000	4,230,000	4,230,000	4,230,000	43,069,000	
<b>4. Project for Small-scale Chicken Rearing</b>												
Number of participants	0	5	10	10	10	10	10	10	10	10		7
Benefit per participant	2,723,880	2,723,880	2,723,880	2,723,880	2,723,880	2,723,880	2,723,880	2,723,880	2,723,880	2,723,880		8
Benefit	0	13,619,400	27,238,800	27,238,800	27,238,800	27,238,800	27,238,800	27,238,800	27,238,800	27,238,800	231,529,800	
Cost	0	5,412,750	5,773,250	721,000	721,000	721,000	721,000	721,000	721,000	721,000	16,233,000	7
Net Benefit	0	8,206,650	21,465,550	26,517,800	26,517,800	26,517,800	26,517,800	26,517,800	26,517,800	26,517,800	215,296,800	

Note: From the sixth to tenth year (2018 to 2022), the number of participants, benefit per participant and cost are assumed to be the same as in the fifth year (2017).

[1] From 1.2.1.1; [2] From 2.1.1 (b); [3] From 1.2.1.2; [4] From 2.1.2 (b); [5] From 1.2.1.3; [6] From 2.1.3 (b); [7] From 1.2.1.4; [8] From 2.1.4 (b).

### 1.3 Program for Distribution and Marketing Improvement

#### 1.3.1 Cost

(Unit: 1,000RIs)

		Payer	2013	2014	2015	2016	2017	Total
<b>1. Project for Capacity Development in Marketing</b>								
1.1	Holding training on marketing	JAO	68,500	0	0	0	0	68,500
		Farmers/Cooperative	0	0	0	0	0	0
		<b>Sub-total</b>	<b>68,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>68,500</b>
1.2	Providing marketing information	JAO	0	33,600	33,600	33,600	33,600	134,400
		Farmers/Cooperative	0	0	0	0	0	0
		<b>Sub-total</b>	<b>0</b>	<b>33,600</b>	<b>33,600</b>	<b>33,600</b>	<b>33,600</b>	<b>134,400</b>
Total		JAO	68,500	33,600	33,600	33,600	33,600	202,900
		Farmers/Cooperative	0	0	0	0	0	0
		<b>Total</b>	<b>68,500</b>	<b>33,600</b>	<b>33,600</b>	<b>33,600</b>	<b>33,600</b>	<b>202,900</b>
<b>2. Project for Diversification of Marketing Channel of Barberry</b>								
2.1	Improving products	JAO	49,600	42,600	0	0	0	92,200
		Farmers/Cooperative	0	0	0	0	0	0
		<b>Sub-total</b>	<b>49,600</b>	<b>42,600</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>92,200</b>
2.2	Promoting sales activities	JAO	8,400	25,200	25,200	25,200	25,200	109,200
		Farmers/Cooperative	73,147	94,886	89,904	110,004	94,505	462,445
		<b>Sub-total</b>	<b>81,547</b>	<b>120,086</b>	<b>115,104</b>	<b>135,204</b>	<b>119,705</b>	<b>571,645</b>
2.3	Trying large area distribution	JAO	0	0	0	8,400	8,400	16,800
		Farmers/Cooperative	0	0	0	52,000	22,000	74,000
		<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>60,400</b>	<b>30,400</b>	<b>90,800</b>
Total		JAO	58,000	67,800	25,200	33,600	33,600	218,200
		Farmers/Cooperative	73,147	94,886	89,904	162,004	116,505	536,445
		<b>Total</b>	<b>131,147</b>	<b>162,686</b>	<b>115,104</b>	<b>195,604</b>	<b>150,105</b>	<b>754,645</b>
<b>3. Project for Promotion of Small-scale Processing</b>								
3.1	Establishing management system	JAO	3,150	0	0	0	0	3,150
		Farmers/Cooperative	0	0	0	0	0	0
		<b>Sub-total</b>	<b>3,150</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,150</b>
3.2	Selecting and developing processed commodities	JAO	3,500	0	0	0	0	3,500
		Farmers/Cooperative	2,800	0	0	0	0	2,800
		<b>Sub-total</b>	<b>6,300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,300</b>
3.3	Establishing processing workshop	JAO	0	4,200	0	0	0	4,200
		Farmers/Cooperative	0	343,500	0	0	0	343,500
		<b>Sub-total</b>	<b>0</b>	<b>347,700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>347,700</b>
3.4	Managing the processing workshop and selling processed commodities	JAO	0	4,200	4,200	4,200	4,200	16,800
		Farmers/Cooperative	0	274,360	274,260	274,260	274,260	1,097,140
		<b>Sub-total</b>	<b>0</b>	<b>278,560</b>	<b>278,460</b>	<b>278,460</b>	<b>278,460</b>	<b>1,113,940</b>
Total		JAO	6,650	8,400	4,200	4,200	4,200	27,650
		Farmers/Cooperative	2,800	617,860	274,260	274,260	274,260	1,443,440
		<b>Total</b>	<b>9,450</b>	<b>626,260</b>	<b>278,460</b>	<b>278,460</b>	<b>278,460</b>	<b>1,471,090</b>
<b>4. Project for Management of a Direct Sales Shop</b>								
4.1	Establishing management system	JAO	3,150	0	0	0	0	3,150
		Farmers/Cooperative	0	0	0	0	0	0
		<b>Sub-total</b>	<b>3,150</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,150</b>
4.2	Formulating business plan	JAO	9,250	0	0	0	0	9,250
		Farmers/Cooperative	4,200	0	0	0	0	4,200
		<b>Sub-total</b>	<b>13,450</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13,450</b>
4.3	Establishing procurement system	JAO	1,750	0	0	0	0	1,750
		Farmers/Cooperative	4,200	0	0	0	0	4,200
		<b>Sub-total</b>	<b>5,950</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,950</b>
4.4	Managing direct sales shop	JAO	0	4,200	4,200	4,200	4,200	16,800
		Farmers/Cooperative	0	651,400	518,400	518,400	518,400	2,206,600
		<b>Sub-total</b>	<b>0</b>	<b>655,600</b>	<b>522,600</b>	<b>522,600</b>	<b>522,600</b>	<b>2,223,400</b>
Total		JAO	14,150	4,200	4,200	4,200	4,200	30,950
		Farmers/Cooperative	8,400	651,400	518,400	518,400	518,400	2,215,000
		<b>Total</b>	<b>22,550</b>	<b>655,600</b>	<b>522,600</b>	<b>522,600</b>	<b>522,600</b>	<b>2,245,950</b>
<b>Four project total</b>			<b>231,647</b>	<b>1,478,146</b>	<b>949,764</b>	<b>1,030,264</b>	<b>984,765</b>	<b>4,674,585</b>

### 1.3.1.1 Project for Capacity Development in Marketing

	Cost for five years				Cost/year for JAO and farmers and cooperative												Note	
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total			
					JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative		
<b>1 Holding training on marketing</b>																		
Lecture on marketing (expert)	35	day	700,000	24,500,000	24,500,000	0	0	0	0	0	0	0	0	0	0	24,500,000	0	1
Practice on marketing survey (expert)	20	day	700,000	14,000,000	14,000,000	0	0	0	0	0	0	0	0	0	0	14,000,000	0	2
Minibus rental	15	day	2,000,000	30,000,000	30,000,000	0	0	0	0	0	0	0	0	0	0	30,000,000	0	3
<b>Sub-total</b>				<b>68,500,000</b>	<b>68,500,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>68,500,000</b>	<b>0</b>	
<b>2 Providing marketing information</b>																		
Information gathering (expert)	96	day	700,000	67,200,000	0	0	16,800,000	0	16,800,000	0	16,800,000	0	16,800,000	0	0	67,200,000	0	4
Technical support	96	day	700,000	67,200,000	0	0	16,800,000	0	16,800,000	0	16,800,000	0	16,800,000	0	0	67,200,000	0	5
<b>Sub-total</b>				<b>134,400,000</b>	<b>0</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>0</b>	<b>134,400,000</b>	<b>0</b>	
<b>Total</b>				<b>202,900,000</b>	<b>68,500,000</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>33,600,000</b>	<b>0</b>	<b>0</b>	<b>202,900,000</b>	<b>0</b>	

Note: [1] 2 days x 15 places + preparation 5 days; [2] 1 day x 15 places + preparation 5 days; [3] 1 day x 15 places; [4] 2 days x 12 months x 4 years; [5] 2 days x 12 months x 4 years (use JAO's car)

Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.

### 1.3.1.2 Project for Diversification of Marketing Channel of Barberry

	Cost for five years				Cost/year for JAO and farmers and cooperative												Note	
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total			
					JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative		
<b>1 Improving products</b>																		
Training on cultivation (expert)	65	day	700,000	45,500,000	24,500,000	0	21,000,000	0	0	0	0	0	0	0	45,500,000	0	1	
Training on packaging	expert	65	day	700,000	45,500,000	24,500,000	0	21,000,000	0	0	0	0	0	0	45,500,000	0	1	
	materials	1	set	200,000	200,000	100,000	0	100,000	0	0	0	0	0	0	200,000	0	2	
	products	1	set	1,000,000	1,000,000	500,000	0	500,000	0	0	0	0	0	1,000,000	0	3		
Processed products (listed below)				0														
<b>Sub-total</b>				<b>92,200,000</b>	<b>49,600,000</b>	<b>0</b>	<b>42,600,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>92,200,000</b>	<b>0</b>			
<b>2 Promoting sales activities</b>																		
Wednesday market	Support for farmers	120	day	350,000	42,000,000	8,400,000	0	8,400,000	0	8,400,000	0	8,400,000	0	8,400,000	0	42,000,000	0	4
	Sales costs	600	day	600,000	360,000,000	0	72,000,000	0	72,000,000	0	72,000,000	0	72,000,000	0	72,000,000	0	360,000,000	5
	Packaging materials	1	set	29,350,600	29,350,600	0	1,146,600	0	6,594,600	0	3,498,600	0	12,768,000	0	5,343,450	0	29,350,600	6
	Barberries	6,988	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Direct sales shop	Support for farmers	96	day	350,000	33,600,000	0	0	8,400,000	0	8,400,000	0	8,400,000	0	8,400,000	0	33,600,000	0	8
	Sales costs	96	day	100,000	9,600,000	0	0	2,400,000	0	2,400,000	0	2,400,000	0	2,400,000	0	9,600,000	9	
	Packaging materials	1	set	24,340,050	24,340,050	0	0	4,116,000	0	2,910,600	0	11,970,000	0	5,343,450	0	24,340,050	6	
	Barberries	5,795	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
Retail shops	Support for farmers	96	day	350,000	33,600,000	0	0	8,400,000	0	8,400,000	0	8,400,000	0	8,400,000	0	33,600,000	0	8
	Sales costs	96	time	350,000	33,600,000	0	0	8,400,000	0	8,400,000	0	8,400,000	0	8,400,000	0	33,600,000	11	
	Packaging materials	1	set	5,554,200	5,554,200	0	0	1,376,000	0	694,400	0	2,466,000	0	1,017,800	0	5,554,200	12	
	Barberries	27,771	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
<b>Sub-total</b>				<b>571,644,900</b>	<b>8,400,000</b>	<b>73,146,600</b>	<b>25,200,000</b>	<b>94,886,000</b>	<b>25,200,000</b>	<b>89,903,600</b>	<b>25,200,000</b>	<b>110,004,000</b>	<b>25,200,000</b>	<b>94,504,700</b>	<b>109,200,000</b>	<b>462,444,900</b>		
<b>3 Trying large area distribution</b>																		
Support for farmers (expert)	48	day	350,000	16,800,000	0	0	0	0	0	8,400,000	0	8,400,000	0	16,800,000	0	14		
Information gathering	8	time	1,500,000	12,000,000	0	0	0	0	0	6,000,000	0	6,000,000	0	12,000,000	0	15		
Cleaning machine	1	set	30,000,000	30,000,000	0	0	0	0	0	30,000,000	0	30,000,000	0	30,000,000	0	16		
Sales cost	16	time	2,000,000	32,000,000	0	0	0	0	0	16,000,000	0	16,000,000	0	32,000,000	0	17		
Barberries	6,335	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	17		
<b>Sub-total</b>				<b>90,800,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8,400,000</b>	<b>52,000,000</b>	<b>8,400,000</b>	<b>22,000,000</b>	<b>16,800,000</b>	<b>74,000,000</b>			
<b>Total</b>				<b>754,644,900</b>	<b>58,000,000</b>	<b>73,146,600</b>	<b>67,800,000</b>	<b>94,886,000</b>	<b>25,200,000</b>	<b>89,903,600</b>	<b>33,600,000</b>	<b>162,004,000</b>	<b>33,600,000</b>	<b>116,504,700</b>	<b>218,200,000</b>	<b>536,444,900</b>		

Note: [1] 2 days x 15 locations x 2 years + preparation 5 days; [2] materials for practicing, such as plastic boxes and plastic bags; [3] agricultural products for practicing

[4] 2 days x 12 months x 5 years (use JAO's car); [5] Transportation between villages and Birjand and sales permission for Wednesday market (2 days x 12 months x 5 groups x 5 years); [6] Packaging material (4,200Rls/kg); [7] Participants use their own harvest (for the quantity in each year, see 1.3.2); [8] 2 days x 12 months x 4 years (use JAO's car); [9] Transportation cost (2 days x 12 months x 4 years); [10] Participants use their own harvest (for the quantity in each year, see 1.3.2); [11] Transportation cost between villages and Birjand (2 times/month x 4 years); [12] Boxes (2,000Rls/10kg); [13] Participants use their own harvest (for the quantity in each year, see 1.3.2)

[14] 2 days x 12 months x 2 years; [15] Mashhad and Zahedan, each 2 times/year; [16] Transportation cost (Mashhad and Zahedan, each 4 times/year); [17] Participants use their own harvest (for the quantity in each year, see 1.3.2).

Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.

1.3.1.3 Project for Promotion of Small-scale Processing

	Cost for five years				Cost/year for JAO and farmers and cooperative										Note		
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017			Total	
					JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative		JAO	Farmers/ Cooperative
<b>1 Establishing management system</b>																	
Training (expert, 2 days x 1 time x 1 year)	2	day	700,000	1,400,000	1,400,000	0	0	0	0	0	0	0	0	0	1,400,000	0	
5 days x 1 year (use JAO's car)	5	day	350,000	1,750,000	1,750,000	0	0	0	0	0	0	0	0	1,750,000	0		
<b>Sub-total</b>				<b>3,150,000</b>	<b>3,150,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,150,000</b>	<b>0</b>		
<b>2 Selecting and developing processed commodities</b>																	
Technical support (expert, 5 days x 1 year)	5	day	700,000	3,500,000	3,500,000	0	0	0	0	0	0	0	0	3,500,000	0		
Transportation (between villages and Birjand)	2	day	350,000	700,000	0	700,000	0	0	0	0	0	0	0	0	700,000		
Sample preparation (for 2 times)	2	set	700,000	1,400,000	0	1,400,000	0	0	0	0	0	0	0	0	1,400,000	1	
Sample evaluation (transportation)	2	day	350,000	700,000	0	700,000	0	0	0	0	0	0	0	0	700,000	2	
<b>Sub-total</b>				<b>6,300,000</b>	<b>3,500,000</b>	<b>2,800,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,500,000</b>	<b>2,800,000</b>		
<b>3 Establishing processing workshop</b>																	
Technical support (1 time/month x 1 year)	12	day	350,000	4,200,000	0	0	4,200,000	0	0	0	0	0	0	4,200,000	0	3	
Construction of workshop	Cooking space, office, storage	50	m <sup>2</sup>	3,500,000	175,000,000	0	0	175,000,000	0	0	0	0	0	0	175,000,000	4	
	Tiling	50	m <sup>2</sup>	200,000	10,000,000	0	0	10,000,000	0	0	0	0	0	0	10,000,000	4	
	Drainage	1	set	3,000,000	3,000,000	0	0	3,000,000	0	0	0	0	0	0	3,000,000	4	
	Air conditioning	1	set	6,000,000	6,000,000	0	0	6,000,000	0	0	0	0	0	0	6,000,000	4	
	Sink	1	set	4,000,000	4,000,000	0	0	4,000,000	0	0	0	0	0	0	4,000,000	4	
Processing equipment	Stove burner	2	set	5,000,000	10,000,000	0	0	10,000,000	0	0	0	0	0	0	10,000,000	4	
	Water heater	1	set	5,000,000	5,000,000	0	0	5,000,000	0	0	0	0	0	0	5,000,000	4	
	Freezer refrigerator (380 liter)	1	set	40,000,000	40,000,000	0	0	40,000,000	0	0	0	0	0	0	40,000,000	4	
	Refrigerator (1600 liter)	1	set	55,000,000	55,000,000	0	0	55,000,000	0	0	0	0	0	0	55,000,000	4	
	Cooking table	2	set	8,500,000	17,000,000	0	0	17,000,000	0	0	0	0	0	0	17,000,000	4	
	Cart	1	set	2,500,000	2,500,000	0	0	2,500,000	0	0	0	0	0	0	2,500,000	4	
	Electric blender	2	set	1,000,000	2,000,000	0	0	2,000,000	0	0	0	0	0	0	2,000,000	4	
	Balance scale	2	set	500,000	1,000,000	0	0	1,000,000	0	0	0	0	0	0	1,000,000	4	
	Electric scale	1	set	4,000,000	4,000,000	0	0	4,000,000	0	0	0	0	0	0	4,000,000	4	
	Chairs	4	set	1,000,000	4,000,000	0	0	4,000,000	0	0	0	0	0	0	4,000,000	4	
	Cooking utensils	1	set	5,000,000	5,000,000	0	0	5,000,000	0	0	0	0	0	0	5,000,000	4	
<b>Sub-total</b>				<b>347,700,000</b>	<b>0</b>	<b>0</b>	<b>4,200,000</b>	<b>343,500,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,200,000</b>	<b>343,500,000</b>		
<b>4 Managing the processing workshop and selling processed commodities</b>																	
Technical support (1 time/month x 4 years)	48	day	350,000	16,800,000	0	0	4,200,000	0	4,200,000	0	4,200,000	0	4,200,000	0	16,800,000	0	3
Ingredients	Barberries (1,700kg/year)	6,800	kg	10,000	68,000,000	0	0	17,000,000	0	17,000,000	0	17,000,000	0	17,000,000	0	68,000,000	5
	Fresh barberries (3,900kg/year)	15,600	kg	10,000	156,000,000	0	0	39,000,000	0	39,000,000	0	39,000,000	0	39,000,000	0	156,000,000	5
	Sugar	3,000	kg	20,000	60,000,000	0	0	15,000,000	0	15,000,000	0	15,000,000	0	15,000,000	0	60,000,000	5
	Fresh barberries (3,900kg/year)	15,600	kg	10,000	156,000,000	0	0	39,000,000	0	39,000,000	0	39,000,000	0	39,000,000	0	156,000,000	5
	Jujube (1,000kg/year)	4,000	kg	15,000	60,000,000	0	0	15,000,000	0	15,000,000	0	15,000,000	0	15,000,000	0	60,000,000	5
	Fresh purslane (180kg/year)	720	kg	5,000	3,600,000	0	0	900,000	0	900,000	0	900,000	0	900,000	0	3,600,000	5
	Vinegar	720	liter	7,000	5,040,000	0	0	1,260,000	0	1,260,000	0	1,260,000	0	1,260,000	0	5,040,000	5
Packaging material	Cellophane	1	set	50,000	50,000	0	0	50,000	0	50,000	0	50,000	0	50,000	0	50,000	5
	Sealer	1	set	50,000	50,000	0	0	50,000	0	50,000	0	50,000	0	50,000	0	50,000	5
	Bottle for pickles	960	set	5,000	4,800,000	0	0	1,200,000	0	1,200,000	0	1,200,000	0	1,200,000	0	4,800,000	5
	Plastic bag	1	Set	400,000	400,000	0	0	100,000	0	100,000	0	100,000	0	100,000	0	400,000	5
	Glass jar (500g)	8,000	piece	15,000	120,000,000	0	0	30,000,000	0	30,000,000	0	30,000,000	0	30,000,000	0	120,000,000	5
Energy	48	month	2,500,000	120,000,000	0	0	30,000,000	0	30,000,000	0	30,000,000	0	30,000,000	0	120,000,000	6	
Transportation	48	month	500,000	24,000,000	0	0	6,000,000	0	6,000,000	0	6,000,000	0	6,000,000	0	24,000,000	6	
Labor (10 Man Month/year)	72	MM	4,200,000	302,400,000	0	0	75,600,000	0	75,600,000	0	75,600,000	0	75,600,000	0	302,400,000	6	
Sales cost (transportation, workshop to Birjand)	48	month	350,000	16,800,000	0	0	4,200,000	0	4,200,000	0	4,200,000	0	4,200,000	0	16,800,000	6	
<b>Sub-total</b>				<b>1,113,940,000</b>	<b>0</b>	<b>0</b>	<b>4,200,000</b>	<b>274,360,000</b>	<b>4,200,000</b>	<b>274,260,000</b>	<b>4,200,000</b>	<b>274,260,000</b>	<b>4,200,000</b>	<b>274,260,000</b>	<b>16,800,000</b>	<b>1,097,140,000</b>	
<b>Total</b>				<b>1,471,090,000</b>	<b>6,650,000</b>	<b>2,800,000</b>	<b>8,400,000</b>	<b>617,860,000</b>	<b>4,200,000</b>	<b>274,260,000</b>	<b>4,200,000</b>	<b>274,260,000</b>	<b>4,200,000</b>	<b>274,260,000</b>	<b>27,650,000</b>	<b>1,443,440,000</b>	

Note: [1] Ingredients, materials, processing costs; [2] Between villages and Birjand, 1 day x 2 times; [3] Use JAO's car; [4] Cooking space 25m<sup>2</sup>, office 10m<sup>2</sup>, storage facility 25m<sup>2</sup>; [5] With branches; [6] Electricity US\$50/month, gasUS\$20/month, water US\$30/month

Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.



### 1.3.1.4 Project for Management of a Direct Sales Shop

	Cost for five years				Cost/year for JAO and farmers and cooperative												Note	
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total			
					JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative		
<b>1 Establishing management system</b>																		
Training (expert, 2 days x 1 time)	2	day	700,000	1,400,000	1,400,000	0	0	0	0	0	0	0	0	0	0	1,400,000	0	
Technical support (use JAO's car)	5	day	350,000	1,750,000	1,750,000	0	0	0	0	0	0	0	0	0	0	1,750,000	0	
<b>Sub-total</b>				<b>3,150,000</b>	<b>3,150,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,150,000</b>	<b>0</b>	
<b>2 Formulating business plan</b>																		
Training (expert, 5 days x 1 time)	5	day	700,000	3,500,000	3,500,000	0	0	0	0	0	0	0	0	0	0	3,500,000	0	
Study tour (minibus, 1 day x 2 times)	2	day	2,000,000	4,000,000	4,000,000	0	0	0	0	0	0	0	0	0	0	4,000,000	0	
Technical support (use JAO's car)	5	day	350,000	1,750,000	1,750,000	0	0	0	0	0	0	0	0	0	0	1,750,000	0	
Marketing survey (transportation)	12	day	350,000	4,200,000	0	4,200,000	0	0	0	0	0	0	0	0	0	0	4,200,000	1
<b>Sub-total</b>				<b>13,450,000</b>	<b>9,250,000</b>	<b>4,200,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,250,000</b>	<b>4,200,000</b>	
<b>3 Establishing procurement system</b>																		
Technical support (use JAO's car)	5	day	350,000	1,750,000	1,750,000	0	0	0	0	0	0	0	0	0	0	1,750,000	0	
Survey to identify procurers	12	day	350,000	4,200,000	0	4,200,000	0	0	0	0	0	0	0	0	0	0	4,200,000	2
<b>Sub-total</b>				<b>5,950,000</b>	<b>1,750,000</b>	<b>4,200,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,750,000</b>	<b>4,200,000</b>	
<b>4 Managing direct sales shop</b>																		
Training and providing information	48	day	350,000	16,800,000	0	0	4,200,000	0	4,200,000	0	4,200,000	0	4,200,000	0	16,800,000	0	3	
Stocking up for opening	1	set	133,000,000	133,000,000	0	0	0	133,000,000	0	0	0	0	0	0	0	133,000,000		
Stocking (12 months x 4 years)	48	month	38,000,000	1,824,000,000	0	0	0	456,000,000	0	456,000,000	0	456,000,000	0	456,000,000	0	1,824,000,000		
Labor	48	MM	4,200,000	201,600,000	0	0	0	50,400,000	0	50,400,000	0	50,400,000	0	50,400,000	0	201,600,000	4	
Energy and communication	48	month	1,000,000	48,000,000	0	0	0	12,000,000	0	12,000,000	0	12,000,000	0	12,000,000	0	48,000,000	5	
<b>Sub-total</b>				<b>2,223,400,000</b>	<b>0</b>	<b>0</b>	<b>4,200,000</b>	<b>651,400,000</b>	<b>4,200,000</b>	<b>518,400,000</b>	<b>4,200,000</b>	<b>518,400,000</b>	<b>4,200,000</b>	<b>518,400,000</b>	<b>16,800,000</b>	<b>2,206,600,000</b>		
<b>Total</b>				<b>2,245,950,000</b>	<b>14,150,000</b>	<b>8,400,000</b>	<b>4,200,000</b>	<b>651,400,000</b>	<b>4,200,000</b>	<b>518,400,000</b>	<b>4,200,000</b>	<b>518,400,000</b>	<b>4,200,000</b>	<b>518,400,000</b>	<b>30,950,000</b>	<b>2,215,000,000</b>		

Note: [1] Between villages and Birjand, 2 times/month x 6 months; [2] Transportation, between villages and Birjand, 4 times/month x 3 months; [3] Training on management and providing information, 1 time/month x 4 years (use JAO's car); [4] 1 Man Month x 12 months x 4 years; [5] Electricity, water, and others

Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.

### 1.3.2 Farmers' Benefit and Net Benefit for 10 Years

#### 1.3.2.1 Project for Diversification of Marketing Channel of Barberry

Buyer	Selling price (Rls/kg)	Current off-year			Current on-year			2013 (off-year)			2014 (on-year)			2015 (off-year)			2016 (on-year)		
		Sold quantity (ton)	Income (Rls)	Dried equivalent (ton)	Sold quantity (ton)	Income (Rls)	Dried equivalent (ton)	Sold quantity (ton)	Income (Rls)	Dried equivalent (ton)	Sold quantity (ton)	Income (Rls)	Dried equivalent (ton)	Sold quantity (ton)	Income (Rls)	Dried equivalent (ton)	Sold quantity (ton)	Income (Rls)	Dried equivalent (ton)
Self-consumption, relatives (fresh equivalent)	0	1.27	0	1.27	3.64	0	3.64	1.26	0	1.26	3.30	0	3.30	1.06	0	1.06	2.58	0	2.58
Broker (fresh)	10,000	17.35	173,489	3.82	49.57	495,682	10.91	18.18	181,841	4.00	50.77	507,727	11.17	17.42	174,205	3.83	46.23	462,273	10.17
Broker (dried)	65,000	19.08	1,240,444	19.08	54.53	3,544,125	54.53	18.63	1,211,210	18.63	48.01	3,120,650	48.01	15.00	975,065	15.00	35.66	2,317,900	35.66
Retail shop in the Province (dried)	90,000	1.27	114,503	1.27	3.64	327,150	3.64	1.27	114,660	1.27	6.88	619,200	6.88	3.47	312,480	3.47	12.33	1,109,700	12.33
Retail shop outside the Province (dried)	120,000	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	3.79	454,800	3.79
Wednesday market (dried)	100,000	0.00	0	0.00	0.00	0	0.00	0.27	27,300	0.27	1.57	157,000	1.57	0.83	83,300	0.83	3.04	304,000	3.04
Direct sales shop (dried)	100,000	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.98	98,000	0.98	0.69	69,300	0.69	2.85	285,000	2.85
Processing workshop (dried, for lavashak)	10,000	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.39	3,900	0.39	0.28	2,765	0.28	1.14	11,400	1.14
Processing workshop (fresh, for freezing)	10,000	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.91	9,091	0.20	0.64	6,364	0.14	2.59	25,909	0.57
Processing workshop (dried, for jam)	10,000	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.20	2,000	0.20	0.14	1,400	0.14	0.57	5,700	0.57
<b>Total</b>			<b>1,528,435</b>	<b>25.45</b>		<b>4,366,957</b>	<b>72.70</b>		<b>1,535,011</b>	<b>25.45</b>		<b>4,517,568</b>	<b>72.70</b>		<b>1,624,878</b>	<b>25.45</b>		<b>4,976,682</b>	<b>72.70</b>
		2017 (off-year)			2018 (on-year)			2019 (off-year)			2020 (on-year)			2021 (off-year)			2022 (on-year)		
Self-consumption, relatives (fresh equivalent)	0	0.76	0	0.76	2.18	0	2.18	0.76	0	0.76	2.18	0	2.18	0.76	0	0.76	2.18	0	2.18
Broker (fresh)	10,000	15.04	150,357	3.31	42.96	429,591	9.45	15.04	150,357	3.31	42.96	429,591	9.45	15.04	150,357	3.31	42.96	429,591	9.45
Broker (dried)	65,000	10.18	661,570	10.18	29.08	1,890,200	29.08	10.18	661,570	10.18	29.08	1,890,200	29.08	10.18	661,570	10.18	29.08	1,890,200	29.08
Retail shop in the Province (dried)	90,000	5.09	458,010	5.09	14.54	1,308,600	14.54	5.09	458,010	5.09	14.54	1,308,600	14.54	5.09	458,010	5.09	14.54	1,308,600	14.54
Retail shop outside the Province (dried)	120,000	2.54	305,340	2.54	7.27	872,400	7.27	2.54	305,340	2.54	7.27	872,400	7.27	2.54	305,340	2.54	7.27	872,400	7.27
Wednesday market (dried)	100,000	1.27	127,225	1.27	3.64	363,500	3.64	1.27	127,225	1.27	3.64	363,500	3.64	1.27	127,225	1.27	3.64	363,500	3.64
Direct sales shop (dried)	100,000	1.27	127,225	1.27	3.64	363,500	3.64	1.27	127,225	1.27	3.64	363,500	3.64	1.27	127,225	1.27	3.64	363,500	3.64
Processing workshop (dried, for lavashak)	10,000	0.51	5,089	0.51	1.45	14,540	1.45	0.51	5,089	0.51	1.45	14,540	1.45	0.51	5,089	0.51	1.45	14,540	1.45
Processing workshop (fresh, for freezing)	10,000	1.16	11,566	0.25	3.30	33,045	0.73	1.16	11,566	0.25	3.30	33,045	0.73	1.16	11,566	0.25	3.30	33,045	0.73
Processing workshop (dried, for jam)	10,000	0.25	2,545	0.25	0.73	7,270	0.73	0.25	2,545	0.25	0.73	7,270	0.73	0.25	2,545	0.25	0.73	7,270	0.73
<b>Total</b>			<b>1,848,926</b>	<b>25.45</b>		<b>5,282,646</b>	<b>72.70</b>		<b>1,848,926</b>	<b>25.45</b>		<b>5,282,646</b>	<b>72.70</b>		<b>1,848,926</b>	<b>25.45</b>		<b>5,282,646</b>	<b>72.70</b>

Note: "Fresh" refers to harvested barberry fruits still attached to branches, and "dried" refers to dried barberry fruits already removed from branches. The weight ratio between these two used in the calculation is 1:0.22, derived based on the sample weighing tests carried out by the Study team.

Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.

It is assumed that: (1) in on-years, 72.7 tons of barberries are harvested from 72.7ha of barberry fields in the whole Study area (i.e., yield of 1 ton/ha), while in off-years, 25.45 tons are harvested from the same fields (i.e., yield of 0.35 ton/ha); and (2) the ratios of the quantity of barberries sold to each marketing channel gradually changes year by year, from the current proportions of (in the dry-weight equivalent): 5% to self-consumption and gift to relatives, including barberries discarded due to low quality, 15% (fresh) and 75% (dried) to brokers, and 5% to retail shops in the Province, to the target proportions in 2017 of: 3% to self-consumption and gift to relatives, 13% (fresh) and 40% (dried) to brokers, 20% to retail shops in the Province, 10% to retail shops outside the Province, 5% to Wednesday market, 5% to the direct sales shop, and 2% (dried, for lavashak), 1% (fresh, for frozen barberries), and 1% (dried, for jam) to the processing workshop.

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	Note
<b>Benefit</b>												
Benefit under the current situation (RIs)	1,528,434,886	4,366,956,818	1,528,434,886	4,366,956,818	1,528,434,886	4,366,956,818	1,528,434,886	4,366,956,818	1,528,434,886	4,366,956,818	29,476,958,523	
Benefit with project implementation (RIs)	1,535,010,909	4,517,568,182	1,624,878,182	4,976,681,818	1,848,926,227	5,282,646,364	1,848,926,227	5,282,646,364	1,848,926,227	5,282,646,364	34,048,856,864	
Incremental Benefit (RIs)	6,576,023	150,611,364	96,443,295	609,725,000	320,491,341	915,689,545	320,491,341	915,689,545	320,491,341	915,689,545	4,571,898,341	
<b>Cost</b>												
Cost (RIs)	73,146,600	94,886,000	89,903,600	162,004,000	116,504,700	138,242,000	116,504,700	138,242,000	116,504,700	138,242,000	1,184,180,300	1
<b>Net Benefit</b>												
Net benefit (RIs)	-66,570,577	55,725,364	6,539,695	447,721,000	203,986,641	777,447,545	203,986,641	777,447,545	203,986,641	777,447,545	3,387,718,041	

Note: [1] For years 2013 to 2017 as well as 2019 and 2021, see 1.3.1 (the costs in 2019 and 2021 are the same as in 2017); and for years 2018, 2020, and 2022, see the table below.

	2018, 2020, & 2022				
	Quantity	Unit	Unit Price (RIs/unit)	Cost (RIs)	
<b>2 Promoting sales activities</b>					
Wednesday market	Support for farmers	0	day	350,000	0
	Sales costs	120	day	600,000	72,000,000
	Packaging materials	3,635	piece	4,200	15,267,000
	Barberries	3,635	kg	0	0
Direct sales shop	Support for farmers	0	day	350,000	0
	Sales costs	24	day	100,000	2,400,000
	Packaging materials	3,635	piece	4,200	15,267,000
	Barberries	3,635	kg	0	0
Retail shops	Support for farmers	0	day	350,000	0
	Sales costs	24	time	350,000	8,400,000
	Packaging materials	1,454	piece	2,000	2,908,000
	Barberries	14,540	kg	0	0
<b>Sub-total</b>					<b>116,242,000</b>
<b>3 Trying large area distribution</b>					
Support for farmers (expert)	0	day	350,000	0	
Information gathering	4	time	1,500,000	6,000,000	
Cleaning machine	0	set	30,000,000	0	
Sales cost	8	time	2,000,000	16,000,000	
Barberries	7,270	kg	0	0	
<b>Sub-total</b>					<b>22,000,000</b>
<b>Total</b>					<b>138,242,000</b>

Note: For explanation, refer to the notes for the same cost components in 1.3.1.2.

### 1.3.2.2 Project for Promotion of Small-scale Processing

	Annual sales			2013	2014	2015 to 2022 (each year)	Total	Note
	Quantity sold (kg)	Price (Rls/kg)	Income (Rls)					
<b>Benefit</b>								
Barberry lavashak	510	90,000	45,900,000					1
Barberry jam	2,700	50,000	135,000,000					1
Frozen barberry	3,400	35,000	119,000,000					1
Jujube lavashak	600	90,000	54,000,000					1
Herb pickles	360	18,000	6,480,000					1
Total			360,380,000					
Benefit (Rls)				0	360,380,000	360,380,000	3,243,420,000	
<b>Cost</b>								
Cost (Rls)				2,800,000	617,860,000	274,260,000	2,814,740,000	2
<b>Net Benefit</b>								
Net benefit (Rls)				-2,800,000	-257,480,000	86,120,000	428,680,000	

Note: [1] Quantity sold are target values; unit prices are mainly derived based on information and data obtained through implementation of pilot projects; [2] See 1.3.1.

### 1.3.2.3 Project for Management of a Direct Sales Shop

	2013	2014	2015 to 2022 (each year)	Total	Note
<b>Benefit</b>					
Benefit (Rls)	0	540,000,000	540,000,000	4,860,000,000	1
<b>Cost</b>					
Cost (Rls)	8,400,000	651,400,000	518,400,000	4,807,000,000	2
<b>Net Benefit</b>					
Net benefit (Rls)	-8,400,000	-111,400,000	21,600,000	53,000,000	

Note: [1] Target monthly sales of 45,000,000 times 12 months; [2] See 1.3.1.

## 1.4 Program for Income Source Diversification

### 1.4.1 Cost

(Unit: 1,000RIs)

	Payer	2013	2014	2015	2016	2017	Total	
<b>1. Project for Women's Economic Activity Support through Rural Women's Fund</b>								
1.1	Market search	JAO	2,350	0	0	0	2,350	
1.2	Technical seminars	JAO	6,300	6,300	6,300	6,300	31,500	
1.3	Sub-project for cloth weaving revival							
	Initial cost	Farmers/Cooperative	145,574	0	0	0	145,574	
	Activities cost	Farmers/Cooperative	63,126	105,210	105,210	105,210	483,966	
	<b>Sub-total</b>		<b>208,700</b>	<b>105,210</b>	<b>105,210</b>	<b>105,210</b>	<b>629,540</b>	
1.4	Sub-project for barberry and jujube honey production							
	Initial cost	Farmers/Cooperative	69,735	27,600	55,200	46,200	198,735	
	Activities cost	Farmers/Cooperative	1,650	2,700	4,800	6,900	22,950	
	<b>Sub-total</b>		<b>71,385</b>	<b>30,300</b>	<b>60,000</b>	<b>53,100</b>	<b>221,685</b>	
1.5	Sub-project for sewing promotion in the village							
	Initial cost	Farmers/Cooperative	50,309	0	0	0	50,309	
	Activities cost	Farmers/Cooperative	315	630	630	630	2,835	
	<b>Sub-total</b>		<b>50,624</b>	<b>630</b>	<b>630</b>	<b>630</b>	<b>53,144</b>	
1.6	Sub-project for oyster mushroom promotion in the village							
	Initial cost	Farmers/Cooperative	61,580	0	0	0	61,580	
	Activities cost	Farmers/Cooperative	213	1,278	1,278	1,278	5,325	
	<b>Sub-total</b>		<b>61,793</b>	<b>1,278</b>	<b>1,278</b>	<b>1,278</b>	<b>66,905</b>	
1.7	Monitoring	JAO	4,200	4,200	4,200	4,200	21,000	
	Total	JAO	12,850	10,500	10,500	10,500	54,850	
		Farmers/Cooperative	392,501	137,418	167,118	160,218	971,273	
		<b>Total</b>	<b>405,351</b>	<b>147,918</b>	<b>177,618</b>	<b>170,718</b>	<b>124,518</b>	<b>1,026,123</b>
<b>2. Project for Women's Activity Expansion Support through Rural Women's Mother Fund</b>								
2.1	Explanatory meeting in 13 villages	JAO	0	4,550	0	0	4,550	
2.2	Explanatory meeting on mother fund	JAO	0	1,080	0	0	1,080	
2.3	Exchange trip	JAO	0	2,350	0	0	2,350	
2.4	Technical seminars	JAO	0	27,300	27,300	27,300	109,200	
2.5	Sub-project for cloth weaving revival							
	Initial cost	Farmers/Cooperative	0	145,574	0	0	145,574	
	Activities cost	Farmers/Cooperative	0	63,126	105,210	105,210	378,756	
	<b>Sub-total</b>		<b>0</b>	<b>208,700</b>	<b>105,210</b>	<b>105,210</b>	<b>524,330</b>	
2.6	Sub-project for barberry and jujube honey production							
	Initial cost	Farmers/Cooperative	0	69,735	27,600	55,200	198,735	
	Activities cost	Farmers/Cooperative	0	1,650	2,700	4,800	16,050	
	<b>Sub-total</b>		<b>0</b>	<b>71,385</b>	<b>30,300</b>	<b>60,000</b>	<b>214,785</b>	
2.7	Monitoring	JAO	0	12,600	25,200	25,200	88,200	
	Total	JAO	0	47,880	52,500	52,500	205,380	
		Farmers/Cooperative	0	280,085	135,510	165,210	739,115	
		<b>Total</b>	<b>0</b>	<b>327,965</b>	<b>188,010</b>	<b>217,710</b>	<b>210,810</b>	<b>944,495</b>
<b>3. Project for Women's Economic Activity Support through Rural Women Cooperative</b>								
3.1	Organization enhancement	JAO	2,100	0	0	0	2,100	
3.2	Exchange trip	JAO	2,350	0	0	0	2,350	
3.3	Seminar on loan management	JAO	2,100	0	0	0	2,100	
3.4	Technical seminars	JAO	2,100	2,100	2,100	2,100	10,500	
3.5	Explanatory meeting on cooperatives	JAO	0	0	0	350	350	
3.6	Seminar on project management	JAO	0	0	0	2,100	2,100	
3.7	Project for confectionery							
	Initial cost	Farmers/Cooperative	0	0	0	268,200	268,200	
	Activities cost	Farmers/Cooperative	0	0	0	239,400	718,200	
	<b>Sub-total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>507,600</b>	<b>986,400</b>	
3.8	Monitoring	JAO	4,200	4,200	4,200	4,200	21,000	
	Total	JAO	12,850	6,300	6,300	8,750	40,500	
		Farmers/Cooperative	0	0	0	507,600	986,400	
		<b>Total</b>	<b>12,850</b>	<b>6,300</b>	<b>6,300</b>	<b>516,350</b>	<b>485,100</b>	<b>1,026,900</b>
<b>Three project total</b>			<b>418,201</b>	<b>482,183</b>	<b>371,928</b>	<b>904,778</b>	<b>820,428</b>	<b>2,997,518</b>

1.4.1.1 Project for Women's Economic Activity Support through Rural Women's Fund

	Cost for five years				Cost/year for JAO and farmers and cooperative												Note
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total		
					JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	
<b>1 Market search</b>																	
Minibus rental (15 persons)	1	day	1,600,000	1,600,000	1,600,000	0	0	0	0	0	0	0	0	0	0	1,600,000	0
Food	15	set	50,000	750,000	750,000	0	0	0	0	0	0	0	0	0	0	750,000	0
<b>Sub-total</b>				<b>2,350,000</b>	<b>2,350,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,350,000</b>	<b>0</b>
<b>2 Technical seminars</b>																	
Lecture (average 3 times/year, 3 villages)	9	time	250,000	11,250,000	2,250,000	0	2,250,000	0	2,250,000	0	2,250,000	0	2,250,000	0	11,250,000	0	0
Food	9	set	10,000	450,000	90,000	0	90,000	0	90,000	0	90,000	0	90,000	0	450,000	0	0
Car	9	day	350,000	15,750,000	3,150,000	0	3,150,000	0	3,150,000	0	3,150,000	0	3,150,000	0	15,750,000	0	0
Miscellaneous materials for seminar	9	set	90,000	4,050,000	810,000	0	810,000	0	810,000	0	810,000	0	810,000	0	4,050,000	0	0
<b>Sub-total</b>				<b>31,500,000</b>	<b>6,300,000</b>	<b>0</b>	<b>6,300,000</b>	<b>0</b>	<b>6,300,000</b>	<b>0</b>	<b>6,300,000</b>	<b>0</b>	<b>6,300,000</b>	<b>0</b>	<b>31,500,000</b>	<b>0</b>	<b>0</b>
<b>3 Sub-project for cloth weaving revival</b>																	1
Initial cost	Cotton ink	15	set	40,000	600,000	0	600,000	0	0	0	0	0	0	0	0	0	600,000
	Fiber for electrical spindle (1.84kg/person)	15	set	167,800	2,517,000	0	2,517,000	0	0	0	0	0	0	0	0	0	2,517,000
	Fiber for "Bukche"	15	set	410,000	6,150,000	0	6,150,000	0	0	0	0	0	0	0	0	0	6,150,000
	Fiber (0.61kg/person)	15	set	14,500	217,500	0	217,500	0	0	0	0	0	0	0	0	0	217,500
	Cotton fiber (1.37kg/person)	15	set	11,500	172,500	0	172,500	0	0	0	0	0	0	0	0	0	172,500
	Weaving machine	15	set	3,100,000	46,500,000	0	46,500,000	0	0	0	0	0	0	0	0	0	46,500,000
	Shuttle (2 shuttles/person)	15	set	100,000	1,500,000	0	1,500,000	0	0	0	0	0	0	0	0	0	1,500,000
	Warping machine	15	set	800,000	12,000,000	0	12,000,000	0	0	0	0	0	0	0	0	0	12,000,000
	Warping	15	set	60,000	900,000	0	900,000	0	0	0	0	0	0	0	0	0	900,000
	Fiber	15	set	350,000	5,250,000	0	5,250,000	0	0	0	0	0	0	0	0	0	5,250,000
	Comb	15	set	100,000	1,500,000	0	1,500,000	0	0	0	0	0	0	0	0	0	1,500,000
	Handle	15	set	100,000	1,500,000	0	1,500,000	0	0	0	0	0	0	0	0	0	1,500,000
	Skein of fiber (2 skeins/person)	15	set	60,000	900,000	0	900,000	0	0	0	0	0	0	0	0	0	900,000
	Machine for filling electrical hank	15	set	285,000	4,275,000	0	4,275,000	0	0	0	0	0	0	0	0	0	4,275,000
	Small wheel	15	set	285,000	4,275,000	0	4,275,000	0	0	0	0	0	0	0	0	0	4,275,000
	Rope (0.5kg/person)	15	set	19,500	292,500	0	292,500	0	0	0	0	0	0	0	0	0	292,500
	Cotton fiber (0.93kg/person)	15	set	70,800	1,062,000	0	1,062,000	0	0	0	0	0	0	0	0	0	1,062,000
	Electrical fiber (0.88kg/person)	15	set	80,800	1,212,000	0	1,212,000	0	0	0	0	0	0	0	0	0	1,212,000
Small truck for carrying weaving machine	15	car	850,000	12,750,000	0	12,750,000	0	0	0	0	0	0	0	0	0	12,750,000	
Installation of machine	15	time	400,000	6,000,000	0	6,000,000	0	0	0	0	0	0	0	0	0	6,000,000	
Training teacher	3	village	12,000,000	36,000,000	0	36,000,000	0	0	0	0	0	0	0	0	0	36,000,000	
Activities cost (raw materials)	41,400	set	11,690	483,966,000	0	63,126,000	0	105,210,000	0	105,210,000	0	105,210,000	0	105,210,000	0	483,966,000	2
<b>Sub-total</b>				<b>629,539,500</b>	<b>0</b>	<b>208,699,500</b>	<b>0</b>	<b>105,210,000</b>	<b>0</b>	<b>105,210,000</b>	<b>0</b>	<b>105,210,000</b>	<b>0</b>	<b>105,210,000</b>	<b>0</b>	<b>629,539,500</b>	

1.4.1.1 Project for Women's Economic Activity Support through Rural Women's Fund (continued)

		Cost for five years				Cost/year for JAO and farmers and cooperative											Note	
		Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total		
						JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO		Farmers/ Cooperative
<b>4</b>	<b>Sub-project for barberry and jujube honey production</b>																	3
Initial cost	Beekeeping suit	30	set	170,000	5,100,000	0	5,100,000	0	0	0	0	0	0	0	0	0	5,100,000	
	Netting hat	30	piece	30,000	900,000	0	900,000	0	0	0	0	0	0	0	0	0	900,000	
	Gloves	30	pair	40,000	1,200,000	0	1,200,000	0	0	0	0	0	0	0	0	0	1,200,000	
	Hive frames	900	piece	4,000	3,600,000	0	600,000	0	600,000	0	1,200,000	0	1,200,000	0	0	0	3,600,000	
	Wax tool	3	piece	60,000	180,000	0	180,000	0	0	0	0	0	0	0	0	0	180,000	
	Wax tol board	3	piece	10,000	30,000	0	30,000	0	0	0	0	0	0	0	0	0	30,000	
	Galvanized wire	3	piece	50,000	150,000	0	150,000	0	0	0	0	0	0	0	0	0	150,000	
	Brush	3	piece	30,000	90,000	0	90,000	0	0	0	0	0	0	0	0	0	90,000	
	Comb	3	piece	80,000	240,000	0	240,000	0	0	0	0	0	0	0	0	0	240,000	
	Feeder	90	piece	100,000	9,000,000	0	1,500,000	0	1,500,000	0	3,000,000	0	3,000,000	0	0	0	9,000,000	
	Electric embedder	3	piece	200,000	600,000	0	600,000	0	0	0	0	0	0	0	0	0	600,000	
	Smoker	3	piece	80,000	240,000	0	240,000	0	0	0	0	0	0	0	0	0	240,000	
	Beehives with bees	69	piece	2,000,000	138,000,000	0	30,000,000	0	24,000,000	0	48,000,000	0	36,000,000	0	0	0	138,000,000	
	Honey extractor	3	piece	2,000,000	6,000,000	0	6,000,000	0	0	0	0	0	0	0	0	0	6,000,000	
	Queen excluder	15	piece	27,000	405,000	0	405,000	0	0	0	0	0	0	0	0	0	405,000	
Training teacher	3	group	7,500,000	22,500,000	0	22,500,000	0	0	0	0	0	0	0	0	0	22,500,000		
Bee box	21	piece	500,000	10,500,000	0	0	0	1,500,000	0	3,000,000	0	6,000,000	0	0	0	10,500,000		
Activities cost	Comb foundation	15	set	200,000	3,000,000	0	600,000	0	600,000	0	600,000	0	600,000	0	600,000	0	3,000,000	
	Sugar	1,425	kg	14,000	19,950,000	0	1,050,000	0	2,100,000	0	4,200,000	0	6,300,000	0	6,300,000	0	19,950,000	
	<b>Sub-total</b>				<b>221,685,000</b>	<b>0</b>	<b>71,385,000</b>	<b>0</b>	<b>30,300,000</b>	<b>0</b>	<b>60,000,000</b>	<b>0</b>	<b>53,100,000</b>	<b>0</b>	<b>6,900,000</b>	<b>0</b>	<b>221,685,000</b>	
<b>5</b>	<b>Sub-project for sewing promotion in the village</b>																	3
Initial cost	Sewing carbon	6	sheet	800	4,800	0	4,800	0	0	0	0	0	0	0	0	0	4,800	
	Roulette	6	piece	2,000	12,000	0	12,000	0	0	0	0	0	0	0	0	0	12,000	
	Soup for sewing	6	piece	1,500	9,000	0	9,000	0	0	0	0	0	0	0	0	0	9,000	
	Meter for sewing	3	piece	2,000	6,000	0	6,000	0	0	0	0	0	0	0	0	0	6,000	
	Pin	3	set	4,500	13,500	0	13,500	0	0	0	0	0	0	0	0	0	13,500	
	Needle for sewing	3	set	2,000	6,000	0	6,000	0	0	0	0	0	0	0	0	0	6,000	
	Fiber for sewing	3	set	21,000	63,000	0	63,000	0	0	0	0	0	0	0	0	0	63,000	
	Small cutter	3	piece	7,000	21,000	0	21,000	0	0	0	0	0	0	0	0	0	21,000	
	Big cutter	3	piece	65,000	195,000	0	195,000	0	0	0	0	0	0	0	0	0	195,000	
	Button for blouse	30	piece	1,000	30,000	0	30,000	0	0	0	0	0	0	0	0	0	30,000	
	Layer stick	30	m	12,960	388,800	0	388,800	0	0	0	0	0	0	0	0	0	388,800	
	Primary training	3	group	14,400,000	43,200,000	0	43,200,000	0	0	0	0	0	0	0	0	0	43,200,000	
Advanced training	3	group	2,120,000	6,360,000	0	6,360,000	0	0	0	0	0	0	0	0	0	6,360,000		
Activities cost (fiber)		135	set	21,000	2,835,000	0	315,000	0	630,000	0	630,000	0	630,000	0	630,000	0	2,835,000	
	<b>Sub-total</b>				<b>53,144,100</b>	<b>0</b>	<b>50,624,100</b>	<b>0</b>	<b>630,000</b>	<b>0</b>	<b>630,000</b>	<b>0</b>	<b>630,000</b>	<b>0</b>	<b>630,000</b>	<b>0</b>	<b>53,144,100</b>	

1.4.1.1. Project for Women's Economic Activity Support through Rural Women's Fund (continued)

		Cost for five years				Cost/year for JAO and farmers and cooperative											Note	
		Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total		
						JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO		Farmers/ Cooperative
<b>6</b>	<b>Sub-project for oyster mushroom promotion in the village</b>																	3
Initial cost	Temporary shed	3	facility	20,000,000	60,000,000	0	60,000,000	0	0	0	0	0	0	0	0	0	60,000,000	
	Hygrometer	3	piece	100,000	300,000	0	300,000	0	0	0	0	0	0	0	0	0	300,000	
	Thermometer	3	piece	100,000	300,000	0	300,000	0	0	0	0	0	0	0	0	0	300,000	
	Fan	3	piece	75,000	225,000	0	225,000	0	0	0	0	0	0	0	0	0	225,000	
	Jute bag	3	set	8,500	25,500	0	25,500	0	0	0	0	0	0	0	0	0	25,500	
	Glove	3	set	10,000	30,000	0	30,000	0	0	0	0	0	0	0	0	0	30,000	
	Boots	3	set	90,000	270,000	0	270,000	0	0	0	0	0	0	0	0	0	270,000	
	Musk	3	set	20,000	60,000	0	60,000	0	0	0	0	0	0	0	0	0	60,000	
	Cotton	3	set	15,000	45,000	0	45,000	0	0	0	0	0	0	0	0	0	45,000	
	Disinfectant	3	set	15,000	45,000	0	45,000	0	0	0	0	0	0	0	0	0	45,000	
	Alcohol	3	set	17,000	51,000	0	51,000	0	0	0	0	0	0	0	0	0	51,000	
	Rope	3	set	5,000	15,000	0	15,000	0	0	0	0	0	0	0	0	0	15,000	
	Straw (kg)	3	set	6,000	18,000	0	18,000	0	0	0	0	0	0	0	0	0	18,000	
Mushroom seed (kg) (SPANG)	3	set	25,000	75,000	0	75,000	0	0	0	0	0	0	0	0	0	75,000		
Plastic bag (kg)	3	set	40,000	120,000	0	120,000	0	0	0	0	0	0	0	0	0	120,000		
Activities cost	Straw (kg)	75	set	6,000	450,000	0	18,000	0	108,000	0	108,000	0	108,000	0	108,000	0	450,000	
	Mushroom seed (kg) (SPANG)	75	set	25,000	1,875,000	0	75,000	0	450,000	0	450,000	0	450,000	0	450,000	0	1,875,000	
	Plastic bag (kg)	75	set	40,000	3,000,000	0	120,000	0	720,000	0	720,000	0	720,000	0	720,000	0	3,000,000	
	<b>Sub-total</b>				<b>66,904,500</b>	<b>0</b>	<b>61,792,500</b>	<b>0</b>	<b>1,278,000</b>	<b>0</b>	<b>1,278,000</b>	<b>0</b>	<b>1,278,000</b>	<b>0</b>	<b>1,278,000</b>	<b>0</b>	<b>66,904,500</b>	
<b>7</b>	<b>Monitoring</b>																	
	Monitoring (car, 1 time/month)	60	time	350,000	21,000,000	4,200,000	0	4,200,000	0	4,200,000	0	4,200,000	0	4,200,000	0	21,000,000	0	
	<b>Sub-total</b>			<b>350,000</b>	<b>21,000,000</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>21,000,000</b>	<b>0</b>	
	<b>Total</b>				<b>1,026,123,100</b>	<b>12,850,000</b>	<b>392,501,100</b>	<b>10,500,000</b>	<b>137,418,000</b>	<b>10,500,000</b>	<b>167,118,000</b>	<b>10,500,000</b>	<b>160,218,000</b>	<b>10,500,000</b>	<b>114,018,000</b>	<b>54,850,000</b>	<b>971,273,100</b>	

Note: [1] 3 villages x 5 participants/village = 15 participants in total; [2] Based on the results of household survey in Khorashad, the ratio between the cost of raw materials and the value of produced towels is set to be 0.334 (targeted selling price of one piece of towel 35,000Rls x 0.334 = 11,690Rls); [3] Total number of participants is 15 (group of 5 persons/village x 3 villages)

Unit prices are mainly derived based on information and data obtained through: (1) implementation of pilot projects; and (2) hearing from counterparts.



1.4.1.2 Project for Women's Activity Expansion Support through Rural Women's Mother Fund

	Cost for five years				Cost/year for JAO and farmers and cooperative												Note
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total		
					JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	
<b>1 Explanatory meeting in 13 villages</b>																	
Car	13	village	350,000	4,550,000	0	0	4,550,000	0	0	0	0	0	0	0	0	4,550,000	0
<b>Sub-total</b>				<b>4,550,000</b>	<b>0</b>	<b>0</b>	<b>4,550,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,550,000</b>	<b>0</b>
<b>2 Explanatory meeting on mother fund</b>																	
Car	3	time	350,000	1,050,000	0	0	1,050,000	0	0	0	0	0	0	0	0	1,050,000	0
Food	3	set	10,000	30,000	0	0	30,000	0	0	0	0	0	0	0	0	30,000	0
<b>Sub-total</b>				<b>1,080,000</b>	<b>0</b>	<b>0</b>	<b>1,080,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,080,000</b>	<b>0</b>
<b>3 Exchange trip</b>																	
Minibus rental (15 persons)	1	day	1,600,000	1,600,000	0	0	1,600,000	0	0	0	0	0	0	0	0	1,600,000	0
Food	15	set	50,000	750,000	0	0	750,000	0	0	0	0	0	0	0	0	750,000	0
<b>Sub-total</b>				<b>2,350,000</b>	<b>0</b>	<b>0</b>	<b>2,350,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,350,000</b>	<b>0</b>
<b>4 Technical seminars</b>																	
Lecture (average 3 times/year, 13 villages)	156	time	250,000	39,000,000	0	0	9,750,000	0	9,750,000	0	9,750,000	0	9,750,000	0	39,000,000	0	0
Food	156	set	10,000	1,560,000	0	0	390,000	0	390,000	0	390,000	0	390,000	0	1,560,000	0	0
Car	156	day	350,000	54,600,000	0	0	13,650,000	0	13,650,000	0	13,650,000	0	13,650,000	0	54,600,000	0	0
Miscellaneous materials for seminar	156	set	90,000	14,040,000	0	0	3,510,000	0	3,510,000	0	3,510,000	0	3,510,000	0	14,040,000	0	0
<b>Sub-total</b>				<b>109,200,000</b>	<b>0</b>	<b>0</b>	<b>27,300,000</b>	<b>0</b>	<b>27,300,000</b>	<b>0</b>	<b>27,300,000</b>	<b>0</b>	<b>27,300,000</b>	<b>0</b>	<b>109,200,000</b>	<b>0</b>	<b>0</b>
<b>5 Sub-project for cloth weaving revival</b>																	1
Initial cost				145,573,500	0	0	145,573,500	0	0	0	0	0	0	0	0	145,573,500	0
Activities cost				378,756,000	0	0	63,126,000	0	105,210,000	0	105,210,000	0	105,210,000	0	378,756,000	0	0
<b>Sub-total</b>				<b>524,329,500</b>	<b>0</b>	<b>0</b>	<b>208,699,500</b>	<b>0</b>	<b>105,210,000</b>	<b>0</b>	<b>105,210,000</b>	<b>0</b>	<b>105,210,000</b>	<b>0</b>	<b>524,329,500</b>	<b>0</b>	<b>0</b>
<b>6 Sub-project for barberry and jujube honey production</b>																	1
Initial cost				198,735,000	0	0	69,735,000	0	27,600,000	0	55,200,000	0	46,200,000	0	198,735,000	0	0
Activities cost				16,050,000	0	0	1,650,000	0	2,700,000	0	4,800,000	0	6,900,000	0	16,050,000	0	0
<b>Sub-total</b>				<b>214,785,000</b>	<b>0</b>	<b>0</b>	<b>71,385,000</b>	<b>0</b>	<b>30,300,000</b>	<b>0</b>	<b>60,000,000</b>	<b>0</b>	<b>53,100,000</b>	<b>0</b>	<b>214,785,000</b>	<b>0</b>	<b>0</b>
<b>7 Monitoring</b>																	
Monitoring (car)	252	day	350,000	88,200,000	0	0	12,600,000	0	25,200,000	0	25,200,000	0	25,200,000	0	88,200,000	0	2
<b>Sub-total</b>				<b>88,200,000</b>	<b>0</b>	<b>0</b>	<b>12,600,000</b>	<b>0</b>	<b>25,200,000</b>	<b>0</b>	<b>25,200,000</b>	<b>0</b>	<b>25,200,000</b>	<b>0</b>	<b>88,200,000</b>	<b>0</b>	<b>0</b>
<b>Total</b>				<b>944,494,500</b>	<b>0</b>	<b>0</b>	<b>47,880,000</b>	<b>280,084,500</b>	<b>52,500,000</b>	<b>135,510,000</b>	<b>52,500,000</b>	<b>165,210,000</b>	<b>52,500,000</b>	<b>158,310,000</b>	<b>205,380,000</b>	<b>739,114,500</b>	<b>0</b>

Note: [1] Identical to the costs from first to fourth year of the sub-project of the same name in Project for Women's economic activity support through rural women's fund; [2] Starting in the seventh month of 2014, monitor 13 villages in 6 days every month.

Unit prices are mainly derived based on information and data obtained through: (1) implementation of pilot projects; and (2) hearing from counterparts.

1.4.1.3 Project for Women's Economic Activity Support through Rural Women Cooperative

	Cost for five years				Cost/year for JAO and farmers and cooperative												
	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	2013		2014		2015		2016		2017		Total		
					JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	JAO	Farmers/ Cooperative	
<b>1 Organization enhancement</b>																	
Lecture	3	time	250,000	750,000	750,000	0	0	0	0	0	0	0	0	0	0	750,000	0
Food	3	set	10,000	30,000	30,000	0	0	0	0	0	0	0	0	0	0	30,000	0
Car	3	day	350,000	1,050,000	1,050,000	0	0	0	0	0	0	0	0	0	0	1,050,000	0
Miscellaneous materials for seminar	3	set	90,000	270,000	270,000	0	0	0	0	0	0	0	0	0	0	270,000	0
<b>Sub-total</b>				<b>2,100,000</b>	<b>2,100,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>
<b>2 Exchange trip</b>																	
Minibus rental (15 persons)	1	day	1,600,000	1,600,000	1,600,000	0	0	0	0	0	0	0	0	0	0	1,600,000	0
Food	15	set	50,000	750,000	750,000	0	0	0	0	0	0	0	0	0	0	750,000	0
<b>Sub-total</b>				<b>2,350,000</b>	<b>2,350,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,350,000</b>	<b>0</b>
<b>3 Seminar on loan management</b>																	
Lecture	3	time	250,000	750,000	750,000	0	0	0	0	0	0	0	0	0	0	750,000	0
Food	3	set	10,000	30,000	30,000	0	0	0	0	0	0	0	0	0	0	30,000	0
Car	3	day	350,000	1,050,000	1,050,000	0	0	0	0	0	0	0	0	0	0	1,050,000	0
Miscellaneous materials for seminar	3	set	90,000	270,000	270,000	0	0	0	0	0	0	0	0	0	0	270,000	0
<b>Sub-total</b>				<b>2,100,000</b>	<b>2,100,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>
<b>4 Technical seminars</b>																	
Lecture (average 3 times/year)	15	time	250,000	3,750,000	750,000	0	750,000	0	750,000	0	750,000	0	750,000	0	3,750,000	0	0
Food	15	set	10,000	150,000	30,000	0	30,000	0	30,000	0	30,000	0	30,000	0	150,000	0	0
Car	15	day	350,000	5,250,000	1,050,000	0	1,050,000	0	1,050,000	0	1,050,000	0	1,050,000	0	5,250,000	0	0
Miscellaneous materials for seminar	15	set	90,000	1,350,000	270,000	0	270,000	0	270,000	0	270,000	0	270,000	0	1,350,000	0	0
<b>Sub-total</b>				<b>10,500,000</b>	<b>2,100,000</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>	<b>10,500,000</b>	<b>0</b>	<b>0</b>
<b>5 Explanatory meeting on cooperatives</b>																	
Car	1	time	350,000	350,000	0	0	0	0	0	0	350,000	0	0	0	350,000	0	0
<b>Sub-total</b>				<b>350,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>350,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>350,000</b>	<b>0</b>	<b>0</b>
<b>6 Seminar on project management</b>																	
Lecture	3	time	250,000	750,000	0	0	0	0	0	0	750,000	0	0	0	750,000	0	0
Food	3	set	10,000	30,000	0	0	0	0	0	0	30,000	0	0	0	30,000	0	0
Car	3	day	350,000	1,050,000	0	0	0	0	0	0	1,050,000	0	0	0	1,050,000	0	0
Miscellaneous materials for seminar	3	set	90,000	270,000	0	0	0	0	0	0	270,000	0	0	0	270,000	0	0
<b>Sub-total</b>				<b>2,100,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,100,000</b>	<b>0</b>	<b>0</b>
<b>7 Project for confectionery</b>																	
Initial cost																	
Workshop construction	1	facility	120,000,000	120,000,000	0	0	0	0	0	0	120,000,000	0	0	0	120,000,000	0	0
Confectionery machine	1	set	120,000,000	120,000,000	0	0	0	0	0	0	120,000,000	0	0	0	120,000,000	0	0
Box	3,000	piece	3,000	9,000,000	0	0	0	0	0	0	9,000,000	0	0	0	9,000,000	0	0
Raw materials	600	kg	32,000	19,200,000	0	0	0	0	0	0	19,200,000	0	0	0	19,200,000	0	0
Box	27,000	piece	3,000	81,000,000	0	0	0	0	0	0	27,000,000	0	54,000,000	0	81,000,000	0	0
Raw materials	10,800	kg	32,000	345,600,000	0	0	0	0	0	0	115,200,000	0	230,400,000	0	345,600,000	0	0
Labor	72	MM	4,000,000	288,000,000	0	0	0	0	0	0	96,000,000	0	192,000,000	0	288,000,000	0	0
Fuel and power	18	month	200,000	3,600,000	0	0	0	0	0	0	1,200,000	0	2,400,000	0	3,600,000	0	0
<b>Sub-total</b>				<b>986,400,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>507,600,000</b>	<b>0</b>	<b>478,800,000</b>	<b>0</b>	<b>986,400,000</b>	<b>0</b>	<b>0</b>
<b>8 Monitoring</b>																	
Car (1 time/month)	60	day	350,000	21,000,000	4,200,000	0	4,200,000	0	4,200,000	0	4,200,000	0	4,200,000	0	21,000,000	0	0
<b>sub-total</b>				<b>21,000,000</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>4,200,000</b>	<b>0</b>	<b>21,000,000</b>	<b>0</b>	<b>0</b>
<b>Total</b>				<b>1,026,900,000</b>	<b>12,850,000</b>	<b>0</b>	<b>6,300,000</b>	<b>0</b>	<b>6,300,000</b>	<b>0</b>	<b>8,750,000</b>	<b>507,600,000</b>	<b>6,300,000</b>	<b>478,800,000</b>	<b>40,500,000</b>	<b>986,400,000</b>	<b>0</b>

Note: Unit prices are mainly derived based on information and data obtained through: (1) implementation of pilot projects; and (2) hearing from counterparts.

## 1.4.2 Farmers' Benefit and Net Benefit for 10 Years

### 1.4.2.1 Project for Women's Economic Activity Support through Rural Women's Fund

	2013	2014	2015	2016	2017 to 2022 (each year)	Total	Note
<b>1. Cloth Weaving Revival Sub-project</b>							
Number of participants	15	15	15	15	15		1
Benefit per participant	12,600,000	21,000,000	21,000,000	21,000,000	21,000,000		2
Benefit	189,000,000	315,000,000	315,000,000	315,000,000	315,000,000	3,024,000,000	
Cost	208,699,500	105,210,000	105,210,000	105,210,000	105,210,000	1,155,589,500	3
Net Benefit	-19,699,500	209,790,000	209,790,000	209,790,000	209,790,000	1,868,410,500	
<b>2. Barberry and Jujube Honey Production Sub-project</b>							
Number of participants	15	15	15	15	15		1
Benefit per participant	680,000	4,080,000	8,160,000	12,240,000	12,240,000		4
Benefit	10,200,000	61,200,000	122,400,000	183,600,000	183,600,000	1,479,000,000	
Cost	71,385,000	30,300,000	60,000,000	53,100,000	6,900,000	256,185,000	3
Net Benefit	-61,185,000	30,900,000	62,400,000	130,500,000	176,700,000	1,222,815,000	
<b>3. Sewing Promotion in the Village Sub-project</b>							
Number of participants	15	15	15	15	15		1
Benefit per participant	866,000	1,732,000	1,732,000	1,732,000	1,732,000		5
Benefit	12,990,000	25,980,000	25,980,000	25,980,000	25,980,000	246,810,000	
Cost	50,624,100	630,000	630,000	630,000	630,000	56,294,100	3
Net Benefit	-37,634,100	25,350,000	25,350,000	25,350,000	25,350,000	190,515,900	
<b>4. Oyster Mushroom Promotion in the Village Sub-project</b>							
Number of participants	15	15	15	15	15		1
Benefit per participant	280,000	1,680,000	1,680,000	1,680,000	1,680,000		6
Benefit	4,200,000	25,200,000	25,200,000	25,200,000	25,200,000	231,000,000	
Cost	61,792,500	1,278,000	1,278,000	1,278,000	1,278,000	73,294,500	3
Net Benefit	-57,592,500	23,922,000	23,922,000	23,922,000	23,922,000	157,705,500	
<b>Total of 4 Sub-projects</b>							
Benefit	216,390,000	427,380,000	488,580,000	549,780,000	549,780,000	4,980,810,000	
Cost	392,501,100	137,418,000	167,118,000	160,218,000	114,018,000	1,541,363,100	
Net Benefit	-176,111,100	289,962,000	321,462,000	389,562,000	435,762,000	3,439,446,900	

Note: [1] 5 persons in each of the 3 targeted villages. [2] See 2.4.1 for the detail. In the first year (2013), the number of active months is assumed to be 6, instead of 10 in the following years, thus making the benefit per participant a six-tenth. [3] See 1.4.1.1 for the breakdown. [4] See 2.4.2 for the detail. In the first year (2013), the number of production cycle per year is assumed to be 1, instead of 3 in the following years, and the number of beehives to be 5, instead of 30 in the fifth year onwards, thus making the benefit per participant a one-eighteenth of that in the fifth year. In the second year (2014), the number of beehives is assumed to be 10, instead of 30 in the fifth year onwards, thus making the benefit per participant a one-third of that in the fifth year. In the third year (2015), the number of beehives is assumed to be 20, thus making the benefit per participant a two-thirds of that in the fifth year. [5] See 2.4.3 for the detail. In the first year (2013), the number of ordering families is assumed to be 2, instead of 4 in the following years, thus making the benefit per participant a half. [6] See 2.4.4 for the detail. In the first year (2013), the number of production cycle per year is assumed to be 1, instead of 6 in the following years, thus making the benefit per participant a one-sixth.

#### 1.4.2.2 Project for Women's Activity Expansion Support through Rural Women's Mother Fund

	2013	2014	2015	2016	2017	2018 to 2022 (each year)	Total	Note
<b>1. Cloth Weaving Revival Sub-project</b>								
Benefit	0	189,000,000	315,000,000	315,000,000	315,000,000	315,000,000	2,709,000,000	1
Cost	0	208,699,500	105,210,000	105,210,000	105,210,000	105,210,000	1,050,379,500	1
Net Benefit		-19,699,500	209,790,000	209,790,000	209,790,000	209,790,000	1,658,620,500	
<b>2. Barberry and Jujube Honey Production Sub-project</b>								
Benefit	0	10,200,000	61,200,000	122,400,000	183,600,000	183,600,000	1,295,400,000	1
Cost	0	71,385,000	30,300,000	60,000,000	53,100,000	6,900,000	249,285,000	1
Net Benefit	0	-61,185,000	30,900,000	62,400,000	130,500,000	176,700,000	1,046,115,000	
<b>Total of 2 Sub-projects</b>								
Benefit	0	199,200,000	376,200,000	437,400,000	498,600,000	498,600,000	4,004,400,000	
Cost	0	280,084,500	135,510,000	165,210,000	158,310,000	112,110,000	1,299,664,500	
Net Benefit	0	-80,884,500	240,690,000	272,190,000	340,290,000	386,490,000	2,704,735,500	

Note: [1] The same as in Project for Women's Economic Activity Support through Rural Women's Fund, with a one-year delay. [2] See 1.4.1.2 for the breakdown.

#### 1.4.2.3 Project for Women's Economic Activity Support through Rural Women Cooperative

	2013	2014	2015	2016	2017 to 2022 (each year)	Total	Note
<b>Benefit</b>							
Number of months in activities	0	0	0	6	12		
Number of cookie boxes sold per month	0	0	0	1,500	1,500		
Selling price per box (Rls)	0	0	0	35,000	35,000		
Benefit (Rls)	0	0	0	315,000,000	630,000,000	4,095,000,000	
<b>Cost</b>							
Cost (Rls)	0	0	0	507,600,000	478,800,000	3,380,400,000	1
<b>Net Benefit</b>							
Net benefit (Rls)	0	0	0	-192,600,000	151,200,000	714,600,000	

Note: [1] See 1.4.1.3 for the breakdown.

## 2. Breakdown of Costs and Benefits per Household of Each Project

### 2.1 Project for Irrigation System Improvement

#### (1) Project Cost per Hectare per Year

		(A) Cost for 19ha for five years			(B) Cost/ha/year			Note
		JAO	Farmer	Total	JAO	Farmer	Total	
1	Survey and design	198,550	85,093	283,643	1,045	448	1,493	1
2	Construction of irrigation facilities	1,157,590	496,110	1,653,700	6,093	2,611	8,704	1
3	Training on O & M	8,208	3,518	11,726	43	19	62	1
4	Operation and Management	0	160,731	160,731	0	2,611	2,611	2
	<b>Total</b>	<b>1,364,348</b>	<b>745,452</b>	<b>2,109,800</b>	<b>7,181</b>	<b>5,689</b>	<b>12,869</b>	

Note: [1] Estimating the life period of the developed irrigation facilities as ten years, (B) = (A) / 35ha /10 years. [2] Annual operation and maintenance cost that the farmers are supposed to pay is estimated to be 3% of the construction cost.

#### (2) Cost per Household

	Simulation 1	Simulation 2	Simulation 3	Note
Currently cultivated area of barberries	0.23	0.23	0.23	1
Rate of increase of the area after project implementation	1.5	2.0	3.0	
Cultivated area of barberries after project implementation (ha)	0.345	0.460	0.690	
Cost/household/year	1,963	2,617	3,925	2

Note: [1] Derived based on the results of: (1) baseline survey; (2) household survey targeting the participants of the pilot projects; and (3) sample weighing tests to identify a representative weight ratio between fresh and dried barberries. [2] Derived by multiplying the cost/ha/year (i.e., 5,689) to the estimated cultivated area after the project implementation.

### 2.2 Program for Crop and Livestock Productivity Improvement

#### 2.2.1 Project for Net-house

##### (1) Cost

	Quantity	Unit	Unit price (RIs/unit)	Cost (RIs)	Life period (year)	Cost/year
<b>1 Irrigation materials</b>						
Pump	1	No.	1,500,000	1,500,000	10	150,000
Water tank (550 liter)	1	No.	2,000,000	2,000,000	10	200,000
Watering can	2	No.	30,000	60,000	10	6,000
Cover for the tank	1	No.	60,000	60,000	10	6,000
<b>Sub-total</b>				<b>3,620,000</b>		<b>362,000</b>
<b>2 Net-house construction</b>						
Steel pipe to construct net-house	1	No.	2,500,000	2,500,000	10	250,000
Net (100m <sup>2</sup> , about 16 mesh/inch)	1	No.	2,500,000	2,500,000	5	500,000
<b>Sub-total</b>				<b>5,000,000</b>		<b>750,000</b>
<b>3 Agricultural inputs</b>						
Tomato nursery	40	No.	2,000	80,000	1	80,000
Carrot seeds	1	g	1,250	1,250	1	1,250
Radish seeds	1	g	2,000	2,000	1	2,000
Animal manure (200kg/farmer)	200	kg	2,000	400,000	1	400,000
Chemical fertilizer (compound)	1	kg	10,000	10,000	1	10,000
Agricultural chemicals	0.2	liter	10,000	2,000	1	2,000
Transplanting trowel	1	No.	30,000	30,000	10	3,000
Shovel for ridging	1	No.	100,000	100,000	10	10,000
Balance	1	No.	350,000	350,000	10	35,000
Prop for crop (2m high)	40	No.	10,000	400,000	10	40,000
Mulching and shadowing materials	3	kg	25,000	75,000	1	75,000
Gardening scissors	1	No.	60,000	60,000	10	6,000
<b>Sub-total</b>				<b>1,510,250</b>		<b>664,250</b>
<b>Total</b>				<b>10,130,250</b>		<b>1,776,250</b>

(2) Benefit

	Tomato	Carrot	Radish	Total	Note
Cultivated area (ha)	0.0025	0.0020	0.0020	0.0065	1
Yield (kg/ha)	41,625	30,000	20,000		2
Production (kg)	104	60	40		
Selling price (Rls/kg)	11,786	12,000	13,000		3
Produced value (Rls)	1,226,923	720,000	520,000	2,466,923	

Note: [1] From April to September, cultivate tomato using all the area (25m<sup>2</sup>) and intercrop radish from April to about July using 20m<sup>2</sup> and carrot from July to October or November using 20m<sup>2</sup> (crop rotation).

[2] Tomato: derived based on the results of pilot projects; carrot: based on FAOSTAT (30,2871kg/ha, Iran, yield of "carrots and turnips," 2010); radish: assumption.

[3] Tomato: retail price in June 2012 (obtained from JAO); carrot and radish: based on hearing from a retail shop in Birjand in November 2012.

2.1.2 Project for Vegetable Cultivation for Self-Consumption in Winter

(1) Cost

	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	Life period (year)	Cost/year
<b>1 Materials for sprout cultivation</b>						
Mung bean seeds	1	kg	35,000	17,500	1	17,500
Barley seeds	1	kg	14,000	7,000	1	7,000
Bucket with a drainer	2	No.	20,000	40,000	10	4,000
Sponge	0.3	Block.	60,000	18,000	1	18,000
<b>Sub-total</b>				<b>82,500</b>		<b>46,500</b>
<b>2 Installation of vinyl house</b>						
<b>Materials for non-heating vinyl house</b>						
Galvanized wire	1	set	3,500	3,500	10	350
Polyethylene pipe	24	m	44,000	1,056,000	10	105,600
Vinyl sheet (white; 5m wide/m)	4	m	31,500	126,315	1	126,315
String	5	m	7,500	37,500	1	37,500
Hand saw	0.1	No.	40,000	4,000	10	400
<b>Sub-total</b>				<b>1,227,315</b>		<b>270,165</b>
<b>Agricultural inputs</b>						
Watering can	1	No.	30,000	30,000	10	3,000
Transplanting trowel	1	No.	30,000	30,000	10	3,000
Lettuce seeds	20	g	4,000	80,000	1	80,000
Spinach seeds	40	g	1,700	68,000	1	68,000
Chemical fertilizer (NPK)	1	kg	10,000	5,000	1	5,000
Animal manure (20kg/farmer)	20	kg	2,000	40,000	1	40,000
<b>Sub-total</b>				<b>253,000</b>		<b>199,000</b>
<b>Total</b>				<b>1,562,815</b>		<b>515,665</b>

(2) Benefit

	Non-heating vinyl house		Sprout cultivation		Total	Note
	Lettuce	Spinach	Mung bean	Barley		
Harvest per cultivation (kg)	5.0	5.0	1.0	1.0		1
Number of cultivation per year	4	4	10	10		2
Production (kg)	20.0	20.0	10.0	10.0		
Selling price (Rls/kg)	10,750	13,000	15,000	15,000		3
Produced value (Rls)	215,000	260,000	150,000	150,000	775,000	

Note: [1] Assumption.

[2] Between October and June; lettuce and spinach: assumption; mung bean and barley: derived based on the results of the pilot project.

[3] Lettuce and spinach: based on hearing from a retail shop in Birjand in November 2012; mung bean and barley: assumption.

### 2.1.3 Project for Forage Cultivation

#### (1) Cost

	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	Life period (year)	Cost/year
<b>1 Forage crop cultivation</b>						
Sorghum seeds	1	kg	35,000	35,000	1	35,000
Barley seeds	1	kg	14,000	14,000	1	14,000
<b>Sub-total</b>				<b>49,000</b>		<b>49,000</b>
<b>2 Sprout cultivation</b>						
Barley seeds	0.5	kg	14,000	7,000	1	7,000
Mung bean seeds	1	kg	35,000	35,000	1	35,000
Sponge (100cm x 200cm x 1cm)	0.6	No.	60,000	36,000	1	36,000
Bucket with a drainer	2	No.	20,000	40,000	10	4,000
<b>Sub-total</b>				<b>118,000</b>		<b>82,000</b>
<b>Total</b>				<b>167,000</b>		<b>131,000</b>

#### (2) Benefit

	Forage cultivation		Sprout cultivation		Total	Note
	Sorghum	Barley	Mung bean	Barley		
Cultivated area (ha)	0.0025	0.0025			0.0050	
Yield (kg/ha)	18,000	18,000				1
Harvest per cultivation (kg)			1.0	1.0		2
Number of cultivation per year			10	10		3
Production (kg)	45.0	45.0	10.0	10.0		
Selling price (Rls/kg)	5,000	5,000	5,000	5,000		4
Produced value (Rls)	225,000	225,000	50,000	50,000	<b>550,000</b>	

Note: [1] Assumed to be half the yield of forage crops cultivated in Japan ([http://www.maff.go.jp/j/tokei/sokuhou/syukaku\\_siryou\\_09/index.html](http://www.maff.go.jp/j/tokei/sokuhou/syukaku_siryou_09/index.html))

[2] Assumption.

[3] Between October and June, derived based on the results of the pilot project.

[4] Representative price of livestock feeds, paid by participants of the pilot projects (based on the household survey)

## 2.1.4 Project for Small-scale Chicken Rearing

### (1) Cost

	Quantity	Unit	Unit price (Rls/unit)	Cost (Rls)	Life period (year)	Number of co-user	Cost/year	Note
<b>1 Chicken</b>								
Chicken	10	No.	60,000	600,000	3		200,000	
<b>Sub-total</b>				<b>600,000</b>			<b>200,000</b>	
<b>2 Chicken house construction</b>								
Cement	0.3	packet	45,000	13,500	15		900	
Stone powder	0.2	packet	15,000	3,000	15		200	
Bricks	400	No.	1,000	400,000	15		26,667	
Windows, doors, and hinge	2	No.	170,000	340,000	15		22,667	
<b>Sub-total</b>				<b>756,500</b>			<b>50,433</b>	
<b>3 Chicken rearing materials</b>								
Poultry feeder	1	No.	70,000	70,000	10		7,000	
Feed	10	kg	7,000	72,100	1		72,100	
Waterer	1	No.	18,000	18,000	10		1,800	
Medicine	10	No.	11,800	118,000	1		118,000	
<b>Sub-total</b>				<b>278,100</b>			<b>198,900</b>	
<b>4 Incubator</b>								
Incubator	0.3	No.	6,313,000	1,893,900	10	10	18,939	1
<b>Sub-total</b>				<b>1,893,900</b>			<b>18,939</b>	
<b>5 Materials for chicks</b>								
Breeding box (W1.0m x L1.2m x H0.6m)	0.3	No.	250,000	75,000	10		7,500	
Heater for breeding box (light bulb)	1	No.	5,000	5,000	5		1,000	
<b>Sub-total</b>				<b>80,000</b>			<b>8,500</b>	
<b>Total</b>				<b>3,608,500</b>			<b>476,772</b>	

Note: [1] Incubator is supposed to be co-used by ten participants, and the cost equally shared among them.

### (2) Benefit

	Number	Unit price (Rls/unit)	Value produced (Rls)	Note
Chicken sold	20	60,000	1,200,000	1
Eggs self-consumed	508	2,250	1,142,910	2
Eggs sold	169	2,250	380,970	2
<b>Total</b>			<b>2,723,880</b>	

Note: [1] Assumed to keep a situation in which ten matured chickens (2 roosters and 8 hens) are constantly held and surplus 20 chickens are sold a year. Unit price is derived based on the results of the baseline survey.

[2] Based on the results of the pilot projects, annual number of eggs laid by eight hens is estimated to be 996 a year, of which 508 to be self-consumed and 169 to be sold (remaining 319 to be given to others for free and to be hatched for reproduction). Unit price is derived based on the data collected from participants of the pilot projects in the household survey.



## 2.3 Program for Market and Distribution Improvement

	Ratio	Quantity (kg)	Unit price (Rls/kg)	Income (Rls)	Selling cost (Rls)	Balance (Rls)	Note
(Self-consumption, fresh equivalent)	0.03	13.5					1
Broker (fresh)	0.13	58.5	10,000	585,000	0	585,000	
Broker (dried)	0.40	39.6	65,000	2,574,000	0	2,574,000	
Retail shop in the Province (dried)	0.20	19.8	90,000	1,782,000	38,960	1,743,040	2
Retail shop outside the Province (dried)	0.10	9.9	120,000	1,188,000	90,000	1,098,000	3
Wednesday market (dried)	0.05	4.9	100,000	490,000	80,580	409,420	4
Direct sales shop (dried)	0.05	4.9	80,000	392,000	30,580	361,420	5
Processing workshop (fresh)	0.01	4.5	10,000	45,000	0	45,000	
Processing workshop (dried)	0.03	3.0	10,000	30,000	0	30,000	
Total	fresh	0.17	76.5	7,086,000	241,120	6,845,880	
	dried	0.83	82.1				

Note: "Fresh" refers to harvested barberry fruits still attached to branches, and "dried" refers to dried barberry fruits already removed from branches. The weight ratio between these two used in the calculation is 1:0.22, derived based on the sample weighing tests carried out by the Study team.

Unit prices are mainly derived based on information and data obtained through implementation of pilot projects.

Total number of households participating in the program is estimated to be 300, and the number of households transporting their products for selling together is estimated to be ten (for selling inside the Province) and 50 (for selling outside the Province). Related costs are divided by these numbers to obtain costs per household (see below for more detail).

[1] Includes barberries given to others (such as relatives) for free and barberries discarded due to low quality. The weight of self-consumed dried barberries is converted to fresh weight, using the above-defined ratio, and added to the weight of self-consumed fresh barberries. After the project implementation, the amount of self-consumption is smaller compared to the current situation, because barberries that cannot be sold due to the quality problem and discarded in the current situation are used for processing in the proposed program.

[2] Cost: (1) transportation: 35,000Rls (350,000Rls/time divided by the number of households selling the product together [10]); (2) packaging material: 3,960Rls (200Rls/kg of barberries times 19.8kg).

[3] Cost: (1) information gathering: 20,000Rls (6,000,000Rls in total divided by the number of participants in the program [300]); (2) cleaning machine 30,000Rls (9,000,000Rls in total divided by the number of participants in the program); (3) transportation: 40,000Rls (2,000,000Rls/time divided by the number of households selling the product together [50]).

[4] Cost: (1) transportation and sales permission in Wednesday market: 60,000Rls (600,000Rls/time divided by the number of households selling the product together [10]); (2) packaging material: 20,580Rls (4,200Rls/kg of barberries times 4.9kg).

[5] Cost: (1) transportation 10,000Rls (100,000Rls/time divided by the number of households selling the product together [10]); (2) packaging material: 20,580Rls (4,200Rls/kg of barberries times 4.9kg).

## 2.4 Project for Women's Economic Activity Support through Rural Women's Fund

### 2.4.1 Cloth Weaving Revival Sub-project

#### (1) Cost

	Sub-project total for 5 years (Rls)	Sub-project total in fifth year (Rls)	number of participants	Per household /year (Rls)	Note
Initial cost	145,573,500		15	1,940,980	1
Activities cost		105,210,000	15	7,014,000	1
Cost, total				8,954,980	

Note: [1] See Section 1.4.1 for the breakdown of the costs.

(2) Benefit

Sold item	Quantity sold per month	Unit price (Rls)	Number of active months/year	Value sold (Rls)
Set of towel (2 pieces of towel)	30	70,000	10	21,000,000

2.4.2 Barberry and Jujube Honey Production Sub-project

(1) Cost

	Sub-project total for 5 years (Rls)	Sub-project total in fifth year (Rls)	number of participants	Per household /year (Rls)	Note
Initial cost	198,735,000		15	2,649,800	1
Activities cost		6,900,000	15	460,000	1
Cost, total				3,109,800	

Note: [1] See Section 1.4.1 for the breakdown of the costs.

(2) Benefit

Sold item	Number of production cycle/year	Number of beehives in fifth year	Quantity produced per cycle per hive (kg)	Number of households /group	Unit price (Rls)	Value sold /household (Rls)
Honey	3	30	4.0	5	170,000	12,240,000

2.4.3 Sewing Promotion in the Village Sub-project

(1) Cost

	Sub-project total for 5 years (Rls)	Sub-project total in fifth year (Rls)	number of participants	Per household /year (Rls)	Note
Initial cost	50,309,100		15	670,788	1
Activities cost		630,000	15	42,000	1
Cost, total				712,788	

Note: [1] See Section 1.4.1 for the breakdown of the costs.

(2) Benefit

Sold item	Number of ordering families in fifth year	Number of orders/ family	Number of households /group	Unit price (Rls)	Value sold /household (Rls)	
Technical fee for	chadol (color)	4	2	5	20,000	32,000
	chadol (black)	4	2	5	40,000	64,000
	head dress	4	12	5	40,000	384,000
	scarf	4	5	5	20,000	80,000
	pajama	4	25	5	25,000	500,000
	skirt	4	4	5	60,000	192,000
	dress	4	10	5	60,000	480,000
Total					1,732,000	

#### 2.4.4 Oyster Mushroom Promotion in the Village Sub-project

##### (1) Cost

	Sub-project total <u>for 5 years</u> (Rls)	Sub-project total <u>in fifth</u> <u>year</u> (Rls)	number of participants	Per household <u>/year</u> (Rls)	Note
Initial cost	61,579,500		15	821,060	1
Activities cost		1,278,000	15	85,200	1
Cost, total				906,260	

Note: [1] See Section 1.4.1 for the breakdown of the costs.

##### (2) Benefit

Sold item	Number of production cycle/year	Yield/cycle (kg)	Number of households /group	Unit price (Rls)	Value sold /household (Rls)
Oyster mushroom	6	14	5	100,000	1,680,000

### Baseline Survey

- (a) The detailed study at the Study area was applied in the field both by the hired local consultants and by the members of the Study team of JICA cooperatively.
- (b) The Study area consists of two Dehwstans and 15 villages, total number of households is 595, and total population is 1,909.
- (c) Among them, 8 villages were selected for the study according to the selection standard.
- (d) The study of household was also applied, according to the selection standard. One hundred and three households were selected for the study and the questionnaire survey and the hearing investigation and so on were conducted. At least one household was selected for the study; from each village of 15 ones.

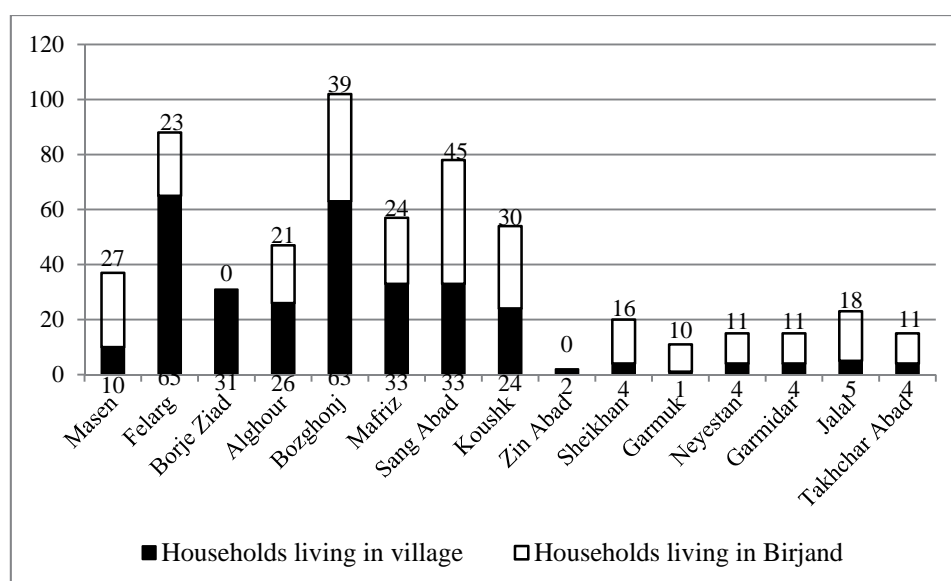
### Selection of target villages

Prior to the village level survey, a list of all household in the Study area was made. As a result, there are presently residents in 15 villages in the Study area. Those villages are listed as below. In addition, the eight villages were selected for the study according to the study period, and the criteria below were used to select these villages after consultation with C/P.

**Table: Selection Criteria and All Villages in the Target Area**

	No. of HH	HH in the village	HH out of village* (%)	Along the road	* > 50%	Scale of HH			
						0~25	26~50	51~75	76~
Felarg	88	65	26%	○					○
Borgeziad	31	31	0%	○			○		
Alghor	47	26	45%	○			○		
Bozghong	102	63	35%	○					○
Mafriz	57	33	42%	○				○	
Kooshk	54	24	56%	○	○			○	
Masen	37	10	73%		○		○		
Sang Abad	78	33	58%		○				○
Zin Abad	2	2	0%			○			
Sheikhan	20	4	80%		○	○			
Garmuk	11	1	91%		○	○			
Neyestan	15	4	73%		○	○			
Garmidar	15	4	73%		○	○			
Jalal	23	5	78%		○	○			
Takhchar Abad	15	4	73%		○	○			
Total	595	309							

Note: the shaded lines on villages are selected ones.



### Selection Criteria

The main element which distinguishes villages from each other is their distance to paved road. The number of household in each village differs according to this criterion. When the number of household is scaled in a range of 0 – 25, 26 – 50, 51 – 75, and over 76, then it was observed that all villages which have above 26 households face the road, while all the other villages except Masen and Sang Abad have households between 0 - 25. Moreover, over 50 % of households live in the village in all the villages along the road except Kooshk.

With consideration of these features, the list of 8 villages (4 villages from villages along the road and 4 villages from others) is given as below.

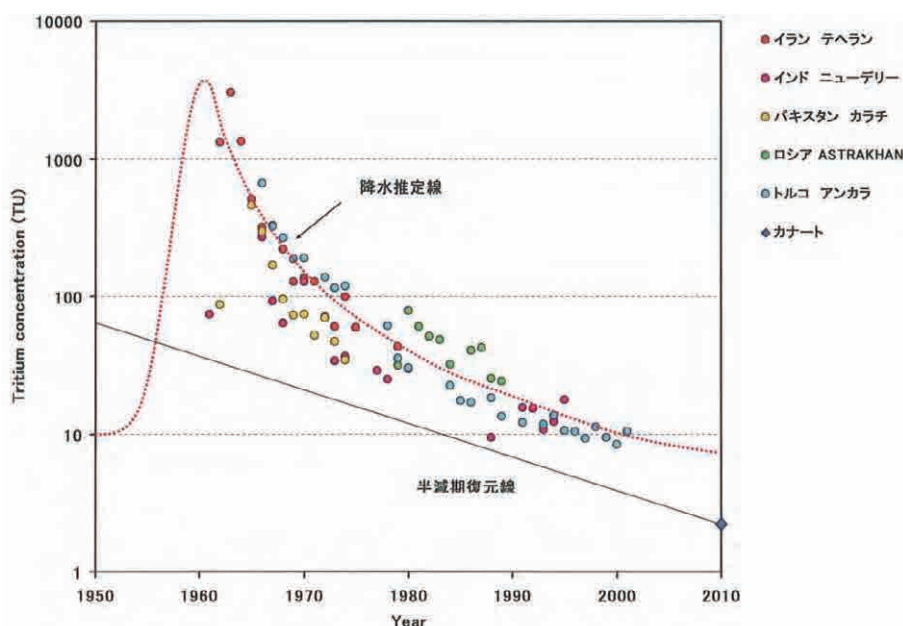
**Table: List of Villages for Village Level Survey**

Villages along the road	Along the road	No of HH	Scale of HH	HH out of village (%)
1. Borgeziad	○	31	26~50	0%
2. Alghor	○	47	26~50	45%
3. Bozghong	○	102	76~	35%
4. Mafriz	○	57	51~75	42%
<b>Villages not facing the road</b>				
5. Masen		37	26~50	73%
6. Sang Abad		78	76~	58%
7. Jalal		23	0~25	78%
8. Takhchar Abad		15	0~25	73%

Among 6 villages, which face the paved road, Bozghong was selected because this was the largest village in the area, and Mafriz was chosen because over half of its residents live in the village among all the villages scaled between 51 – 75 households. In addition, all the villagers live in Borje Ziad village. Within the same scale with Borje Ziad, Alghor was selected which has residents living outside of the village.

Among other villages, Masen and Sang Abad were selected because only these villages are scaled in 26 – 50 and over 76 households respectively. All the other villages are scaled at 0 – 25 households, but Jalal has the biggest number of households in the village among them. Finally, Takhchar Abad was chosen because of its farthest distance from the paved road among three villages which have 73 % of households living outside of the village.

### Tritium Analysis of Qanat Water



**Fig. Comparison of Concentration of Tritium in Water of Qanat with that of Rainfall in Surrounding Countries**

Source: Geo-Science Laboratory

(Explanation)

The detected concentration of tritium of qanat water is 2.2TU, which is well over the limitation of detection of 0.3TU. Empirically, it is well known that groundwater having been stored before 1953, when the experiment of atomic bomb began, does not contain tritium due to attenuation of tritium. This type of water can be called old water without tritium. The result of detecting analysis of tritium indicates that qanat water contains partly younger groundwater which has been stored after 1953.

Fig. AP1 shows the comparison of the concentration of tritium of qanat water with that of rainfall in surrounding countries, which has been made public by IAEA (International Atomic Energy Agency). In Tehran, the concentration of tritium was 1000TU at peak in around 1960. Then it decreased to 100TU in around 1970, 40TU in around 1980. Although the recent rainfall-concentration data are not available for estimating the concentration of tritium, the present rainfall-concentration would be estimated about 10TU by reading the trend of attenuation.

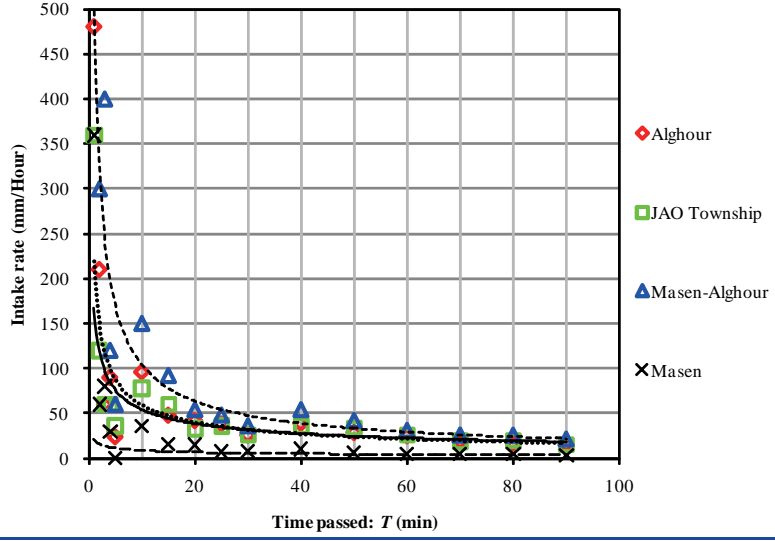
In Fig. APN1 the declining line toward right is interpolated on the basis of 12.3 year of half-life of tritium and the observed concentration of tritium of qanat water. The intersection between this line and the rainfall-concentration curve can be called a nominal starting year of conservation of qanat water. It is clear from Fig. AP1 that detected tritium of qanat water does not cross the rainfall-concentration curve. The result of the analysis shows that qanat water is consisted of a mixture of old water and younger water. Assuming that the qanat water is a mixture of young water conserved after 1953 and old water conserved before 1953, and that the concentrations of tritium are 10TU and 0TU, respectively, the percentage of old water is estimated about 80% and young water 20%.

Results of Intake Rate Test

Intake rate test				Intake rate test				Intake rate test				Intake rate test			
Date: Nov.4, 2010				Date: Nov. 7, 2010				Date: Nov. 11, 2010				Date: Nov. 18, 2010			
Place: Alghour Village				Place:: Compond of JAO Township				Place: Masen Village				Place: Masen Village			
Alghour				JAO Township				Masen-Alghour				Masen			
T: Time passed (min.)	d: Infiltration (mm)	D: Cumulative amount (mm)	Intake rate (mm/Hour)	T: Time passed (min.)	d: Infiltration (mm)	D: Cumulative amount (mm)	Intake rate (mm/Hour)	T: Time passed (min.)	d: Infiltration (mm)	D: Cumulative amount (mm)	Intake rate (mm/Hour)	T: Time passed (min.)	d: Infiltration (mm)	D: Cumulative amount (mm)	Intake rate (mm/Hour)
1	8	8	480	1	6	6	360	1	15	15	900	1	6	6	360
2	7	15	210	2	4	10	120	2	10	25	300	2	2	8	60
3	3	18	60	3	3	13	60	3	20	45	400	3	4	12	80
4	6	24	90	4	4	17	60	4	8	53	120	4	2	14	30
5	2	26	24	5	3	20	36	5	5	58	60	5	0	14	0
10	16	42	96	10	13	33	78	10	25	83	150	10	6	20	36
15	12	54	48	15	15	48	60	15	23	106	92	15	4	24	16
20	14	68	42	20	11	59	33	20	18	124	54	20	5	29	15
25	16	84	38	25	15	74	36	25	20	144	48	25	3	32	7
30	13	97	26	30	13	87	26	30	18	162	36	30	4	36	8
40	26	123	39	40	24	111	36	40	36	198	54	40	7	43	11
50	24	147	29	50	28	139	34	50	35	233	42	50	5	48	6
60	25	172	25	60	26	165	26	60	31	264	31	60	5	53	5
70	22	194	19	70	22	187	19	70	30	294	26	70	6	59	5
80	23	217	17	80	26	213	20	80	34	328	26	80	6	65	5
90	23	240	15	90	23	236	15	90	32	360	21	90	5	70	3

	Alghour	JAO Township	Masen -Alghour	Masen
C:	8.1	5.4	18.0	6.0
n:	0.741	0.825	0.660	0.534
T:	155.7	105	204	279.6
Ib:	96.6	118.6	116.5	14.0

◇  $D = 8.06T^{0.74}$   
 □  $D = 5.41T^{0.83}$   
 △  $D = 17.951T^{0.66}$   
 ×  $D = 6.01T^{0.53}$



### Three Phases Distribution of Soil and Soil Texture

#### (1) Alghor

##### 1) Three Phases Structure of Soil in Irrigated Farm Land

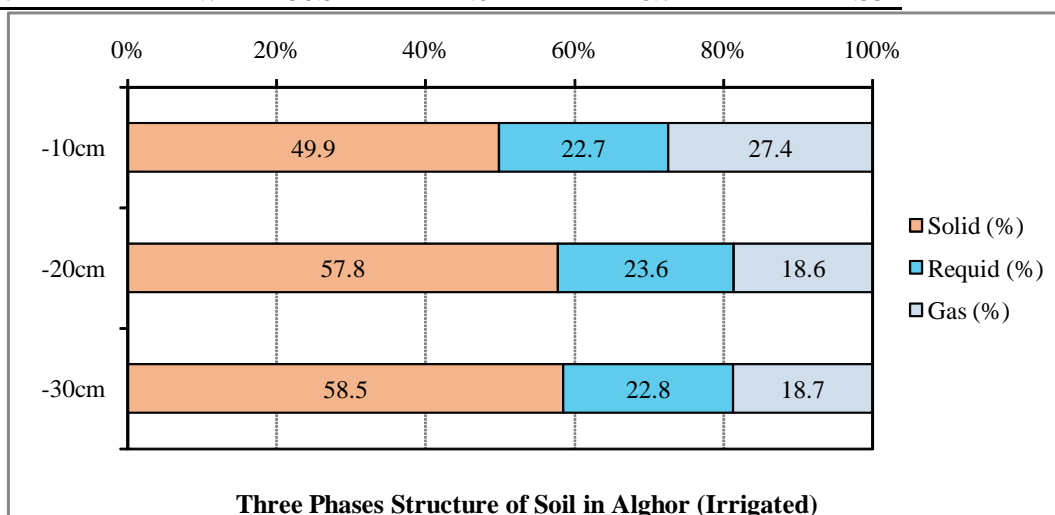
Date: 12 Nov. 2010 - 14 Nov. 2010

The soil samples were taken 24 hrs after intake rate test

Sampling Place: Alghor

Depth	No.	Moisture	Solid (%)	Requid (%)	Gas (%)	Dry density (g/cm <sup>3</sup> )
-10cm	1	17.4%	51.8	23.9	24.3	1.37
-10cm	2	17.0%	47.9	21.6	30.6	1.27
-20cm	3	15.3%	58.9	23.8	17.2	1.56
-20cm	4	15.5%	56.6	23.3	20.0	1.50
-30cm	5	15.1%	59.6	23.8	16.6	1.58
-30cm	6	14.3%	57.4	21.7	20.9	1.52

Average	Moisture (%)	Solid (%)	Requid (%)	Gas (%)	Dry density (g/cm <sup>3</sup> )
-10cm	17.2	49.9	22.7	27.4	1.32
-20cm	15.4	57.8	23.6	18.6	1.53
-30cm	14.7	58.5	22.8	18.7	1.55





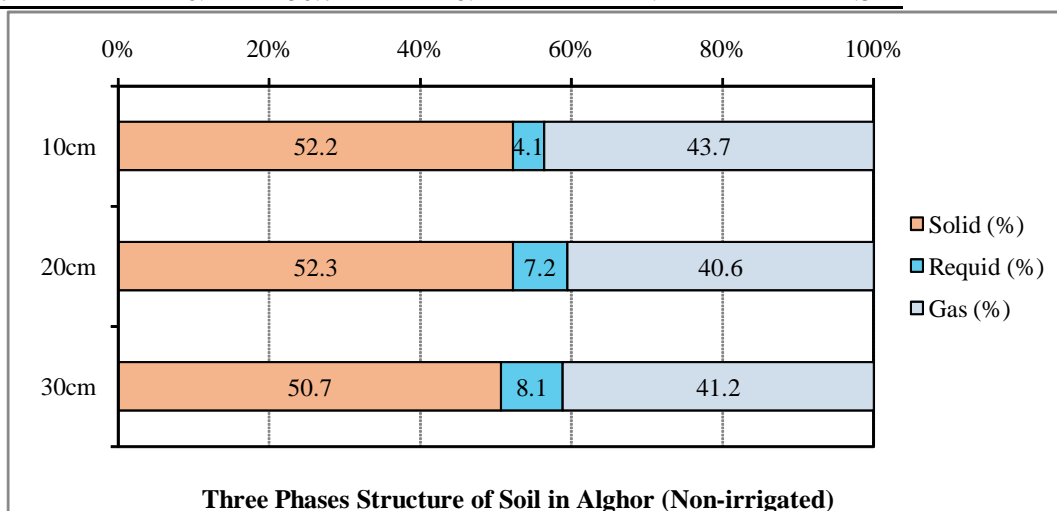
## 2) Three Phases Structure of Soil in Non-irrigated Farm Land

Date: 7 July 2011 - 10 July 2011

Sampling place: Alghor, Non-irrigated farm land

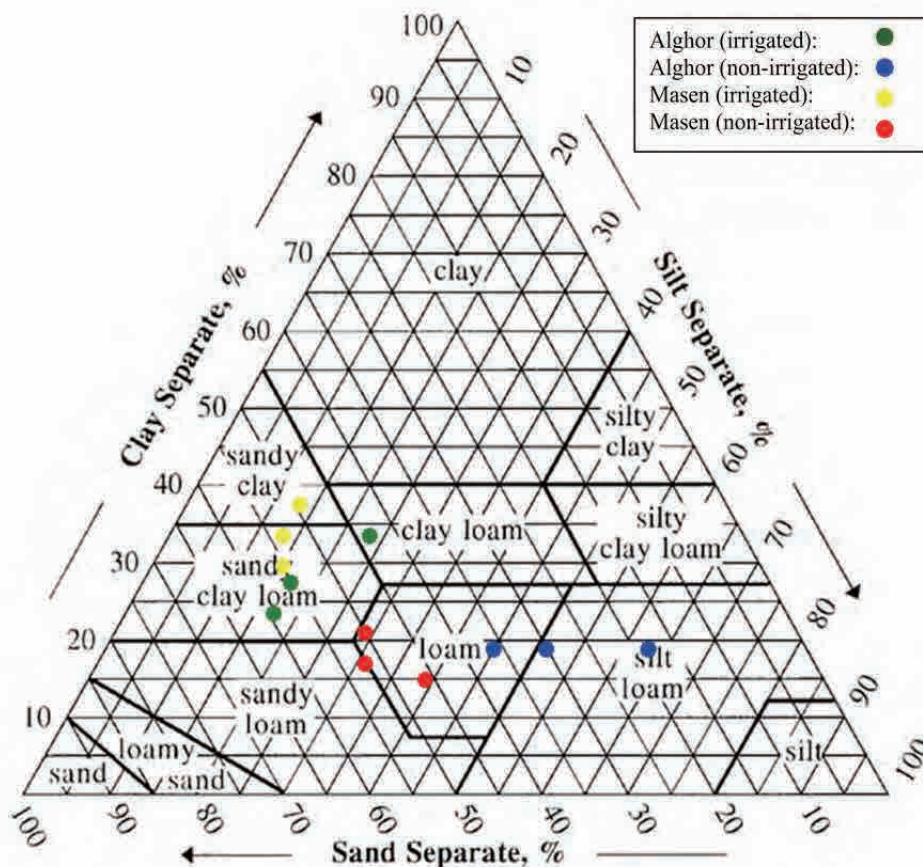
Depth	No.	Moisture	Solid (%)	Requid (%)	Gas (%)	Dry density (g/cm <sup>3</sup> )
10	1	3.2%	51.7	4.4	43.9	1.37
10	2	2.7%	55.4	3.9	40.7	1.47
10	3	3.1%	49.6	4.1	46.4	1.31
20	4	5.2%	52.2	7.2	40.6	1.38
20	5	5.1%	51.7	7.0	41.3	1.37
20	6	5.2%	52.8	7.3	39.9	1.40
30	S36	5.8%	50.9	7.8	41.3	1.35
30	S36	6.1%	50.1	8.1	41.8	1.33
30	U20	6.3%	51.0	8.6	40.4	1.35

Average	Moisture (%)	Solid (%)	Requid (%)	Gas (%)	Dry density (g/cm <sup>3</sup> )
10cm	3.0	52.2	4.1	43.7	1.38
20cm	5.2	52.3	7.2	40.6	1.38
30cm	6.1	50.7	8.1	41.2	1.34



**3) Particle Size Distribution of Irrigated and Non-irrigated Farm Land**

Sampling place	Depth	Sand (%)	Silt (%)	Clay (%)	Soil texture (USDA)
Alghor (irrigated)	10cm	60	16	24	Sandy Clay Loam
	20cm	56	16	28	Sandy Clay Loam
	30cm	44	22	34	Clay Loam
Alghor (Non-irrigated)	10cm	37	44	19	Loam
	20cm	19	62	19	Silt Loam
	30cm	31	50	19	Loam
Masen (irrigated)	10cm	50	12	38	Sandy Clay
	20cm	54	12	34	Sandy Clay Loam
	30cm	56	14	30	Sandy Clay Loam
Masen (Non-irrigated)	10cm	47	38	15	Loam
	20cm	53	30	17	Sandy Loam
	30cm	51	28	21	Sandy Clay Loam



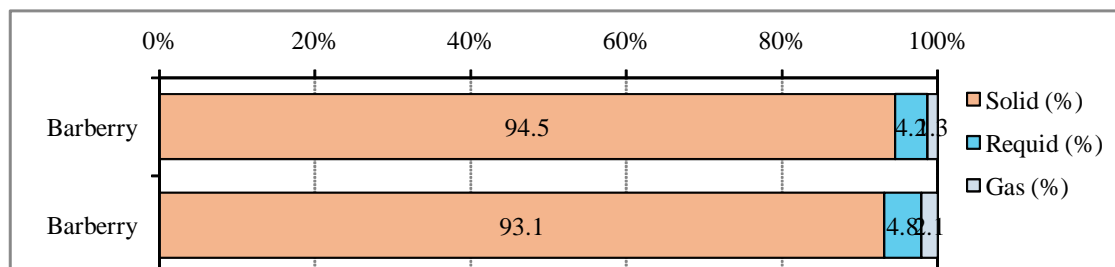
**(2) Mehdi abad, Felarg**

**1) Three Phases Structure of Soil**

Date: 5 Sep. 2012

Sampling place: Felarg, Mehdi abad, Basin Irrigation

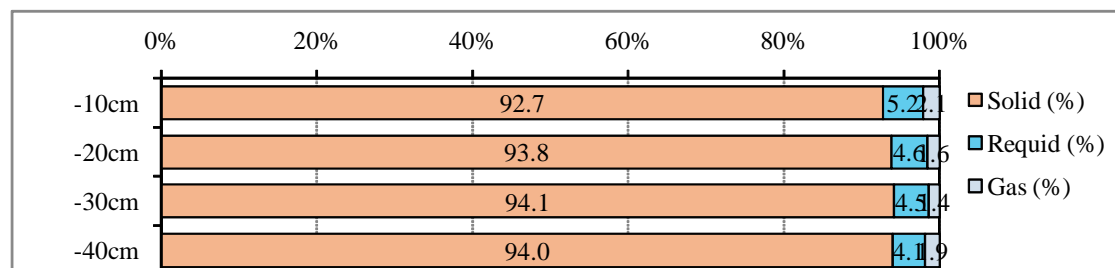
	Depth	Moisture (%)	Solid (%)	Requid (%)	Gas (%)
Barberry	-20cm	2.2	94.5	4.2	1.3
Barberry	-30cm	4.8	93.1	4.8	2.1



Date: 9 Sep. 2012

Sampling place: Felarg, Mehdi abad, Drip Irrigation (before irrigation)

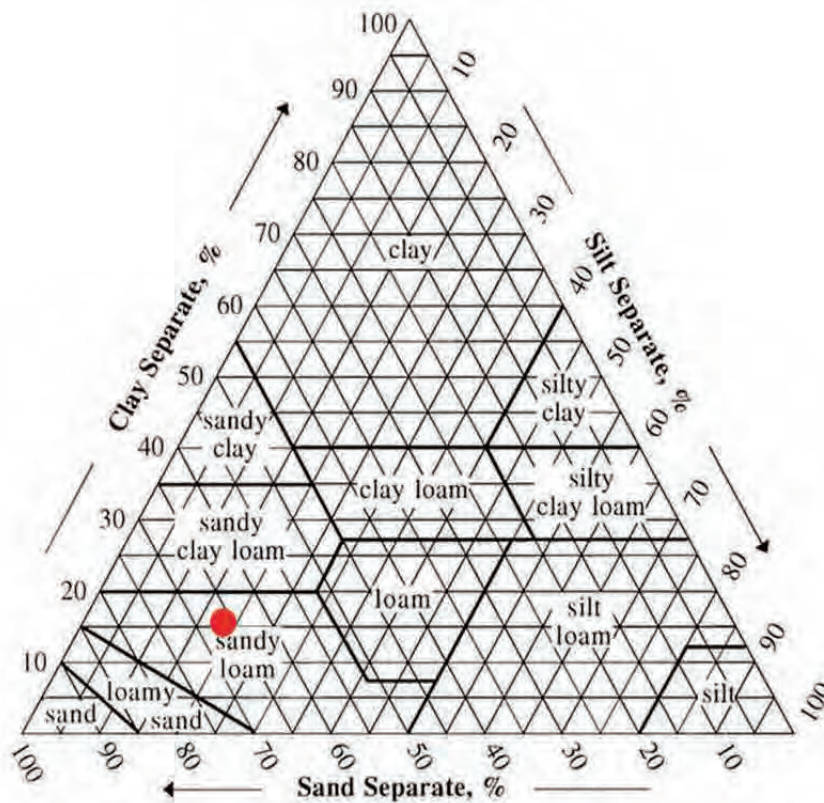
	Depth	Moisture (%)	Solid (%)	Requid (%)	Gas (%)
Drip irrigation	-10cm	2.4	92.7	5.2	2.1
Drip irrigation	-20cm	2.0	93.8	4.6	1.6
Drip irrigation	-30cm	1.9	94.1	4.5	1.4
Drip irrigation	-40cm	1.7	94.0	4.1	1.9



Sampling place: Mehdi abad

Date: 5 Sep. 2012

Sampling place	Depth	Sand (%)	Silt (%)	Clay (%)	Soil Structure
Barberry	20cm	67.5	16	16.5	Sandy Loam
Barberry	30cm	63.5	18	18.5	Sandy Loam

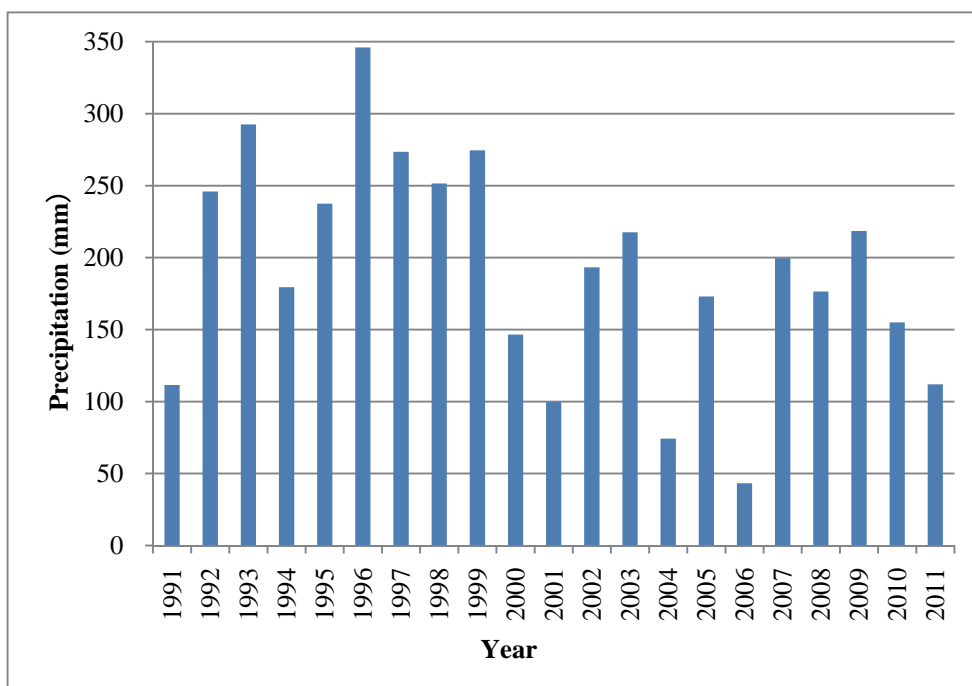


Precipitation Data

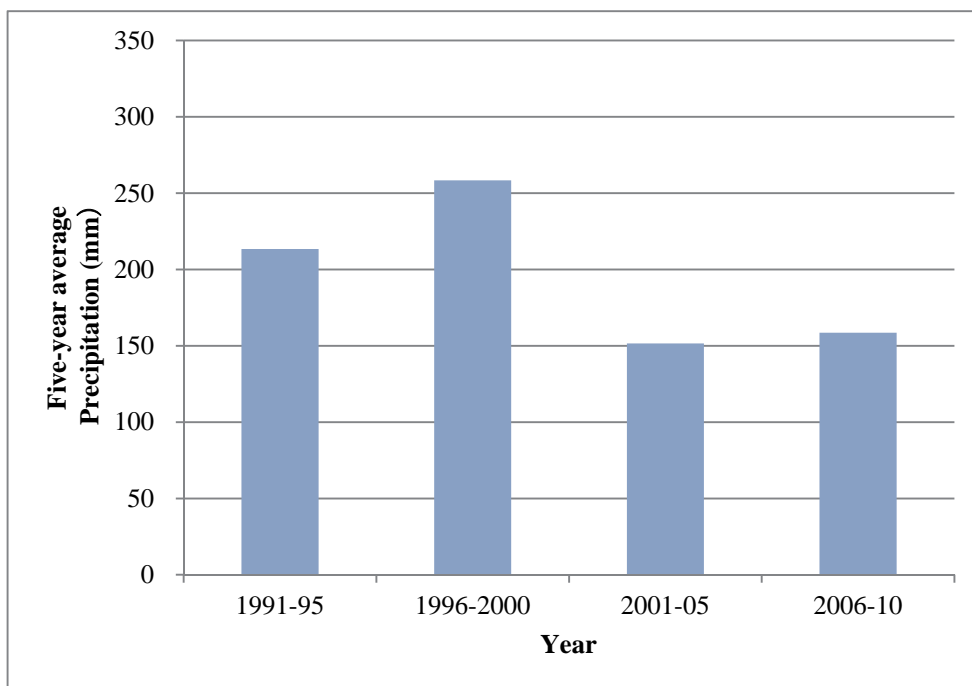
Table: Precipitation Data 1991 -2011 (Khong Station)

Christian Year	Iranian Year	Townsh Birjand												Khong Station	
		January	February	March	April	May	June	July	August	September	October	November	December	Annual Rainfall	5-year Average
1991	1370	-	-	-	35.5	11	0	0	0	0	1	7.5	56.5	<b>111.5</b>	213.4
1992	1371	50	48	7	101.0	10.0	1.0	0.0	0.0	0.0	6.0	2.0	21.0	<b>246.0</b>	
1993	1372	89.0	52.0	76.0	40.5	11.0	6.0	0.0	0.0	0.0	0.0	16.0	2.0	<b>292.5</b>	
1994	1373	6.0	46.0	37.0	26.5	7.0	0.0	0.0	0.0	0.0	5.0	7.0	45.0	<b>179.5</b>	
1995	1374	10.0	61.0	39.5	40.5	53.0	0.0	0.0	0.0	0.0	0.0	5.0	28.5	<b>237.5</b>	
1996	1375	47.0	20.0	213.0	21.0	8.0	22.0	0.0	0.0	0.0	0.0	0.0	15.0	<b>346.0</b>	258.4
1997	1376	30.5	12.0	25.0	57.5	51.0	4.5	0.0	0.0	0.0	0.0	49.0	44.0	<b>273.5</b>	
1998	1377	66.0	72.5	68.5	22.5	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>251.5</b>	
1999	1378	36.0	73.5	120.5	12.0	5.0	0.0	0.0	0.0	0.0	14.0	12.5	1.0	<b>274.5</b>	
2000	1379	19.0	15.0	6.0	15.0	2.0	0.0	0.0	0.0	0.0	9.0	27.0	53.5	<b>146.5</b>	
2001	1380	6.2	9.0	25.0	16.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	42.0	<b>99.7</b>	151.6
2002	1381	28.5	48.5	20.0	55.0	9.5	4.0	0.0	0.0	0.0	0.0	11.2	16.5	<b>193.2</b>	
2003	1382	41.0	60.5	65.5	39.7	1.0	2.0	0.0	0.0	0.0	0.0	3.0	4.9	<b>217.6</b>	
2004	1383	37.0	30.0	7.3	**	**	**	**	**	**	**	**	**	<b>74.3</b>	
2005	1384	**	66.0	61.5	15.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>173.0</b>	
2006	1385	22.3	**	**	**	**	**	**	**	**	**	**	21.0	<b>43.3</b>	158.6
2007	1386	12.0	68.0	27.0	81.6	1.0	2.0	0.0	0.0	0.0	0.0	0.0	8.0	<b>199.6</b>	
2008	1387	48.5	25.0	0.0	13.0	19.0	0.0	0.0	0.0	0.0	0.0	20.0	51.0	<b>176.5</b>	
2009	1388	15.0	24.0	37.5	60.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	<b>218.5</b>	
2010	1389	22.0	24.0	65.0	24.0	17.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	<b>155.0</b>	
2011	1390	26.0	61.0	25.0	**	**	**	**	**	**	**	**	**	<b>112.0</b>	-

Unit: mm



**Fig.: Annual Precipitation**



**Fig.: Five-year Average of Precipitation**

### Flow Data of Qanats

Date	Village Name	Qanat Name	Discharge l/sec	EC ms	PH	Water Temp. °C
2010/10/30~ 2010/11/3	<b>Garmidar</b>	Garmidar	0.88	3.00	8.2	18.0
		Spring Garmidar	0.05	2.30	8.2	20.0
	<b>Neyestan</b>	Vaznj	Hard to measure	3.10	8.4	17.0
		Neyestan	0.12	2.80	8.2	17.0
	<b>Garmuk</b>	Garmuk	0.31	1.06	7.8	20.0
		Garmuk	0.20	1.20	8.2	17.0
		Garmuk	0.06	1.04	7.9	20.0
	<b>Kooshk</b>	Kooshk	Hard to measure	0.68	7.5	17.0
	<b>Sang Abad</b>	Hussein Abad	0.32	1.54	7.4	19.4
		Hussein Abad	-	-	-	-
	<b>Sheikhan</b>	Sheikhan	0.61	2.70	7.3	18.8
	<b>Zin Abad</b>	Zin Abad	0.54	1.58	7.8	18.5
	<b>Jalal</b>	Jalal Top	0.54	1.20	7.2	19.8
	<b>Takchar Abad</b>	Takchar Abad	Hard to measure	2.60	7.8	17.1
	<b>Mafriz</b>	Mafriz	2.34	3.90	7.6	16.8
	<b>Borje Ziad</b>	Borje Ziad	Hard to measure	3.80	7.9	-
	<b>Bozghong</b>	Bozghong	Hard to measure	4.40	7.4	-
		Dinouki	3.16	2.50	7.4	19.3
		Tagiloon	0.22	2.90	7.8	17.8
		Gosmabad (Spring)	Hard to measure	3.40	8.4	16.0
	<b>Felarg</b>	Felarg	4.85	2.00	7.7	19.8
Felarg End		0.18	1.89	7.6	17.8	
<b>Alghor</b>	Alghor	Hard to measure	0.84	7.9	-	
	Alghor(-Masen)	0.06	1.41	8.4	-	
<b>Masen</b>	Masen	Hard to measure	0.84	8.0	-	
2011/6/30~ 2011/7/3	<b>Garmidar</b>	Garmidar	Hard to measure	3.00	8.1	18.2
		Spring Garmidar	0.05	2.20	8.1	19.8
	<b>Neyestan</b>	Neyestan	0.08	2.60	7.9	17.1
	<b>Garmuk</b>	Garmuk	0.24	1.06	8.3	19.0
		Garmuk	0.16	1.09	7.6	18.2
		Garmuk	0.07	1.04	7.6	19.0
	<b>Sang Abad</b>	Hussein Abad	0.31	2.00	7.4	18.6
		Hussein Abad	0.73	2.00	7.6	19.5
	<b>Sheikhan</b>	Sheikhan	0.65	3.40	7.9	18.9
	<b>Zin Abad</b>	Zin Abad	0.50	2.00	8.3	18.9
	<b>Jalal</b>	Jalal Top	0.32	2.00	7.4	19.2
	<b>Mafriz</b>	Mafriz	2.48	3.80	7.4	17.0
	<b>Bozghong</b>	Dinouki	2.46	2.40	7.6	19.0
		Tagiloon	0.21	2.70	7.9	18.1
<b>Felarg</b>	Felarg	4.36	2.00	7.4	19.5	
<b>Alghor</b>	Alghor(-Masen)	0.06	1.01	8.3	19.0	
2011/9/14~ 2011/9/19	<b>Neyestan</b>	Neyestan	0.08	2.60	8.1	18.5
	<b>Garmuk</b>	Garmuk	0.24	1.03	8.3	18.5
		Garmuk	0.16	1.06	7.6	18.5
	<b>Sang Abad</b>	Hussein Abad	0.30	2.00	7.7	18.0
		Hussein Abad	0.74	2.00	7.9	20.0
	<b>Sheikhan</b>	Sheikhan	0.61	3.10	8.3	19.0
	<b>Zin Abad</b>	Zin Abad	0.48	2.00	8.4	19.0
	<b>Jalal</b>	Jalal Top	0.29	1.93	7.9	19.0
	<b>Mafriz</b>	Mafriz	2.10	3.90	7.6	17.0
	<b>Bozghong</b>	Dinouki	2.26	2.30	7.9	19.5
Tagiloon		0.21	2.80	8.3	18.0	
<b>Felarg</b>	Felarg	4.58	2.00	7.9	20.0	

Date	Village Name	Qanat Name	Discharge l/sec	EC mS	PH	Water Temp. °C
2012/4/21~ 2012/4/23	<b>Neyestan</b>	Naystan	0.08	2.70	7.8	15
	<b>Garmuk</b>	Garmuk	0.29	1.06	8.6	17
		Garmuk	0.19	1.09	7.6	17
	<b>Jalal</b>	Jalal Top	0.34	2.00	7.6	19
	<b>Sheikhan</b>	Sheikhan	0.64	3.60	7.8	18
	<b>Zin Abad</b>	Zin Abad	0.48	2.00	8.3	19
	<b>Felarg</b>	Felarg	4.59	1.52	7.8	20
	<b>Bozghong</b>	Dinouki 1	2.11	1.91	7.8	20
		Dinouki 2	0.20	-	-	-
		Tagiloon	0.20	2.20	8.0	17
	<b>Mafriz</b>	Mafriz	2.34	3.00	7.3	17
	<b>Sang Abad</b>	Hussein Abad	0.32	1.60	7.6	17
		Hussein Abad	0.74	1.58	8.0	20
2012/9/2~ 2012/9/3	<b>Neyestan</b>	Naystan	0.07	2.60	7.9	16.2
	<b>Garmuk</b>	Garmuk	0.25	1.01	8.4	17.2
		Garmuk	0.14	1.02	7.4	17.5
	<b>Jalal</b>	Jalal Top	0.34	1.89	7.5	18
	<b>Sheikhan</b>	Sheikhan	0.59	3.30	7.9	18.2
	<b>Zin Abad</b>	Zin Abad	0.42	1.99	8.1	17.1
	<b>Garmidar</b>	Garmidar	0.56	3.00	8.1	17.5
	<b>Felarg</b>	Felarg	4.71	1.92	7.8	19.5
	<b>Bozghong</b>	Dinouki 1	2.06	2.30	7.9	19
		Dinouki 2	0.20	2.30	8.1	19
		Tagiloon	0.19	2.70	7.9	17
	<b>Mafriz</b>	Mafriz	2.09	3.90	7.9	16
	<b>Sang Abad</b>	Hussein Abad	0.31	2.00	7.7	17.1
Hussein Abad		0.80	1.96	8.1	19	
2012/9/29~ 2012/10/2	<b>Garmidar</b>	Garmidar	0.64	2.90	8.5	18.5
	<b>Alghor</b>	Nowraz	1.08	0.74	8.3	15.5
	<b>Bozghong</b>	Bozghong	1.55	-	-	-
	<b>Sang Abad</b>	Sang Abad	0.47	-	-	-



**Measured Value of pF**

**Table: Value of pF Measured (Alghor)**

Date	Time	Measured value(kPa)			cmH <sub>2</sub> O			pF			Remarks
		Apricot 10cm	Apricot 50cm	Barberry 30cm	Apricot 10cm	Apricot 50cm	Barberry 30cm	Apricot 10cm	Apricot 50cm	Barberry 30cm	
2012/5/5		0	0	0	4			0.5	-	-	(Rainfall early in the morning)
2012/5/6		0	0	0	4			0.5	-	-	
2012/5/7		0	0	0	4			0.5	-	-	Installation of Sensors
2012/5/8		0	0	0	4			0.5	-	-	
2012/5/9		0	0	0	4			0.5	-	-	
2012/5/10	9:05	15	27	8	156	239	65	2.2	2.4	1.8	Irrigated after measuring (2hrs by pumping) (Soil sampling )
2012/5/11		0	0	0	4			0.5	-	-	
2012/5/12		0	0	0	4			0.5	-	-	
2012/5/13	10:25	6	20	2.5	65	167	9	1.8	2.2	1.0	
2012/5/14		0	0	0	4			0.5	-	-	
2012/5/15		0	0	0	4			0.5	-	-	
2012/5/16	11:10	35	37	10	360	341	85	2.6	2.5	1.9	
2012/5/17	11:20	37.5	38.5	10.2	386	356	88	2.6	2.6	1.9	Irrigated after measuring (by basin irrigation)
2012/5/18		0	0	0	4			0.5	-	-	
2012/5/19		0	0	0	4			0.5	-	-	
2012/5/20		0	0	0	4			0.5	-	-	
2012/5/21		0	0	0	4			0.5	-	-	
2012/5/22	11:45	10.5	15.8	7	111	125	55	2.0	2.1	1.7	
2012/5/23		0	0	0	4			0.5	-	-	(Rainfall at night time)
2012/5/24	10:30	29.5	28.5	10	304	254	85	2.5	2.4	1.9	
2012/5/25		0	0	0	4			0.5	-	-	
2012/5/26		0	0	0	4			0.5	-	-	
2012/5/27		0	0	0	4			0.5	-	-	
2012/5/28	10:15	48.5	57	20	498	545	187	2.7	2.7	2.3	Irrigated Barberry after measuring (by basin irrigation) (Soil sampling)
2012/5/29		0	0	0	4			0.5	-	-	
2012/5/30		0	0	0	4			0.5	-	-	
2012/5/31	9:15	54.5	66	5	559	637	34	2.7	2.8	1.5	Irrigated Apricot after measuring (by basin irrigation) (Soil sampling)
2012/6/1		0	0	0	4			0.5	-	-	
2012/6/2		0	0	0	4			0.5	-	-	
2012/6/3		0	0	0	4			0.5	-	-	
2012/6/4		0	0	0	4			0.5	-	-	
2012/6/5	11:45	14.5	22	6	151	188	45	2.2	2.3	1.7	
2012/6/6		0	0	0	4			0.5	-	-	
2012/6/7		0	0	0	4			0.5	-	-	
2012/6/8		0	0	0	4			0.5	-	-	
2012/6/9	10:00	44.5	53	12	457	504	106	2.7	2.7	2.0	
2012/6/10		0	0	0	4			0.5	-	-	
2012/6/11		0	0	0	4			0.5	-	-	
2012/6/12		0	0	0	4			0.5	-	-	
2012/6/13		0	0	0	4			0.5	-	-	
2012/6/14	9:00	60	71	31	615	687	300	2.8	2.8	2.5	Before irrigation
2012/6/15		0	0	0	4			0.5	-	-	
2012/6/16		0	0	0	4			0.5	-	-	
2012/6/17		0	0	0	4			0.5	-	-	
2012/6/18		0	0	0	4			0.5	-	-	
2012/6/19	8:30	20.5	30.5	12	213	275	106	2.3	2.4	2.0	
2012/6/20		0	0	0	4			0.5	-	-	
2012/6/21		0	0	0	4			0.5	-	-	
2012/6/22		0	0	0	4			0.5	-	-	
2012/6/23		0	0	0	4			0.5	-	-	
2012/6/24	10:30	51.5	64.5	28.5	529	621	274	2.7	2.8	2.4	
2012/6/25		0	0	0	4			0.5	-	-	
2012/6/26		0	0	0	4			0.5	-	-	
2012/6/27		0	0	0	4			0.5	-	-	
2012/6/28		0	0	0	4			0.5	-	-	Irrigation
2012/6/29		0	0	0	4			0.5	-	-	
2012/6/30	11:00	5	19	2	54	157	4	1.7	2.2	0.6	
2012/7/1					4			0.5	-	-	
2012/7/2					4			0.5	-	-	
2012/7/3					4			0.5	-	-	
2012/7/4	8:45	0	58.5	21	4	560	198	0.5	2.7	2.3	
2012/7/5					4			0.5	-	-	Irrigation
2012/7/6					4			0.5	-	-	
2012/7/7					4			0.5	-	-	
2012/7/8	12:11	44.5	0:00	48.5	457		478	2.7		2.7	
2012/7/9					4			0.5	-	-	
2012/7/10					4			0.5	-	-	
2012/7/11					4			0.5	-	-	
2012/7/12					4			0.5	-	-	Irrigation
2012/7/13					4			0.5	-	-	
2012/7/14					4			0.5	-	-	
2012/7/15	10:14	0		5.5	4		40	0.5		1.6	
2012/7/16					4			0.5	-	-	
2012/7/17					4			0.5	-	-	
2012/7/18					4			0.5	-	-	
2012/7/19					4			0.5	-	-	Irrigation
2012/7/20					4			0.5	-	-	

2012/7/21	10:08	12.5	10	131	85	2.1	1.9	
2012/7/22				4		0.5	-	
2012/7/23				4		0.5	-	
2012/7/24				4		0.5	-	
2012/7/25				4		0.5	-	
2012/7/26	11:30	58	54	595	534	2.8	2.7	Measured before Irrigation
2012/7/27				4		0.5	-	
2012/7/28				4		0.5	-	
2012/7/29				4		0.5	-	
2012/7/30	11:25	20	14	207	126	2.3	2.1	
2012/7/31				4		0.5	-	
2012/8/1				4		0.5	-	
2012/8/2		48	46	493	453	2.7	2.7	
2012/8/3				4		0.5	-	PM4:00 Irrigation
2012/8/4		10	55	105	544	2.0	2.7	
2012/8/5				4		0.5	-	

**Table: Value of pF Measured (Mehdiabad)**

Iran	Japan	Time	Drip			pF			
			10cm	50cm	30cm	10cm	50cm	30cm	
1391.05.17	2012.8.07	Tue	9:00	34	52	53	2.5	2.7	2.7
1391.05.18	2012.8.08	Wed	:				0.5	-	-
1391.05.19	2012.8.09	Thu	9:05	59	52	54	2.8	2.7	2.7
1391.05.20	2012.8.10	Fri	:				0.5	-	-
1391.05.21	2012.8.11	Sat	:				0.5	-	-
1391.05.22	2012.8.12	Sun	:				0.5	-	-
1391.05.23	2012.8.13	Mon	8:00	50	40	45	2.7	2.6	2.6
1391.05.24	2012.8.14	Tue	:				0.5	-	-
1391.05.25	2012.8.15	Wed	:				0.5	-	-
1391.05.26	2012.8.16	Thu	:				0.5	-	-
1391.05.27	2012.8.17	Fri	7:00	52	50	46	2.7	2.7	2.7
1391.05.28	2012.8.18	Sat	:				0.5	-	-
1391.05.29	2012.8.19	Sun	:				0.5	-	-
1391.05.30	2012.8.20	Mon	:				0.5	-	-
1391.05.31	2012.8.21	Tue	7:00	54	53	52	2.7	2.7	2.7
1391.06.01	2012.8.22	Wed	:				0.5	-	-
1391.06.02	2012.8.23	Thu	:				0.5	-	-
1391.06.03	2012.8.24	Fri	:				0.5	-	-
1391.06.04	2012.8.25	Sat	:				0.5	-	-
1391.06.05	2012.8.26	Sun	7:00	58	52	52	2.8	2.7	2.7
1391.06.06	2012.8.27	Mon	:				0.5	-	-
1391.06.07	2012.8.28	Tue	:				0.5	-	-
1391.06.08	2012.8.29	Wed	:				0.5	-	-
1391.06.09	2012.8.30	Thu	7:00	58	52	52	2.8	2.7	2.7
1391.06.10	2012.8.31	Fri	:				0.5	-	-
1391.06.11	2012.9.01	Sat	:				0.5	-	-
1391.06.12	2012.9.02	Sun	7:00	56	50	50	2.8	2.7	2.7
1391.06.13	2012.9.03	Mon	:				0.5	-	-
1391.06.14	2012.9.04	Tue	:				0.5	-	-
1391.06.15	2012.9.05	Wed	8:00	52	56	52	2.7	2.7	2.7
1391.06.16	2012.9.06	Thu	:				0.5	-	-
1391.06.17	2012.9.07	Fri	:				0.5	-	-
1391.06.18	2012.9.08	Sat	:				0.5	-	-
1391.06.19	2012.9.09	Sun	8:30	64	59	58	2.8	2.8	2.8
1391.06.20	2012.9.10	Mon	:				0.5	-	-
1391.06.21	2012.9.11	Tue	:				0.5	-	-
1391.06.22	2012.9.12	Wed	:				0.5	-	-
1391.06.23	2012.9.13	Thu	8:00	65	60	59	2.8	2.8	2.8
1391.06.24	2012.9.14	Fri	:				0.5	-	-
1391.06.25	2012.9.15	Sat	:				0.5	-	-
1391.06.26	2012.9.16	Sun	:				0.5	-	-
1391.06.27	2012.9.17	Mon	:	65	59	58	2.8	2.8	2.8
1391.06.28	2012.9.18	Tue	:				0.5	-	-
1391.06.29	2012.9.19	Wed	:				0.5	-	-
1391.06.30	2012.9.20	Thu	:				0.5	-	-

Iran	Japan	Time	Drip		Basin	pF			
			10cm	50cm	30cm	10cm	50cm	30cm	
1391.06.31	2012.9.21	Fri	:				0.5	-	-
1391.07.01	2012.9.22	Sat	:	65	58	58	2.8	2.7	2.8
1391.07.02	2012.9.23	Sun	:				0.5	-	-
1391.07.03	2012.9.24	Mon	:				0.5	-	-
1391.07.04	2012.9.25	Tue	:				0.5	-	-
1391.07.05	2012.9.26	Wed	:	64	56	55	2.8	2.7	2.7
1391.07.06	2012.9.27	Thu	:				0.5	-	-
1391.07.07	2012.9.28	Fri	:				0.5	-	-
1391.07.08	2012.9.29	Sat	:				0.5	-	-
1391.07.09	2012.9.30	Sun	:	65	56	56	2.8	2.7	2.7
1391.07.10	2012.10.01	Mon	:				0.5	-	-
1391.07.11	2012.10.02	Tue	:				0.5	-	-
1391.07.12	2012.10.03	Wed	:				0.5	-	-
1391.07.13	2012.10.04	Thu	:	64	56	56	2.8	2.7	2.7
1391.07.14	2012.10.05	Fri	:				0.5	-	-
1391.07.15	2012.10.06	Sat	:				0.5	-	-
1391.07.16	2012.10.07	Sun	:				0.5	-	-
1391.07.17	2012.10.08	Mon	:	65	54	56	2.8	2.7	2.7
1391.07.18	2012.10.09	Tue	:				0.5	-	-
1391.07.19	2012.10.10	Wed	:				0.5	-	-
1391.07.20	2012.10.11	Thu	:	65	56	56	2.8	2.7	2.7
1391.07.21	2012.10.12	Fri	:				0.5	-	-
1391.07.22	2012.10.13	Sat	:				0.5	-	-
1391.07.23	2012.10.14	Sun	:				0.5	-	-
1391.07.24	2012.10.15	Mon	:				0.5	-	-

### Calculation of Crop Water Requirement (Barberry)

1) ET<sub>crop</sub>

$$ET_{crop} = ETo \times Kc$$

ETo : Required water of reference plant (mm/day)

Max ETo = 8.47 mm/day (see the sheet of Penman Monteith Calculations)

Kc : Crop coefficient

Max Kc = 0.58 (Pistachio)

Kc for Barberry is 15% higher than pistachio according to JAO studies.

Max ET<sub>crop</sub> (barberry) = 8.47 x 0.58 x 1.15 = 5.6 mm/day

2) Plant interval

3.0m x 4.0m intervals

3 droppers for each tree

3) Gross crop water requirement (I<sub>rg</sub>)

• Area reduction coefficient (K<sub>r</sub>) :

$$K_r = Cs/0.85 = 0.7 \text{ (Cs: shade coefficient = 60\%)}$$

• Deep percolation coefficient (K<sub>s</sub>) :

$$K_s = 1.1 \text{ (reduction coefficient Ks of 10\%)}$$

• Water distribution uniformity coefficient (E<sub>u</sub>) :

$$E_u = 1.1 \text{ (reduction coefficient Eu of 10\%)}$$

$$I_{rg} = ET_{crop} \times K_r \times K_s \times E_u / (1-LR)$$

(LR: Leaching requirement = 0)

$$I_{rg} = 5.6 \times 0.7 \times 1.1 \times 1.1 / (1-0) = 4.8 \text{ mm/day}$$

4) Coverage rate of water in each irrigation interval (I<sub>an</sub>):

$$I_{an} = (Fc - Wp) \cdot Dm \cdot Z \cdot Pw / 100$$

Fc: Field storage capacity = 130 mm/m

Wp: Wilting point = 13 (neglect)

Dm: Available moisture percentage = 50%

Z: Root development depth = 1.2m

Pw: Humid soil percentage = 30% (  $\pi \cdot 1.0m \times 1.0m / (3.0m \times 4.0m) = 0.26 \Rightarrow 30\%$  )

$$I_{an} = 130 \times 0.5 \times 1.2 \times 0.3 = 23.4 \text{ mm}$$

5) Irrigation interval (I<sub>i</sub>)

$$I_i = I_{an} / ET_{crop} = 23.4 / 4.8 = 4.88 = 4 \text{ days}$$

6) Required water quantity in each irrigation interval and system function hours

• Required water quantity in each irrigation interval by liter/day for each tree

$$= 3.0m \times 4.0m \times 0.3 \times 4.8mm/day \times 4days = 69.1 \text{ lit}$$

• The system function hours for supplying tree need by 3 droppers with each 4 liter/hour

$$= 69.1 / (3 \times 4) = 5.76 \Rightarrow 6 \text{ hrs}$$

(In case of adopting just one dropper with 4 litter/hr, the irrigation period for one turn will be 18hours.)

PENMAN-MONTEITH CALCULATIONS

-----													
Give :	Station name :		IRAN Borje Zeyad										
	Latitude :		33.72	34.20	0.60 rad								
	Altitude :		1432 m.										
-----													
Parameters :	Short Wave Rad		a =	0.25	b =	0.50	alpha=						
	Albedo		alpha =	0.23									
	Long Wave Rad.		a =	0.90	b =	0.10							
			al =	0.34	bl =	-0.139							
	Instrument height		ra * U =		206	wind	temp Cropheight	AeroT Cff					
	AerDyn Resistance				Grass	Alfalfa	190	12	900				
	Canopy resistance		rc =		70	86	12						
-----													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
-----													
Tmax	9.1	11.5	16.1	22.9	28.0	32.2	32.9	31.7	28.8	23.7	17.9	12.5	
Tmin	-3.6	-1.8	2.4	7.7	11.4	15.2	17.3	14.5	9.4	4.5	0.7	-1.7	
RHmean	60	58	55	47	36	29	28	28	28	35	44	55	
RHmin	35	33	31	26	19	15	16	15	13	16	21	30	
Wind km/d	104	138	156	156	173	225	294	242	156	112	95	86	
Sunhours	6.10	7.00	7.00	8.50	10.50	11.70	12.30	12.00	10.80	9.30	7.90	6.30	
-----													
ET fao	1.28	1.86	2.75	4.15	5.74	7.35	8.40	7.31	5.16	3.25	1.98	1.30	
Avg Temp	2.75	4.85	9.25	15.30	19.70	23.70	25.10	23.10	19.10	14.10	9.30	5.40	
n/N	61%	65%	59%	66%	76%	82%	88%	91%	89%	84%	78%	65%	
Wind (m/s)	1.20	1.60	1.80	1.80	2.00	2.60	3.40	2.80	1.80	1.30	1.10	1.00	
Ea(Tmax)	1.16	1.36	1.83	2.79	3.78	4.81	5.00	4.67	3.96	2.93	2.05	1.45	
Ea(Tmin)	0.47	0.54	0.73	1.05	1.35	1.73	1.97	1.65	1.18	0.84	0.64	0.54	
Ea(Tx)-Ea(Tn)	0.81	0.95	1.28	1.92	2.56	3.27	3.49	3.16	2.57	1.89	1.35	0.99	
Edew	0.40	0.45	0.57	0.72	0.72	0.74	0.79	0.68	0.51	0.46	0.43	0.43	
RH(max-min)	60%	58%	55%	47%	36%	29%	28%	28%	28%	35%	44%	55%	
Dlt(ETx-ETn)	0.06	0.06	0.08	0.12	0.15	0.19	0.20	0.19	0.15	0.12	0.09	0.07	
P-atm.	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	
lambda	2.49	2.49	2.48	2.46	2.45	2.45	2.44	2.45	2.46	2.47	2.48	2.49	
gamma	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
rc	70	70	70	70	70	70	70	70	70	70	70	70	
ra	172	129	115	115	103	79	61	74	115	159	187	206	
gamma*	0.08	0.09	0.09	0.09	0.09	0.11	0.12	0.11	0.09	0.08	0.08	0.07	
dl/dl+gm*	0.42	0.43	0.48	0.57	0.62	0.64	0.62	0.63	0.63	0.59	0.53	0.47	
gm/dl+gm*	0.41	0.37	0.32	0.27	0.23	0.19	0.18	0.19	0.23	0.28	0.34	0.39	
Aeroterm	0.67	0.96	1.30	1.81	2.58	3.81	4.85	4.05	2.64	1.65	1.09	0.71	
-----													

Month	1	2	3	4	5	6	7	8	9	10	11	12
dayno	15	46	76	107	137	168	198	229	259	290	320	351
soldeclin	-0.370	-0.230	-0.033	0.179	0.334	0.408	0.372	0.233	0.036	-0.176	-0.336	-0.408
xx	-0.204	-0.128	-0.019	0.100	0.184	0.223	0.204	0.130	0.020	-0.099	-0.185	-0.223
yy	0.771	0.805	0.827	0.814	0.781	0.759	0.771	0.805	0.827	0.814	0.781	0.759
omega	1.30	1.41	1.55	1.69	1.81	1.87	1.84	1.73	1.60	1.45	1.33	1.27
dr	1.03	1.02	1.01	0.99	0.98	0.97	0.97	0.98	0.99	1.01	1.02	1.03
Ra	18.55	23.60	30.23	36.40	40.10	41.57	40.70	37.41	32.00	25.23	19.70	17.13
N	9.96	10.78	11.83	12.94	13.82	14.28	14.05	13.24	12.19	11.07	10.17	9.72
Rns	7.9	10.4	12.7	16.2	19.5	21.1	21.6	20.3	17.1	13.0	9.7	7.6
f(n/N)	0.65	0.68	0.63	0.69	0.78	0.84	0.89	0.92	0.90	0.86	0.80	0.68
sigma(Tx_Tn)	28.49	29.37	31.28	34.07	36.22	38.24	38.94	37.94	35.99	33.59	31.36	29.62
emissivity	0.25	0.25	0.23	0.22	0.22	0.22	0.22	0.23	0.24	0.25	0.25	0.25
Rbo	7.17	7.25	7.33	7.55	8.04	8.42	8.40	8.52	8.65	8.24	7.79	7.35
LWR	4.68	4.97	4.65	5.23	6.32	7.07	7.48	7.82	7.78	7.07	6.24	5.03
Rn (Rns-Rl)	3.27	5.48	8.06	10.98	13.14	14.05	14.08	12.44	9.30	5.95	3.45	2.54
G	-0.37	0.29	0.62	0.85	0.62	0.56	0.20	-0.28	-0.56	-0.70	-0.67	-0.55
Rn-G	3.64	5.18	7.44	10.13	12.52	13.49	13.88	12.72	9.86	6.65	4.12	3.09
Rad Term	0.55	0.94	1.57	2.54	3.32	3.69	3.60	3.19	2.38	1.43	0.74	0.48
Rad Term(-G)	0.61	0.89	1.45	2.34	3.16	3.54	3.55	3.26	2.52	1.59	0.89	0.59
ETcomb	1.22	1.91	2.87	4.35	5.90	7.50	8.45	7.24	5.02	3.08	1.84	1.20
	-5.1%	2.7%	4.2%	4.5%	2.6%	2.0%	0.6%	-1.0%	-2.9%	-5.5%	-7.9%	-8.7%
ET (-G)	1.28	1.86	2.75	4.15	5.74	7.35	8.40	7.31	5.16	3.25	1.98	1.30
	1.25	1.91	2.86	4.34	5.91	7.51	8.47	7.26	5.05	3.14	1.87	1.23
ET (-G)	1.01	1.45	2.20	3.01	3.96	4.91	5.66	4.87	3.56	2.13	1.41	1.01

## Contents of Activities and Results of Pilot Project of Income Source Diversification and Livelihood Improvement Activities

### 1) Seminar on Group Management

Items	Contents
Formation of a group	Explanation about advantages of group activity Selection of group's name Election of president, secretary, and accountant
Operation of a group	Objective, enrollment, and wealth basis Rules of group, objective of group fund, obligation of executives (particularly roles of president, secretary, and accountant) Rules of group fund, time of meeting, ways of election of executives Executives should announce time of meeting each time to members before it is held Secretary was instructed about how to record minutes, and list of participants Fines
Group fund	Benefit of group fund, difference between cost and benefit Importance of verification of book keeping How to deposit into a bank account Introduction of cases of activation of groups in Iran
Distribution of a book	Necessity of a book, explanation of rules, samples *Women and executives of committee discussed opening of an account, and they decided to open it with 3 names such as president, accountant, and president of the village council.
How to entry to group fund's individual book	Individual book should be properly maintained Ways of deposit, conditions of enrollment, minimum deposit, amount of deposit, rules
Loan	Rules of a loan, conditions, limitation, ways of refund, formalities, calculation of benefit and loss between 6 months and 1 year

### 2) Preparation for Market Research Activity

Items	Contents
New business ideas	Discussion about new idea, and creation of a business chance Explanation on problems of that idea, packaging, and sorting operation Handicraft, and topics on ziziphus, barberry, and saffron
Business plan	Importance of objective, planning, and management Fix and variable costs, and preliminary calculation of cost Understanding of depreciation
Production	Influential elements on production: 1) price, 2) technology and ways of production, 3) production cost Direct cost, indirect cost, and miscellaneous expense for production
Benefit	Balance sheet Benefit is [purchase price by consumers – production cost by producers]
Risk	Financial risks, default, inflation in Iran and its impact on this activity
Marketing	Process from producers to consumers Sales channel Nature of ziziphus and how to sale this Strategic modification of packaging by prediction of future needs Verification of with or without of market needs Necessity of investigation on concurrence Value addition: the price of barberry is the same everywhere, but its value will increase by processing Psychological evaluation: what kind of will that consumers have, life style of them, demand of ziziphus by region (ziziphus is used as medicine out of Birjand), usage of a commodity (medical use, fruits, nuts) When producers have similar sense with consumers, they may be able to sell their products well, and make profit.
Sales strategy	Importance of quality of products, PR, place to sell them Ex) sale direction of ziziphus: a wholesale shop or retail shop with which grade of quality and quantity? Importance of usage of TV: contact them in order to be covered. Promotion strategy: e.g.) 1kg free when 10kg of pickles were bought

**ii) A business plan in Borgeziad**

Types	Ideas of products
Handicraft	Carpet with picture, handicraft with tissue paper, knitting
Sewing	Cushion cover, quilt cover
Bakeries	Cake, bread with ginger
Barberry	Jam, syrup, ketchup
Almond	Packaging
Plum	Packaging, sheet, jam, compote*
Apricot	Packaging, jam, compote
Pears [Queens]	compote, tea
Leaves of pears [Queens]	Medicine
Herbs	Packaging

\*fruits stewed with syrup

**6) Trial Sales at Wednesday Market (Twice)**

**i) First Trial (30<sup>th</sup> May, 2012)**

**Felarg**

	Items	Price (Rls)		Items	Price (Rls)
1	Local bread (3 number)	10,000	32	Local bread (Spongy bread)	15,000
2	Local eggs (6 pieces)	13,000	33	Local bread	10,000
3	Local eggs (12 pieces)	26,000	34	Dried Plum	10,000
4	Local bread (2 packs)	20,000	35	Oleaster	15,000
5	Local bread	10,000	36	Barberry	30,000
6	Medicinal plant (Sclerorhachis Leptoclada)	20,000	37	Oleaster powder	15,000
7	Oleaster powder	15,000	38	Oleaster powder	30,000
8	Oleaster	25,000	39	Oleaster powder	30,000
9	Dried Plum	80,000	40	Oleaster powder	30,000
10	Medicinal plant (Sclerorhachis Leptoclada)	20,000	41	Oleaster powder	15,000
11	Local bread (Spongy bread)	20,000	42	Oleaster powder	15,000
12	Dried Damask rose	5,000	43	Almond	10,000
13	Dried Plum	20,000	44	Dried Damask rose	10,000
14	Local bread	10,000	45	Jujube	30,000
15	Plum	40,000	46	Local bread (Spongy bread)	15,000
16	Oleaster	15,000	47	Oleaster	15,000
17	Local bread (2 packs)	20,000	48	Dried Plum	10,000
18	Oleaster (2 pack)	40,000	49	Barberry (2 packs)	60,000
19	Oleaster powder	20,000	50	Jujube (4 packs)	100,000
20	Damask rose	10,000	51	Oleaster	10,000
21	Dried Plum	10,000	52	Oleaster	10,000
22	Medicinal plant (Sclerorhachis Leptoclada)	20,000	53	Barberry	20,000
23	Barberry	35,000	54	Barberry	25,000
24	Oleaster powder	20,000	55	Jujube (2 Kg)	60,000
25	Jujube (1 Kg)	60,000	56	Dried Plum	10,000
26	Medicinal plant	10,000	57	Barberry (2 packs)	50,000
27	Medicinal plant (Sclerorhachis Leptoclada)	30,000	58	Fresh Plum	50,000
28	Oleaster powder	20,000	59	Barberry	30,000
29	Oleaster	15,000	60	Almond	18,000
30	Jujube	40,000			
31	Barberry	17,000		<b>Total</b>	<b>1,464,000</b>



### Borgeziad

	Items	Price (Rls)		Items	Price (Rls)
1	Local bread	15,000	28	Almond (1 pack)	35,000
2	Butter	450,000	29	Flix weed(medicinal plant)	24,500
3	local eggs	26,000	30	Almond (1 pack)	25,000
4	Thyme (medicinal plant)	10,000	31	Dried Apricot (1 pack)	35,000
5	Harmel (medicinal plant)	10,000	32	Star anise (medicinal plant)	10,000
6	Dried Apricot	40,000	33	Local bread (1 pack)	15,000
7	Almond	15,000	34	Local bread (Spongy bread)	20,000
8	Milfoil flower	8,000	35	Dried Oleaster (1 Pack)	15,000
9	Dried Apricot	20,000	36	Dried Apricot (1 Kg)	40,000
10	Local bread (Spongy bread)4 number	35,000	37	Almond	35,000
11	Local bread (Spongy bread)1 number	35,000	38	Almond (1 Kg)	20,000
12	Local bread (Spongy bread) 1 number	30,000	39	Barberry (0.5 Kg)	25,000
13	Flix weed(medicinal plant)	45,000	40	Thyme (medicinal plant)	10,000
14	Plum (1.5 Kg)	135,000	41	Dill (fresh herb)	10,000
15	Local bread (Spongy bread) 1 number	30,000	42	Jujube	25,000
16	Kashk	30,000	43	Almond (1 Kg)	24,000
17	Plum	80,000	44	Harmel (medicinal plant)	5,000
18	Dried Mulberry	20,000	45	Jujube (0.5 Kg)	25,000
19	Yoghurt	35,000	46	Dill seed	10,000
20	Medicinal plant (Ziziphora tenuir)	10,000	47	Almond (0.5 Kg)	10,000
21	Walnut	35,000	48	Dried mint	5,000
22	Local bread (2 pack)	20,000	49	Jujube (1 Kg)	45,000
23	Almond	35,000	50	Walnut	4,000
24	Local bread (1 pack)	15,000	51	Dried Apricot	10,000
25	Local bread (Spongy bread)	20,000	52	Dried Apricot (2 pack)	20,000
26	Dried Mulberry	17,000	53	Persian turpentine fruit(1 pack)	3,000
27	Local bread (1 pack)	15,000		<b>Total</b>	<b>1,741,500</b>

### Bozghong

	Items	Price (Rls)		Items	Price (Rls)
1	Barberry 1kg	70,000	24	A kind of black seed 200g	5,000
2	Soft almond 1kg	60,000	25	Plum 500g	50,000
3	Plum 2kg	190,000	26	Jujube 1kg	50,000
4	Thyme 1 packet	10,000	27	Curd 1kg	100,000
5	Dried tomato	15,000	28	Oleaster 500g	15,000
6	Almond	18,000	29	Eggs 36 pieces	72,000
7	Herb	5,000	30	Nuts 500g	30,000
8	Plum 1kg	85,000	31	Dried apricot 1 packet	20,000
9	Mint 150g	15,000	32	Dried tomatoes 1 packet	15,000
10	Herb 100g	5,000	33	Herb 1 packet	10,000
11	Herb 200g	5,000	34	Herb 200g	10,000
12	Jujube 1kg	50,000	35	Rocket seed 150g	8,000
13	Thyme 300g	30,000	36	Thyme 100g	10,000
14	Herb seed 500g	25,000	37	Almond 1kg	20,000
15	Dried rose 50g	5,000	38	Black seed 150g	10,000
16	Almond	40,000	39	Mint 250g	20,000
17	Almond 4kg	80,000	40	Herb 150g	10,000
18	Dried rose 200g	20,000	41	Herb 250g	20,000
19	Bread 11 pieces	110,000	42	Plum 500g	45,000
20	Almond 2kg	40,000	43	Egg 150g	10,000
21	Egg 12 pieces	24,000	44	Spinach 250g	15,000
22	Cheese	20,000			
23	Rocket seed 250g	11,000		<b>Total</b>	<b>1,478,000</b>

**ii) Second Trial (19<sup>th</sup> September, 2012)**

**Felarg**

	Items	Unit	Quantity	Price (Rls)		Items	Unit	Quantity	Price (Rls)
1	Plum lavashak (from Ms. Bibi)			10,000	11	Jujube lavashak (from Ms. Rasani)		2	10,000
2	Harmel (from Ms. Bibi)	package	2	25,000	12	Khulfeh pickles (from Ms. Bibi)	jar	1	15,000
3	Zizophora (from Ms. Zahra oftadeh)	package	1	10,000	13	Khulfeh pickles (from Ms. Bibi)	jar	1	15,000
4	Fennel (from Ms. Zahra pftadeh)	package	2	10,000	14	Plum lavashak			15,000
5	Milfoil	package	1	5,000	15	Jujube lavashak			5,000
6	Khulfeh pickle	jar	1	15,000	16	Plum lavashak			5,000
7	Lavashak (from Mrs. Rasani)		1	14,000	17	Towel			40,000
8	Khulfeh pickles (from Ms. Bibi)	jar	1	15,000	18	Apricot lavashak			5,000
9	Khulfeh pickles (from Ms. Bibi)	jar	3	45,000	19	Violet flower			15,000
10	Lavashak (from Ms. Rasani)		1	5,000	<b>Total</b>				<b>279,000</b>

**Borgeziad**

	Items	Unit	Quantity	Price (Rls)		Items	Unit	Quantity	Price (Rls)
1	Fresh plum	kg	0.5	50,000	11	Towel	pair	1	30,000
2	Fresh jujube	kg	1	35,000	12	Egg(12 number)	pack	1	36,000
3	Soft almond	kg	1	70,000	13	cockscomb	pack	1	10,000
4	Kind of spongy bread	pack	3	7,500	14	Fresh barberry	pack	1	20,000
5	bread	pack	1	3,300	15	Dried violet	pack	1	5000
6	coriander	pack	1	10,000	16	Jujube lavashak	pack	3	7000
7	Black cumin	pack	1	30,000	17	Fresh jujube	pack	5	30,000
8	Bread	pack	1	3,300	18	Rocket seeds	pack	3	6,000
9	Hard almond	kg	1	26,000	19	Towel	pair	1	30,000
10	Hard almond	kg	1	26,000	<b>Total</b>				<b>435,100</b>

### Bozghong

	Items	Unit	Quantity	Price (Rls)		Items	Unit	Quantity	Price (Rls)
1	Almond	kg	1	26,000	14	6 packages of bread, 2 package of 3 bread, number of cheese			40,000
2	2 towel, 12 eggs, Cock comb 1 package			12,000	15	Bread	package	6	20,000
3	Barberry	kg	4	40,000	16	Black cumin		1	35,000
4	Almond	kg	3	66,000	17	Coriander		1	15,000
5	Barberry	package	2	40,000	18	Dill seed		1	15,000
6	Dried tomatoes	package	2	15,000	19	Fennel		1	15,000
7	Harmel	package	2	23,000	20	Falx seed		1	15,000
8	Towel	number	2	50,000	21	Domestic Kashk		1	100,000
9	Jujube	package	6	90,000	22	Hyssop flower, dill seed 15,000 RLS		1	15,000
10	Fix weed	package	1	6,000	23	Cockscomb seed	package	1	10,000
11	Plum	package	4	30,000	24	Dill seed, 3 packages of Fenugreek			32,000
12	Soft Almond	kg	1	60,000	<b>Total</b>				<b>815,000</b>
13	Spongy bread	package	3	45,000					

## 7) Technical Seminars

### iii) Beekeeping: The contents of lessons

Contents
Geographic evaluation of place, recognizing plant diversity and determination of flowering period
Primary usage of bee keeping equipment, introduction about bee keeping
Safety points, preparation for practical visit
Description of bee's life description, bee's role in pollination
Method of provision of bee's ID
Explanation of diseases, pests, method of treatment and prevention from diseases
Queen bee replacement method
Weaving wax, providing frames
Honey extraction and honey harvest
Wintering techniques, making a feed cake

## 9) Follow-up on Rural Women's Fund by C/P

### ii) Carrying out a Lottery: The result of lottery

	Sheep fattening	Picture carpet	Crop cultivation
Felarg	1	2	2

	Sheep fattening	Carpet	Packaging
Bozghong	5	2	2

	Sheep fattening	Carpet	Sewing	Beekeeping
Borgeziad	2	1	1	1

## **(6) The Result of Self-evaluation for Women's Group**

### **1) Evaluation of Women's Group Activities**

Number of options for each item was 4, and the highest evaluation is given by 4, while the lowest is 1.

#### **a) Frequency of Meetings and Situation of Attendance**

As for the situation of attendance, the evaluation result was high in Felarg and Borgeziad, while it was relatively low in Bozghong. Overall, women in 3 villages actively gather to the meetings, and they spontaneously gather when it is necessary. This result may be influenced by commencement of loan from their fund. It may be because many women have been participating in the fund of Bozghong, then the evaluation was relatively low.

	Felarg	Borgeziad	Bozghong	Average
1. It is hard to go to the meetings only when a facilitator asks to gather.	7%	10%	24%	13%
2. Members are gathered about 5 times in a year. 1/3 of members attend the meeting	11%	10%	44%	21%
3. Members are gathered about 5 times in a year. 2/3 of members attend the meeting	21%	10%	9%	13%
4. Members certainly gather at the meetings. A part from the regular meetings, members gather if it is needed.	61%	70%	24%	51%

#### **b) Individual Growth**

The evaluation for this item was low in Felarg, while it was high in Bozghong and Borgeziad. Overall, women highly evaluated this item; they might realize individual growth through group activities. A conservative attitude seems to be remained in Felarg comparing with other villages.

	Felarg	Borgeziad	Bozghong	Average
1. It is enjoyable to learn new things about livelihood improvement, but it is difficult to do at home.	32%	0%	29%	20%
2. At least I try to examine on newly learned things in group activities at home.	29%	10%	35%	24%
3. I introduce many of newly learned things in group activities into my life with the help of family and my own device.	11%	60%	12%	27%
4. A part from 3. above, I have discovered the beauty of solving common problems by gathering members' cooperation, and we can discuss each other and research together.	29%	30%	24%	27%

### c) Growth of the Group

As seen above, while realizing individual growth, women poorly evaluated the growth of the group. Through the PP activities, it has been observed that the same people sometimes dominate the conversation, and almost the same women attend to the meetings. The result of this evaluation supports that observation.

	Felarg	Borgeziad	Bozghong	Average
1. There are many members who only observe discussion and are passive in the group. People who speak are the same all time, and they are few in the group.	50%	30%	44%	41%
2. Almost all of members have begun to take part in discussions, and they have started collaborating so that our group will be better.	50%	40%	41%	43%
3. We have experiences to collectively improve common issues, and members trust each other as a result. In addition, we have contacted with other groups, and introduced the best of them.	0%	30%	9%	13%
4. We have begun to try to solve problems of region where we live.	0%	0%	6%	2%

### d) Planning and its Contents

The evaluation of Felarg is low to this item; they might be passive about planning. On the other hand, the result of other 2 villages is medium; they may positively think of their planning.

	Felarg	Borgeziad	Bozghong	Average
1. We carry out our activities planned by an extension station.	79%	0%	9%	29%
2. The agenda of meetings is decided by a facilitator who consulted with board members.	7%	40%	15%	20%
3. Members say what they want to do through the year at the beginning of the year, and an annual plan is organized with mixture of those ideas.	7%	40%	41%	29%
4. The group has a common theme with which members carry out researches and improvement although the year, and it is centered on an annual plan.	7%	20%	35%	20%

### e) Management and Board Members

The result of this item in Felarg is also low, and they might be passive about management of their group. Conversely, the result of other 2 villages is medium; it can be understood that members of these groups gradually intensify the degree of their participation in group management.

	Felarg	Borgeziad	Bozghong	Average
1. There is no 'person in charge' function in the group. Communication is done by board members of existing settlement and/or aggregation.	96%	10%	15%	32%
2. Anybody among members cannot play a role of person in charge, the same people are entrusted to the same charge many times instead. Those people are in charge of communication and taking care.	0%	30%	21%	17%
3. Charges are shared by members so that everybody can experience that role. There are people who help members behind them so that all the members can carry out their responsibility.	0%	50%	53%	34%
4. The charge is handled by rotation, and there is a cooperative framework within with everybody can carry out their responsibility.	0%	10%	12%	7%

## 2) Reasons not to Participate in the Group and Leave the Group

Activity	Reasons not to participate	Reasons for leave
Fund	<ul style="list-style-type: none"> <li>- There was a bitter experience about cooperative; therefore, some villagers thought that it might be a risk to participate</li> </ul>	<ul style="list-style-type: none"> <li>- She no longer lives in the village due to marriage.</li> <li>- Husband refuses his wife to participate because it may influence on housekeeping.</li> </ul>
Oyster mushroom cultivation	<ul style="list-style-type: none"> <li>- There was fear of failing.</li> <li>- She did not want to provide much time to work for this.</li> <li>- She did not want to check mushroom at late night e.g. 12 o'clock.</li> <li>- There was fear of being allergy.</li> </ul>	<ul style="list-style-type: none"> <li>- Disappointed because she failed at the first trial.</li> <li>- The place for cultivation is far from the residential space, and it was scary to check mushroom in the late night.</li> <li>- Disappointed because humidifier was broken.</li> <li>- She could not breathe due to the spore of mushroom (though she could use a mask. It seems that the lack of knowledge is a cause of this.)</li> <li>- No longer want to continue due to headache as chronic illness.</li> </ul>
Sewing	<ul style="list-style-type: none"> <li>- She is too old to learn about sewing, and has no interest.</li> <li>- She does not have skills to make dress, shirt, and trousers.</li> <li>- It is difficult to cut cloth.</li> <li>- She has to take care of 3 children and do farming.</li> <li>- She is busy for classes. There are no sewing classes in the school. She has to pay the fee to learn in Birjand. (A student who goes to a high school in Birjand)</li> </ul>	<ul style="list-style-type: none"> <li>- Disappointed when she bought unfinished dress to finish in the city, a tailor mocked her.</li> </ul>
Beekeeping	<ul style="list-style-type: none"> <li>- Fear of bees</li> <li>- Worried about a place where bee boxes are set.</li> <li>- Fear of theft if bee boxes are set near by the road.</li> </ul>	—

SCOPE OF WORK

PROJECT FOR STUDY ON SMALL FARMING AND RURAL DEVELOPMENT PLAN  
FOR  
POVERTY REDUCTION IN SOUTH KHORASSAN

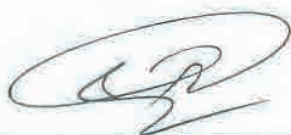
AGREED UPON BETWEEN

JIHAD-E-AGRICULTURE ORGANIZATION OF SOUTH KHORASSAN PROVINCE


AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Tehran, March 14, 2010

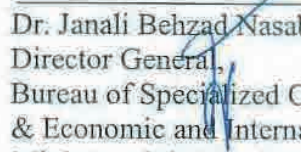


Mr. Mohammad Zari  
Head  
Jihad-e-Agriculture Organization of  
South Khorassan Province,  
Islamic Republic of Iran



Mr. Makoto Ashino  
Resident Representative,  
Japan International Cooperation Agency  
(JICA)  
Iran Office,  
Japan

Witnessed by

  
Dr. Janali Behzad Nasab  
Director General,  
Bureau of Specialized Organizations  
& Economic and International Cooperation,  
Ministry of Jihad-e-Agriculture,  
Islamic Republic of Iran

## I. INTRODUCTION

In response to the official request of the Government of the Islamic Republic of Iran (hereinafter referred to as "the Government of Iran") for the technical cooperation on Project for Study on Small Farming and Rural Development Plan for Poverty Reduction in South Khorassan (hereinafter referred to as "the Study"), the Government of Japan decided to conduct the Study in accordance with relevant laws and regulations in force in Japan.

Accordingly, Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will jointly undertake the Study with the authorities concerned of the Government of Iran.

The present document sets forth the Scope of Work with regard to the Study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To formulate a Master Plan for sustainable livelihood improvement of small farmers in the targeted area after the verification in the pilot projects with farmers' participation

and

2. To carry out capacity development of counterpart personnel and relevant organizations in the course of the Study

## III. STUDY AREA

The Study will cover about 15,026 ha of Markooh watershed basin (Alghurat –Tassharabard), Birjand Township in South Khorassan Province. The area is shown in the attachment 1-1, 1-2, 1-3.

## IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Scope of Work for the Study shall cover the followings:

1. Baseline survey; Necessary data and information for phase 1 shall be collected and analyzed.
2. Phase1; Draft Master Plan shall be formulated and, then necessary preparation for pilot projects shall be completed.
3. Phase 2; Pilot projects shall be implemented, then the Master Plan shall be finalized through feedback from the implementation of the pilot projects.

### Baseline survey

1. Data collection and situation analysis
  - (1) Review of the existing data, information and reports on poverty reduction in South Khorassan province
  - (2) Baseline survey for supplementary data collection on the following aspects in the Study area mentioned in article III.  
Recognition of characteristics and potentials of





- a) Local natural system
  - b) Population and human resources
  - c) Cultural and social system
  - d) Economics and productions
  - e) Services and infrastructures necessary for production and production support
  - f) Others
2. Based on the result of the Baseline survey, identification of potentials and constraints for attaining rural development are studied such as;
- (1) Effective water use on-farm level
  - (2) Improvement of farming system and cultivation techniques
  - (3) Improvement of processing and marketing system of agricultural products
  - (4) Enhancement farmers' organization
  - (5) Enhancement of non-agricultural income sources
  - (6) Enhancement of environment and watershed conservation in the catchment area
  - (7) Enhancement of animal husbandry
  - (8) Others

#### **Phase 1:**

1. Conceptualization of draft Master Plan
  - (1) Formulation of strategies in line with the above potentials and constraints identified
  - (2) Formulation of short-term and mid-term action plans
2. Selection and planning of Pilot Projects
  - (1) Selection of Pilot Projects and its sites according to the criteria prepared through the Study
  - (2) Design of Pilot Projects

#### **Phase 2:**

1. Implementation of Pilot Projects for verification of draft Master Plan
  - (1) Implementation of Pilot projects with capacity development of organization concerned
  - (2) Monitoring and evaluation of Pilots Projects
2. Finalization of Master Plan

### **V. SCHEDULE OF THE STUDY**

The Study will be carried out in accordance with the tentative schedule as attachment 2. The schedule is tentative and subject to be modified when both parties agree upon any necessity that will arise during the course of the Study.

### **VI. REPORTS**

JICA shall prepare and submit following reports in both English and Persian to the Government of Iran.

#### 1. Inception Report:

Five (5) English and fifteen (15) Persian copies will be submitted at the commencement of the first (1<sup>st</sup>) work period in Iran. This report will contain the schedule and methodology of the Study.

#### 2. Progress Report (1):

Five (5) English and fifteen (15) Persian copies will be submitted after the Baseline survey. The report contains the progress of the study, which will include the results of the survey.



3. Draft Interim Report

Five (5) English and fifteen (15) Persian copies will be submitted at the end of Phase 1. The report contains the result of Phase 1 which will include draft Master Plan and plan of Phase 2.

4. Interim Report:

Five (5) English and fifteen (15) Persian copies will be submitted at the beginning of Phase 2. The report contains the result of Phase 1 and plan of Phase 2 which will be revised based on comments from both Iranian and Japanese sides.

5. Progress Report (2):

Five (5) English and fifteen (15) Persian copies will be submitted at the midst of Phase 2. The report contains preliminary evaluation and findings of Pilot Projects.

6. Draft Final Report:

Ten (10) English and twenty (20) Persian copies will be submitted at the end of final survey in Iran. The Government of Iran shall submit its comments within one (1) month after the receipt of the Draft Final Report.

7. Final Report:

Ten (10) English and forty (40) Persian copies will be submitted within one (1) month after the receipt of the comments on the Draft Final Report.

**VII. UNDERTAKINGS OF THE GOVERNMENT OF IRAN**

The Government of Iran shall accord privileges, exemptions and benefits to the Japanese study team (hereinafter referred to as "the Team") as follows:

1. To facilitate smooth implementation of the Study, the Government of Iran shall take the following necessary measures:
  - (1) To permit the members of the Team to enter, leave and sojourn in Iran for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees;
  - (2) To exempt the members of the Team from taxes, duties, and any other charges on equipment, machinery and other materials brought into Iran for the implementation of the study;
  - (3) To exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the study; and
  - (4) To provide necessary facilities to the Team for remittance as well as utilization of the funds introduced into Iran from Japan in connection with the implementation of the Study.
2. The Government of Iran shall bear claims, if any arises, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the Team.
3. Ministry of Jihad-e-Agriculture (hereinafter referred to as "MOJA") and Jihad-e-Agriculture Organization of South Khorassan Province (hereinafter referred to as "JAO") shall act as the





counterpart agency to the Team and also as the coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. MOJA and JAO shall, at its own expense, provide the Team with the following in cooperation with other agencies concerned:

- (1) Security-related information on as well as measures to ensure the safety of the Team,
- (2) Information on as well as support in obtaining medical service,
- (3) Available data and information related to the Study,
- (4) Counterpart personnel,
- (5) Suitable office spaces with necessary equipment and furniture, and
- (6) Credentials or identification cards.

#### **VIII. UNDERTAKINGS OF JICA**

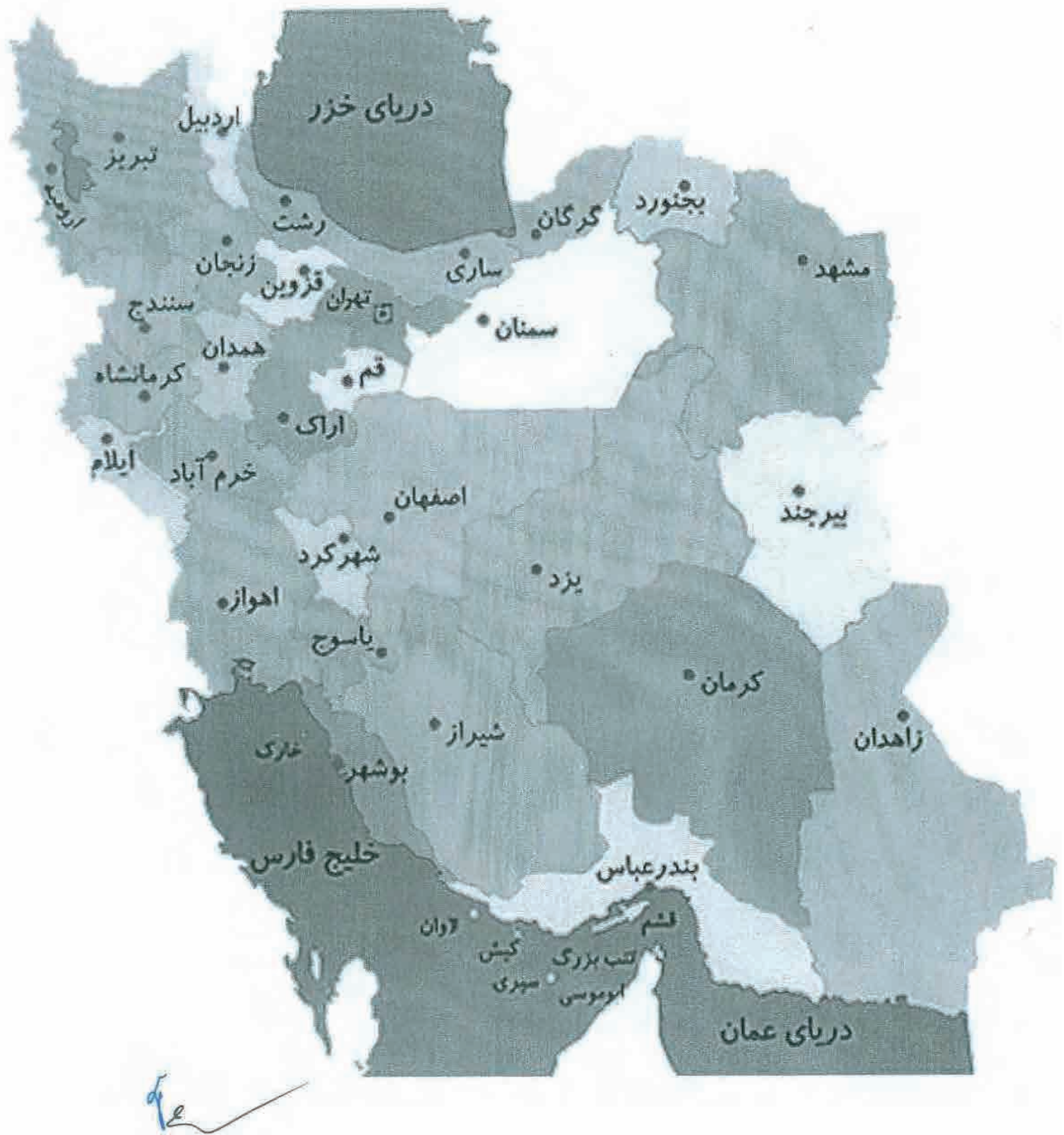
For the implementation of the Study, JICA will take the following measures:

1. To dispatch, at its own expenses, the Team to the Islamic republic of Iran.
2. To pursue technology and skills transfer to the Iranian counterpart personnel in the course of the Study.
3. To accept the Iranian counterparts for training in Japan on specific relevant subjects.
4. For the Study, necessary equipment and materials which are requested by the Iranian side would be provided by JICA, if JICA headquarters in Tokyo approve it.

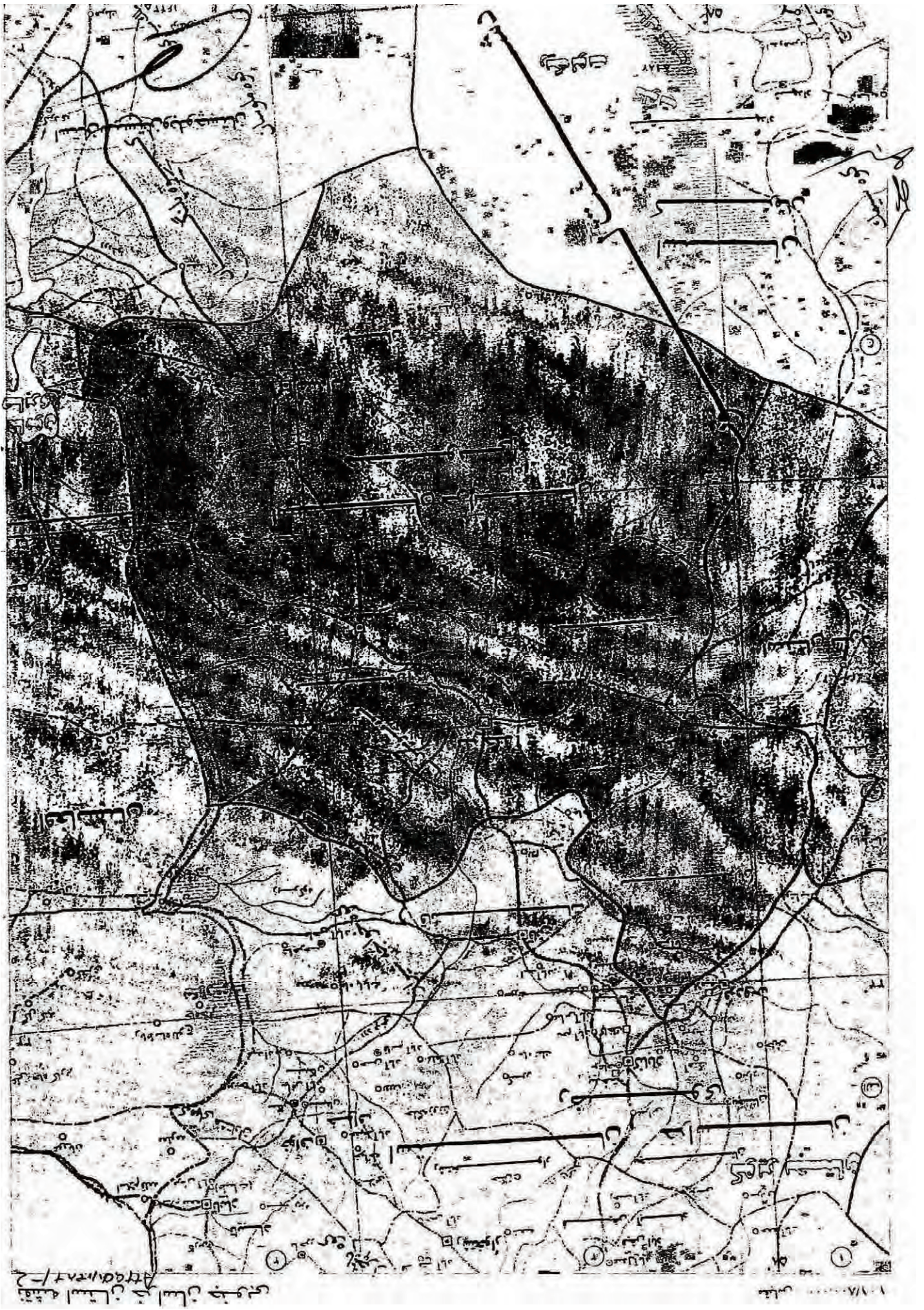
#### **IX. CONSULTATION**

MOJA, JAO and JICA shall consult with each other in respect of any matter that may arise from or in connection with the Study.





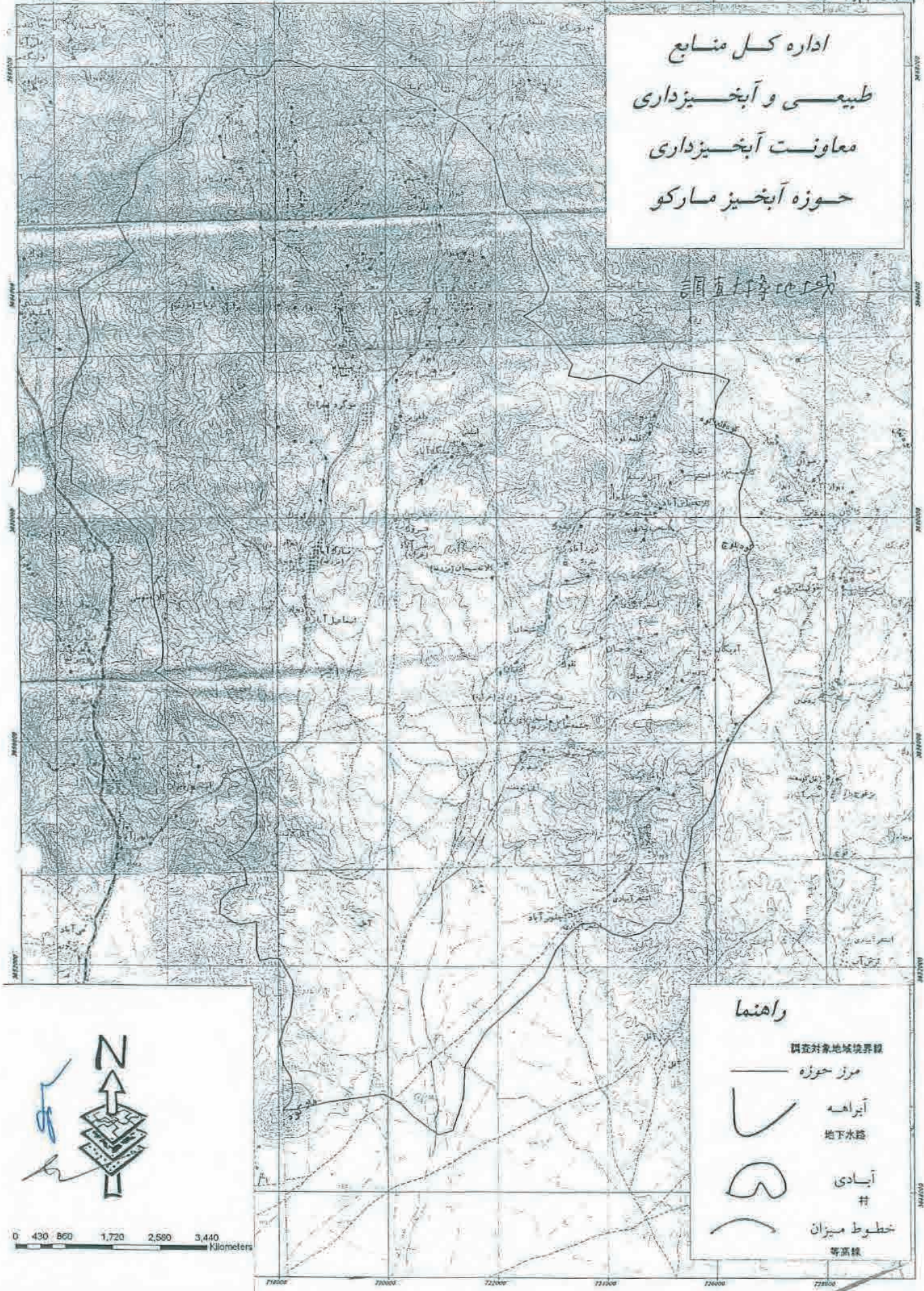






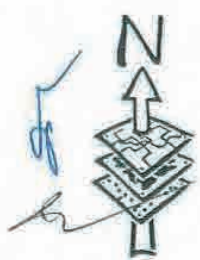
اداره کل منابع  
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 معاونت آبخیزداری  
 حوزه آبخیز مارکو

موضوع: تعیین مرز حوضه آبخیز



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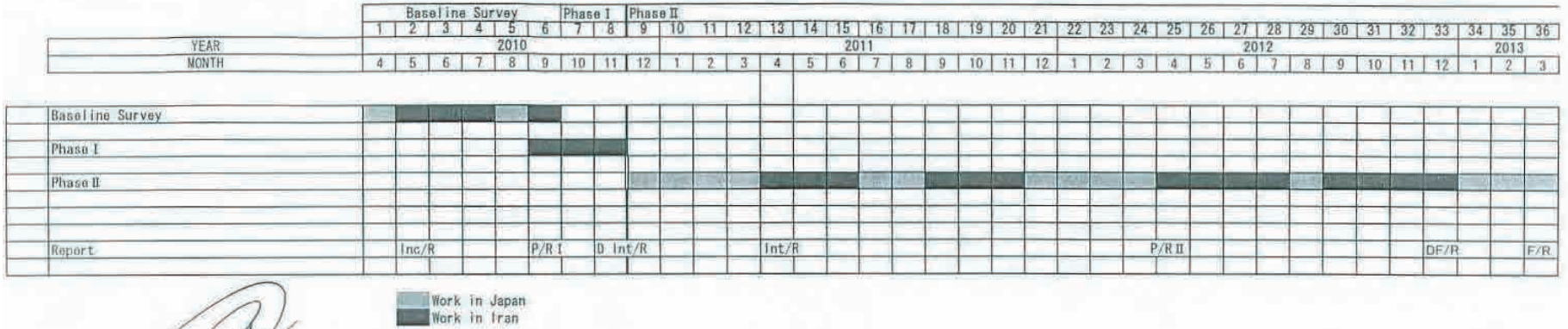
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 調查対象地域境界線
- 
 مرز حوضه
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 آبدی  
 井
- 
 خطوط میزان  
 等高線



0 430 860 1,720 2,580 3,440  
 Kilometers



Attachment 2



AP-70

Notation: Japanese consultant is also committed to deliver two separate progress reports before Iran departure/  
and after entrance to Iran (each time);

MINUTES OF MEETING  
ON  
PROJECT FOR  
STUDY ON SMALL FARMING AND RURAL DEVELOPMENT PLAN  
FOR  
POVERTY REDUCTION IN SOUTH KHORASSAN  
IN  
THE ISLAMIC REPUBLIC OF IRAN

AGREED UPON BETWEEN

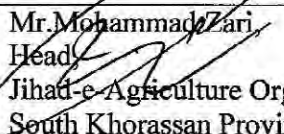
THE MINISTRY OF JIHAD-E-AGRICULTURE  
AND  
THE JAPAN INTERNATIONAL COOPERATION AGENCY

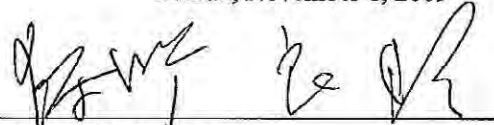
In response to the official request of the Government of the Islamic Republic of Iran (herein after referred to as "Iran"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Detailed Planning Survey Team (hereinafter referred to as "the Team") for the Study on Project for Study on Small Farming and Rural Development for Poverty Reduction in South Khorassan (hereinafter referred to as "the Study"), headed by Mr. Yoshiaki Kano to Iran from October 30<sup>th</sup> to November 10<sup>th</sup>, 2009.


During its stay in Iran, the Team made field visits in the Study area, and held a series of discussions with the officials of Ministry of Jihad-e-Agriculture (hereinafter referred to as "MOJA"), Jihad-e-Agriculture Organization of South Khorassan Province (hereinafter referred to as "South Khorassan JAO") and other authorities concerned of the Government of Iran. The list of those who attended those meetings is attached as Annex 1.

As a result of the discussions, MOJA, South Khorassan JAO and the Team agreed to the matters referred to in the documents attached hereto.

Tehran, November 8, 2009

  
Mr. Mohammad Zari,  
Head,  
Jihad-e-Agriculture Organization of  
South Khorassan Province

  
Mr. Yoshiaki Kano,  
Leader,  
Detailed Planning Survey Team,  
Japan International Cooperation Agency  
(JICA)

  
Witnessed by \_\_\_\_\_  
Dr. Janali Behzad Nasab,  
Director General,  
Bureau of Specialized Organizations & Economic  
and International Cooperation,  
Ministry of Jihad-e-Agriculture,  
The Islamic Republic of Iran



## **I. DRAFT OF THE SCOPE OF WORK (S/W)**

The Scope of Work (S/W) is an official document which defines contents of the study. The draft of S/W, attached as Annex 2, was prepared and confirmed through series of discussions by both sides.

The draft S/W will be finalized and signed between South Khorassan JAO and JICA Iran office after notification of approval by JICA headquarters and MOJA.

## **II. RESULTS OF DISCUSSIONS**

The followings were also agreed by both Iranian and Japanese sides in relation to the draft Scope of Work for the Study.

### **1. Contents of the Study**

- (1) Master Plan shall address the major issues and development strategy for poverty reduction in South Khorassan Province. However, the formulation of practical action plan along with implementation of pilot projects shall be more emphasized in the Study.
- (2) The Study shall cover small farming and rural development for poverty reduction.
- (3) Pilot projects shall be selected from the Draft Master Plan in accordance with the criteria agreed in the course of the Phase 1 of the Study. The criteria may include the factors such as contribution to increase of farmers' income, the size of population in the areas.
- (4) The duration of the Study shall be three (3) years. The detail shall be determined before the formal signing of S/W.

### **2. Steering Committee**

For the smooth and effective Study, a steering committee consisting of the following members will be established. The Committee shall be comprised of various organizations concerned with the study shall be established at the National level and Provincial level. The Chairperson may invite representatives from other relevant organizations, whenever necessary. The Committee meeting will be held when the JICA Study Team presents reports and/or whenever necessary.

The committee will be comprised of representatives of the following organizations.

#### **National Level**

##### **(1) Iranian Side**

- Ministry of Jihad-e-Agriculture from Bureau of Specialized Organization & Economic and International Cooperation (Chairperson)
- Jihad-e-Agriculture Organization of South Khorassan Province

##### **(2) Japanese Side**

- JICA Study Team
- JICA Iran Office
- JICA Experts in Ministry of Jihad-e-Agriculture





(3) Observers

- Embassy of Japan

Provincial Level

(1) Iranian Side

- Jihad-e-Agriculture Organization of South Khorassan Province (Chairperson)
- Jihad-e-Agriculture Organization of Birjand Township
- Deputy of Planning of South Khorassan Governorship

(2) Japanese Side

- JICA Study Team

3. Counterpart Personnel

The Ministry of Jihad-e- Agriculture and Jihad-e-Agriculture Organization of South Khorassan Province shall assign the necessary number of counterpart personnel for the Study and submit the list of counterpart personnel before the beginning of the Study.

Since poverty reduction in South Khorassan Province is related to several ministries and organizations, the Ministry of Jihad-e- Agriculture and Jihad-e-Agriculture Organization of South Khorassan Province shall be responsible for coordination among the different ministries and organizations for the smooth implementation of the Study.

4. Training

If necessary, the Iranian counterpart(s) will be invited to Japan for training on specific relevant subjects, or when possible, the relevant training will be conducted in Iran by JICA.

5. Travel Allowance for Counterpart Personnel

Travel allowance for Counterpart Personnel inside Iran should be basically borne by the Iranian side.

6. Facilities for the Study

The Iranian side will provide the JICA Study Team with a suitable office space equipped with desks, chairs and telephone lines in Jihad-e- Agriculture Organization in South Khorassan, and to prepare it by the commencement of the Study.

7. Report

The Final Report would be open to the public in order to maximize the utilization of the results of the Study.

END

Annex 1

**List of Attendants**

**Iranian side**

**Ministry of Jihad-e-Agriculture**

Dr. Janali Behzad Nasab	Director General of Bureau of Specialized Organization & Economic and International Cooperation
Mr. Amin Hadi Dindoust	Deputy Director General of Bureau of Specialized Organization & Economic and International Cooperation
Mr. Mohammad Azimi	Expert of Bureau of Specialized Organization & Economic and International Cooperation

**Jihad-e-Agriculture Organization in South Khorassan Province**

Mr. Mohammad Zari	Head of Jihad-e-Agricultural Organization in South Khorassan Province
Mr. Mohammad Eslam Abbasi	Head of Rural Development group and Coordinator of the Study Team
Mr. Hossein Asghari	Manager of water, soil and technical affairs
Mr. Mehdi Noferesti	Manager of Agronomy office
Mr. Seyyed Alireza Hosseini	Expert, Plant protection office
Mr. Mahmood Ashrafi	Deputy manager of Livestock production office
Mr. Manoocher Shayesteh	Head of Horticulture office
Mr. Gholamreza haderbadi	Manager of Agriculture and natural resource research center
Mr. Alireza Nasrabadi	Deputy Director General of Watershed, Natural resources and watershed management organization
Mr. Mohammad Zamani	Deputy of Planning and economy section
Mr. Aliakabar Khooshehchin	Expert
Mr. Hossein Sarchahi	Expert of Mechanization and industry office

**Jihad-e-Agriculture Organization in Birjand Township**

Mr. Mohammad Ebrahim Ahmadi	Manager
Mr. Mohsen Arezoomandan	Agronomy expert

**Environmental Conservation Organization of South Khorassan Province**

Ms. Fatima Doagooyan	Manager of Environment office
----------------------	-------------------------------



## **Japanese side**

### **JICA Detailed Planning Survey Team**

Mr. Yoshiaki Kano                      Team Leader

Mr. Hiroaki Kunihiro

Water resource development/Irrigation/Participatory water management

Dr. Junji Takahashi                      Farming system/Farmers' Organization

Mr. Masakazu Kanamoto                      Processing and Marketing

Ms. Sayako Namera                      Cooperation Planning/Environmental and social considerations

### **JICA Iran Office**

Mr. Makoto Ashino                      Resident Representative

Mr. Daimin Hanadate                      Deputy Resident Representative

Mr. Takahiro Hirano                      Project Formulation Adviser

Mr. Majid Aliakbarian                      Program Officer

### **JICA Expert on Agricultural and Rural Development in MOJA**

Mr. Masashi Nakai

Two handwritten signatures in black ink, one on the left and one on the right, both appearing to be initials or names.

Annex 2

(DRAFT)  
SCOPE OF WORK

PROJECT FOR STUDY ON SMALL FARMING AND RURAL DEVELOPMENT PLAN  
FOR  
POVERTY REDUCTION IN SOUTH KHORASSAN

AGREED UPON BETWEEN

JIHAD-E-AGRICULTURE ORGANIZATION OF SOUTH KHORASSAN PROVINCE

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Tehran,           Date          

\_\_\_\_\_  
Mr. Mohammad Zari  
Head ,  
Jihad-e-Agriculture Organization of  
South Khorassan Province

\_\_\_\_\_  
Mr. Makoto Ashino  
Resident Representative,  
Iran Office,  
Japan International Cooperation Agency

Witnessed by

\_\_\_\_\_  
Dr. Janali Behzad Nasab  
Director General,  
Bureau of Specialized Organizations  
& Economic and International Cooperation,  
Ministry of Jihad-e-Agriculture,  
The Islamic Republic of Iran



## **I. INTRODUCTION**

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The objectives of the Study are:

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and

2. To carry out capacity development of counterpart personnel and relevant organizations in the course of the Study

## **III. STUDY AREA**

The Study will cover about 15,026 ha of Markooh watershed basin (Alghurat –Tassharabard), Birjand Township in South Khorassan Province. The area is shown in the attachment 1,

## **IV. SCOPE OF THE STUDY**

In order to achieve the objectives mentioned above, the Scope of Work for the Study shall cover the followings:

1. Baseline survey; Necessary data and information for phase 1 shall be collected and analyzed.
2. Phase1; Draft Master Plan shall be formulated and, then necessary preparation for pilot projects shall be completed.
3. Phase 2; Pilot projects shall be implemented, then the Master Plan shall be finalized through feedback from the implementation of the pilot projects.

### **Baseline survey**

1. Data collection and situation analysis
  - (1) Review of the existing data, information and reports on poverty reduction in South Khorassan province
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Recognition of characteristics and potentials of





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**Phase 1:**

1. Conceptualization of draft Master Plan
  - (1) Formulation of strategies in line with the above potentials and constraints identified
  - (2) Formulation of short-term and mid-term action plans
2. Selection and planning of Pilot Projects
  - (1) Selection of Pilot Projects and its sites according to the criteria prepared through the Study
  - (2) Design of Pilot Projects

**Phase 2:**

1. Implementation of Pilot Projects for verification of draft Master Plan
  - (1) Implementation of Pilot projects with capacity development of organization concerned
  - (2) Monitoring and evaluation of Pilots Projects
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**V. SCHEDULE OF THE STUDY**

The Study will be carried out in accordance with the tentative schedule as attachment 2. The schedule is tentative and subject to be modified when both parties agree upon any necessity that will arise during the course of the Study.

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2. Progress Report (1):

Five (5) English and fifteen (15) Persian copies will be submitted after the Baseline survey. The report contains the progress of the study, which will include the results of the survey.



**3. Interim Report:**

Five (5) English and fifteen (15) Persian copies will be submitted after Phase 1. This report contains the interim progress of the study, which will include draft Master Plan.

**4. Progress Report (2):**

Five (5) English and fifteen (15) Persian copies will be submitted at the midst of Phase 2. The report contains the progress of Pilot Projects.

**5. Progress Report (3):**

Five (5) English and fifteen (15) Persian copies will be submitted at the midst of Phase 2. The report contains preliminary evaluation and findings of Pilot Projects.

**6. Draft Final Report:**

Ten (10) English and twenty (20) Persian copies will be submitted at the commencement of final survey in Iran. The Government of Iran shall submit its comments within one (1) month after the receipt of the Draft Final Report.

**7. Final Report:**

Ten (10) English and forty (40) Persian copies will be submitted within one (1) month after the receipt of the comments on the Draft Final Report.

**VII. UNDERTAKINGS OF THE GOVERNMENT OF IRAN**

In accordance with the provisions of the Agreement, the Government of Iran shall accord privileges, exemptions and benefits to the Japanese study team (hereinafter referred to as "the Team") as follows:

1. To facilitate smooth implementation of the Study, the Government of Iran shall take the following necessary measures:
  - (1) To permit the members of the Team to enter, leave and sojourn in Iran for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees;
  - (2) To exempt the members of the Team from taxes, duties, and any other charges on equipment, machinery and other materials brought into Iran for the implementation of the study;
  - (3) To exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the study; and
  - (4) To provide necessary facilities to the Team for remittance as well as utilization of the funds introduced into Iran from Japan in connection with the implementation of the Study.
2. The Government of Iran shall bear claims, if any arises, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the Team.





3. Ministry of Jihad-e-Agriculture (hereinafter referred to as “MOJA”) and Jihad-e-Agriculture Organization of South Khorassan Province (hereinafter referred to as “JAO”) shall act as the counterpart agency to the Team and also as the coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. MOJA and JAO shall, at its own expense, provide the Team with the following in cooperation with other agencies concerned:
  - (1) Security-related information on as well as measures to ensure the safety of the Team,
  - (2) Information on as well as support in obtaining medical service,
  - (3) Available data and information related to the Study,
  - (4) Counterpart personnel,
  - (5) Suitable office spaces with necessary equipment and furniture, and
  - (6) Credentials or identification cards.

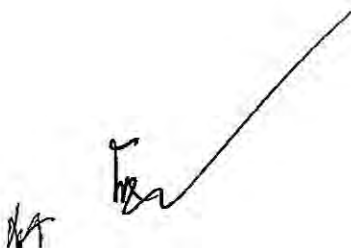
#### **VIII. UNDERTAKINGS OF JICA**

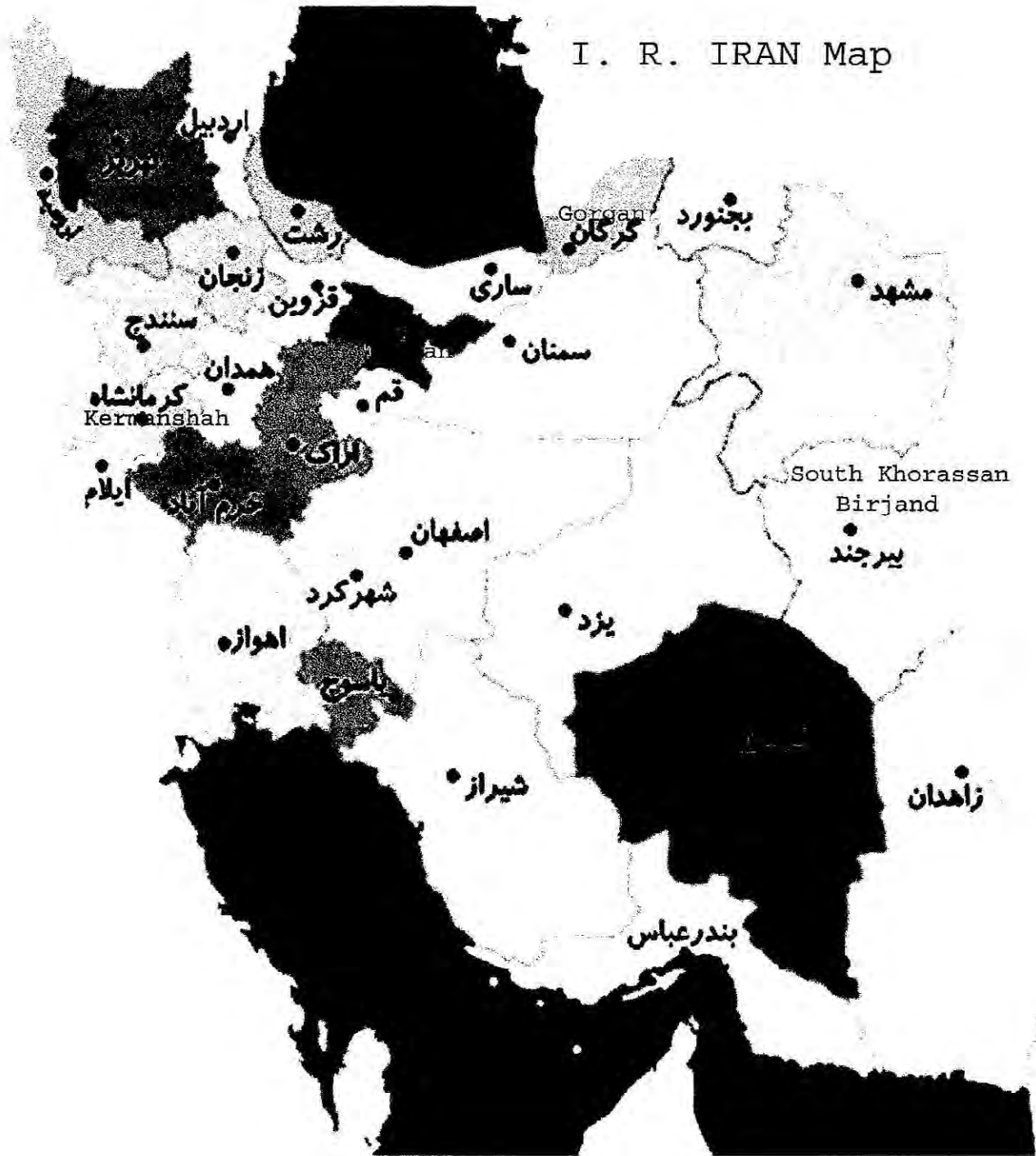
For the implementation of the Study, JICA will take the following measures:

1. To dispatch, at its own expenses, the Team to the Islamic republic of Iran.
2. To pursue technology and skills transfer to the Iranian counterpart personnel in the course of the Study.
3. To accept the Iranian counterparts for training in Japan on specific relevant subjects.
4. For the Study, necessary equipment and materials which are requested by the Iranian side would be provided by JICA, if JICA headquarters in Tokyo approve it.

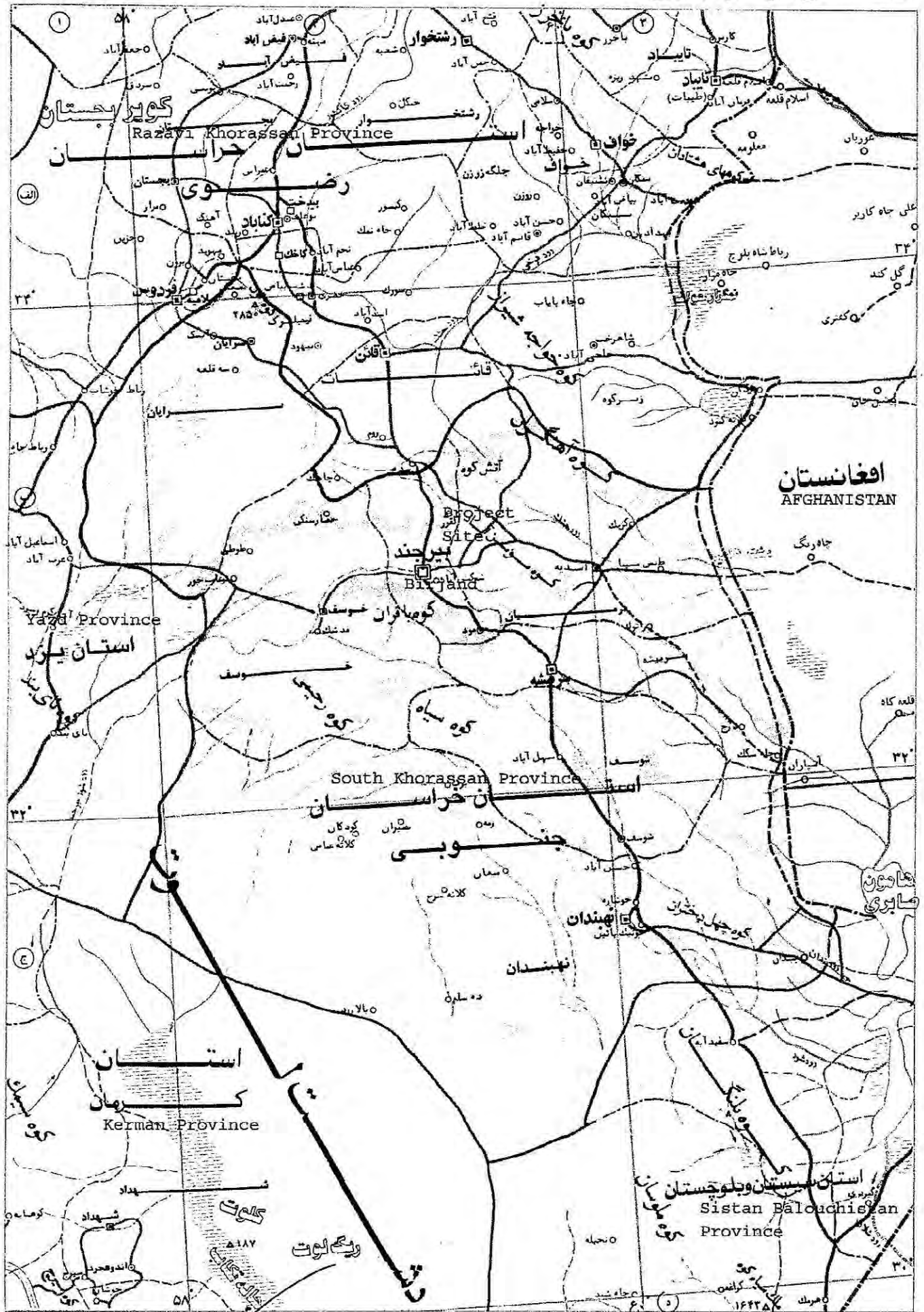
#### **IX. CONSULTATION**

MOJA, JAO and JICA shall consult with each other in respect of any matter that may arise from or in connection with the Study.





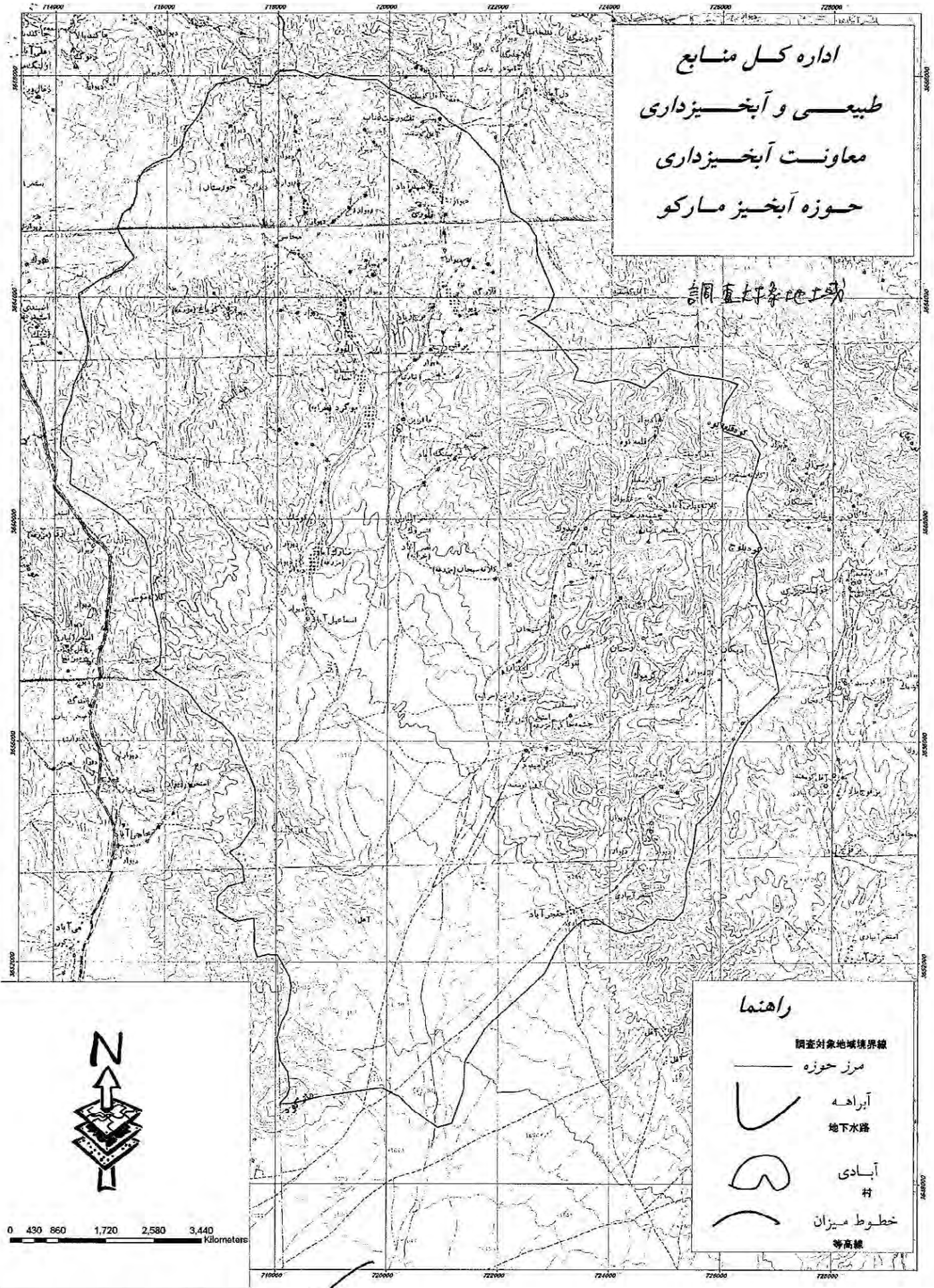
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اداره کل منابع  
طبیعی و آبخیزداری  
معاونت آبخیزداری  
حوزه آبخیز مارکو

調查対象地域



0 430 860 1,720 2,580 3,440 Kilometers

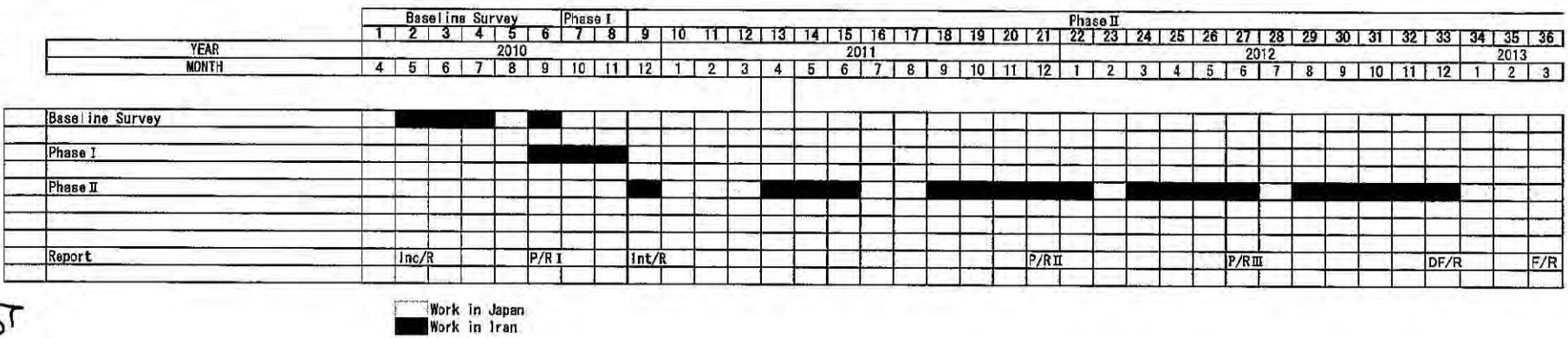
راهنما

- 調查対象地域境界線
- مرز حوزه
- └─ آبراهه
- 地下水路
- آبادی
- 村
- خطوط میزان
- 等高線

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Attachment 2



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