Table 5.2.1 (1) List of Water Resources in Panyebar in Solola

Name:	1) *Panan springs*
Composition:	5 springs
Discharge:	2.7 lit/s
Present Usage:	92 % ; Water resource of the portable water system in the area
Owner:	Community
Potentiality:	Low
Remarks:	Water is utilized by both the supply systems, which are made by (1) CARE and (2) FONAPAZ
Name:	2) *Silberio spring*
Composition:	1 spring
Discharge:	2.4 lit/s
Present Usage:	0% ; No use
Owner:	Private
Location:	About 150-200 m down from the main road at east side valley
Potentiality:	High
Name:	3) *Juan springs*
Composition:	2 springs
Discharge:	less than 0.1 lit/s approx. and seasonally varied
Present Usage:	Partially ; Main water resource for drinking and laundry during the water system is out of order.
Owner:	Private
Location:	About 150-200 m down from the main road at west side valley
Potentiality:	Low

Note ; If spring does not have name, the name of the owner is substituted for it.

5.2.3 (1) Coffee Price (1975 - 1998)

unit: Q./ton

Year	Price of Cerry	Price of Parchment
1975	147	691
1976	201	1,159
1977	477	2,167
1978	437	1,633
1979	347	1,549
1980	314	1,509
1981	255	1,317
1982	240	1,235
1983	293	1,475
1984	320	1,703
1985	409	2,118
1986	724	4,119
1987	781	4,520

unit: Q./ton

Year	Price of Cherry	Price of Parchment
1988	865	4,419
1989	1,033	4,417
1990	1,278	5,884
1991	1,278	5,884
1992	992	5,380
1993	992	5,380
1994	2,646	13,018
1995	2,977	14,675
1996	2,425	11,958
1997	2,425	11,958
1998	2,205	11,076
1999		
2000		

Source : Cuantitativo de la Agricultura Guatemalateca (1950-1999)

Table 5.2.6 (1) Rural Infrastructure in Panyebar (1/3)

1. Community Drinking Water Supply

There are 2 potable water systems in the project area. One is made by CARE Guatemala (hereinafter called as "CARE system") and the another is made by FONAPAZ (hereinafter called as "FONAPAZ system").

(1) Number of beneficiaries and % of beneficiaries in the total houses	[No. of Beneficiary] (1) CARE system : 250 houses (2) FONAPAZ system : 360 houses (according to the committee, but no certain records) Note : Beneficiaries of the 2 system are overlapped. Thus majority of the houses have 2 taps (CARE and FONAPAZ) [% of Beneficiary] 95 % (according to the ad hoc survey by Study Team, which covered 175 houses and 209 families)
(2) Management organization and its regulations	[Water committee] Maintenance committee "*Comite de Promejoramiento*" play a role of water committee in the area [Committee member] The committee consists of 9 members, and their activities are offered as voluntary services for the community. [Regulation of committee] Certain document does not exists. However the minutes of meeting certified by all the attendant stipulates all the regulations regarding the management of the water system.
(4) Water consumption and operation	[Water record made by the water committee] Not exists. [Estimated water consumption per person] 90 lit/day/person (condition: 1 house has 6.9 family members)
(5) Facilities	(1) CARE system - type of system : gravity system - water resources : Panan spring - tank capacity : 36 m^3 [4.9*4.85*1.5] - conduction pipe length & diameter : 7.2 k m & ϕ 2.5" - distribution pipe : ϕ 2.5" * 1 outlet at tank (2) FONAPAZ system - type of system : gravity system - water resources : Panan spring - tank capacity : 84 m^3 [8.8*5.3*1.8] - conduction pipe length & diameter : 7.2 k m & ϕ 4" - distribution pipe : ϕ 4" * 4 outlets at tank
(6) Rule of operation and distribution of drinking water to each family	[Limitation of water usage in volume] : No limit [Limitation of usage for irrigation] : No limit [Daily limitation of usage] Water supply service hour : 4-6 hours a day, because of water shortage

Table 5.2.6 (1) Rural Infrastructure in Panyebar (2/3)

(7) Water charge price, how to collect water charge, outstanding status, and means against delinquent	[Yearly water charge] : Q.6 for 1 tap [Monthly water charge] : No [Collection of water charge] Every January. Beneficiaries go to the committee and pay it. The committee does not send staff to collect the water charge to each house. Only 95 houses have paid in 1999 and the remaining water charge are suspended. [Means against delinquent] Maximum period of the moratorium for payment: 2 years After the moratorium, the committee cut the services. However this penalty measurement has not been taken. [Admission of the water system] No admission. All the cost to be paid by the new beneficiary is the actual construction cost only.

2. Sanitary System

(1) Number or diffusion % of the total household	[Toilet] 55 % (the ad hoc survey, which covered 175 houses and 209 families) [Drainage system "sumidero"] 0 % (the ad hoc survey, which covered 175 houses and 209 families)
(2) Features	[Toilet] Toilet is furnished with a concrete seat on the top of a dug hole which is about 5-8m in depth, and covered with cloth or plastic screen.
(3) Remarks	A few houses has the sanitary facilities made by the project. [construction year] 1980 [executed body] Direccion General de Salud [High percentage of self-contained for toilet facility] Most of the houses which has the toilet made it by his own finance, and the villagers have high interest in the toilet facility. However almost half of all the houses in the area do not have toilet. [Necessity of improvement for drainage system] Low; All the houses have surface drainage ditch. And, through the ditch, sewage water can be drained without being stagnate in a house because of its geographical condition. It seems to be no any problem caused by the present poor drainage condition.

Table 5.2.6 (1) Rural Infrastructure in Panyebar (3/3)

3. Electricity Supply

(1) Number of beneficiaries for power supply or diffusion % of the total household in village	[Diffusion (%) of the total house] 76 % (the ad hoc survey, which covered 175 houses and 209 families)
(2) Construction / installation cost	[Construction year] : 1998 [Total construction cost] : Q. 650,000 [Finance shouldered by the beneficiary] Q. 750 / house and the voluntary contribution to the construction works

4. Roads and Bridges

(1) Road in/near the community	[Length] 12 km for under the administration of Panyebar road committee including 4.4 km of road located inside the community [Pavement] gravel pavement [Present conditions of road] Not good [Maintenance] By the community
(2) Bridge	There are several bridges in the area constructed by several projects. The condition of bridges are quite good and no any problems.

5. Improved Stove

(1) Number, diffusion % of the total household in village.	[Diffusion (%) of the total house] 81 % (the ad hoc survey, which covered 175 houses and 209 families)
(2) Remarks	Some houses have the improved stove installed by FIS. They said that the FIS's stove consume less firewood than normal improved stove. [Possibility of self-contained for toilet facility] High. Around 70% of the houses which has the stove made it by his own finance, and the villagers have high interest in the improved stove.

Table 5.2.7(1) Results of Potable Water Test in Panyebar

Date of sampling		25/08/2000	25/08/2000	25/08/2000	25/08/2000	25/08/2000	30/08/2000	22/09/2000	
Item	Unit	S-1	S-2	S-3	S-4	S-5	S-6	S-7	Standards
pH	-	6.8	6.6	7.5	6.5	**9.5**	7.4	7.6	5.8-8.6
EC	μ S/cm	14	157	109	105	118	108	117	-
Coliform group	cfu/ml	**1**	ND	**4**	**3**	**70**	**5**	**-**	ND
Bacteria	cfu/ml	18	28	15	18	30	20	-	100
COD	mg/l	10	10	5	5	5	10	10	10
TH	mg/l	20	20	20	20	20	20	20	300
NH_4^+	mg/l	ND	ND	ND	ND	ND	ND	ND	-
NH_4^+-N	mg/l	ND	ND	ND	ND	ND	ND	ND	-
NO_2^-	mg/l	ND	ND	ND	ND	ND	ND	ND	-
NO_2^--N	mg/l	ND	ND	ND	ND	ND	ND	ND	10
NO_3^-	mg/l	5	5	2	2	ND	1	1	-
NO_3^--N	mg/l	1.15	1.15	0.46	0.46	ND	0.23	0.23	10
Cu	mg/l	ND	ND	ND	ND	ND	ND	ND	1.0
Fe	mg/l	ND	ND	ND	ND	ND	ND	ND	0.3
Zn	mg/l	ND	ND	ND	ND	ND	ND	ND	1.0

Remarks: fountain:S-1,S-2,S-3,S-4,S-6
tank:S-5
river:S-7

Table 5.2.7(2) Water Use in Panyebar

	S-1	S-2	S-3	S-4	S-5	S-6	S-7
Community	Panyevar	Panyevar	Panyevar	Panyevar	Panyevar	Panyevar	Panyevar
Owner	Private	Private	Private	Community	Private	Community	-
Place	fountain	fountain	fountain	fountain	water tank	fountain	East river of two ones
Size	1.2mX1.0mX depth0.15m	1.8mX1.0mX depth0.3m	2.5mX0.5mX depth0.1m	0.75mX0.75m Xdepth0.2m	-	0.7mX0.7mX depth0.3m	width 2m, depth 0.3m
When to use the water	When water supply is cut.	When water supply is cut.	When water supply is cut.	When water supply is cut.	When water supply is cut.	Source of S-5	When water supply is cut.

Table 5.2.8 (1) Existing Developmetn Projects in Infrastructure Sector in Panyebar (1/2)

1. Water Supply Project by CARE Guatemala

(1) Number of beneficiaries and % of beneficiaries in the total households	[No. of Beneficiary] 250 houses (Target houses at initial stage 160 house)
(2) Construction year, executing body and beneficiaries' share of construction costs	[Construction year] 1978 [Executing body] CARE Guatemala & Municipality [Beneficiaries' share of cost] voluntary services only [Total construction cost] N/A
(3) Facilities	- type of system : gravity system - water resources : Panan spring - tank capacity : 36 m^3 [4.9*4.85*1.5] - conduction pipe length & diameter : 7.2 k m & ϕ 2.5" - distribution pipe : ϕ 2.5" * 1 outlet at tank

2. Water Supply Project by FONAPAZ

(1) Number of beneficiaries and % of beneficiaries in the total households	[No. of Beneficiary] : 360 houses
(2) Construction year, executing body and beneficiaries' share of construction costs	[Construction year] 1998 January [Executing body] FONAPAZ, Municipality and Community [Beneficiaries' share of cost] the voluntary contribution to the construction works (28 labor days for a person who is over 18 years old) [Construction period] around 8 month [Total construction cost] BCIE : Q. 322,742 FONAPAZ : 32,274 Community : Q. 225,000 Municipality : Q. 50,000 Total : Q. 630,016
(3) Facilities	- type of system : gravity system - water resources : Panan spring - tank capacity : 84 m^3 [8.8*5.3*1.8] - conduction pipe length & diameter : 7.2 k m & ϕ 4" - distribution pipe : ϕ 4" * 4 outlets at tank

Table 5.2.8 (1) Existing Developmetn Projects in Infrastructure Sector in Panyebar (2/2)

3. Electricity Supply Project by CODEUR

(1) Number of beneficiaries for power supply or diffusion % of the total household in village	[Diffusion (%) of the total house] 76 % (the ad hoc survey, which covered 175 houses and 209 families)
(2) Construction / installation cost	Present electric system was constructed by the financial supports of "*Consejo de Desarrollo Urbano y Rural*"(CODEUR), the municipality and the community. [Construction year] : 1998 [Total construction cost] Consejo de Desarrollo Urbano y Rural : Q. 300,000 Municipality : Q. 252,000 Community : Q. 98,000 Total : Q. 650,000 [Finance shouldered by the beneficiary] Q. 750 / house and the voluntary contribution to the construction works

4. Improved Stove by FIS

(1) Beneficiaries in number, % of the total household in village.	[Beneficiary (%) of the total house] 23 % (the ad hoc survey, which covered 175 houses and 209 families)
(2) Installation/construction	[Construction year] 1994 Some houses have the improved stove installed by FIS. FIS offered materials and villagers made it by their hand under instruction of FIS.

5. Road Construction and Improvement Projects

(1) CAMINOS-Rural project	[Type of works] New construction with gravel pavement and side ditches [Length] 12 km : access road to Panyebar [Construction year] 1982
(2) FONAPAZ	[Type of works] Improvement of the road with gravel pavement and side ditches [Length] 4 km : from Panyebar to Aldea Pasajquim [Construction year] under construction as of Sep. 2000
(2) SEDESOL	[Type of works] Improvement of the road with gravel pavement and side ditches [Length] 7 km : from Panyebar to Santa Clara [Construction year] Under construction in Sep. 2000

Table 5.3.1 (1)　List of Water Resources in Pachum in Totonicapan

Name:	1) *Xecandelaria springs*
Composition:	7 springs
Discharge:	10.3 litters/sec
Present Usage:	6% ;　Water resource of Pachum 1 water system only
Owner:	The Pacum 1 water committee
Potentiality:	High
Remarks:	Only about 0.6 lit/s of spring water out of 10.3 lit/s are diverted to the water supply system, and the remain flows to the river without using.
Name:	2) *Pachum 2 springs*
Composition:	N/A
Discharge:	N/A
Present Usage:	Water resource of Pachum 2 water system
Owner:	The Pacum 2 water committee
Name:	3) *Pachum 3 spring*
Composition:	N/A
Discharge:	N/A
Present Usage:	Water resource of Pachum 3 water system
Owner:	The Pacum 3 water committee
Name:	4) *Pacum river*
Composition:	1 main river and 1 branch in the area
Discharge:	Discharge is seasonally varied
Present Usage:	No use in the Xesana municipality
Potentiality:	High

Table 5.3.6 (1) Rural Infrastructure in Pachum (1/3)

1. Community Drinking Water Supply

(1) Number of beneficiaries and % of beneficiaries in the total houses	[No. of Beneficiary] Pachum 1 system : 86 houses Pachum 2 system : 48 houses Pachum 3 system : N/A (data from each water committee) [% of Beneficiary] 80% in Pachum 1 & 2 (according to the ad hoc survey by Study Team, which covered 75 houses and 83 families)
(2) Management organization and its regulations	[No. of water system and water committee in Pachum] 3 systems and 3 water committees (Every water supply system has a water committee in order to execute its management and maintenance works independently.) [Regulation of committee] Minutes of the meeting which was held for the water system functions as the committee regulation.(Pachum 1)
(3) Water consumption, water charge and operation	[Water usage record] No any record exists in each committee. [Water charge] Q50/house/year (Pacum1) [Estimated water consumption per person] (in case of Pachum 1) 106 lit/day/person (0.6 lit/s for 86 houses)
(4) Facilities	[Puchum 1 distribution system] 1) type of system : Gravity system 2) tank capacity: 31.9 m^3 [W4.2 *L4.0*H1.9m] 3) pipe length: about 1.5 km of conduction pipe (3.5 inches in diameter) [Pachum 2 distribution system] 1) type of system : Gravity system 2) facilities : storage tank : 1 no. No other data available
(5) Rule of operation and distribution of drinking water to each family	[Limitation of water usage in volume] No limit (Pachum 1 & 2) [Limitation of usage for irrigation] No regulation (Pachum 1 & 2) [Daily limitation of usage] From 7:00 am to 5:00 p.m., water usage, except drinking water, is forbidden because of a shortage of water in tank. (Pachum 1)

Table 5.3.6 (1) Rural Infrastructure in Pachum (2/3)

(6) Water charge price, how to collect water charge, outstanding status, and means against delinquent	[Water charge] Yearly charge: Q.50 / house (Pachum 1), No (Pachum 2) Monthly charge: No. (Pachum 1 & 2) Voluntary services: Beneficiaries are obliged to attend the maintenance work of the system led by the water committee, if necessary. [Admission of the water committee] Pachum 1 : No. (New member pay only a construction cost for pipe installation to his house) Pachum 2 : Q.200 including all the installation cost [Collection of water charge] (case of Pachum 1) Every July, a committee member collects it. [Means against delinquent] (case of Pachum 1) Maximum moratorium period for payment: 2 years (After such moratorium, the committee reluctantly cut the services.)

2. Sanitary System

(1) Diffusion % of the total household in village.	[Toilet] 15 % (the ad hoc survey, which covered 75 houses and 83 families) [Drainage system "sumidero"] 0 % (the ad hoc survey)
(2) Features	[Toilet] Toilet is furnished with a concrete/wooden seat on the top of a dug hole, about 5-8m in depth, and covered with cloth or plastic screen.
(3) Remarks	[Low possibility of self-contained for toilet facility] At present condition, only 9 houses (12 %of 75 houses) made toilet by themselves and the villager's interest in the toilet is so low. [Necessity of improvement for drainage system] Low All the houses have surface drainage ditches. And, through the ditch, sewage water can be drained easily, without being stagnate, in a house because of its geographical condition. It seems to be no any problem caused by the poor drainage.

3. Electricity Supply

(1) Number of beneficiaries for power supply and diffusion % of the total household in village	[Number of beneficiaries] 38 houses [Diffusion % of the total house] 28 % (the ad hoc survey, which covered 75 houses and 83 families)
(2) Construction	Present electric system was installed by the PER III project. Financial supports were made by *Consejo de Desarrollo Urbano y Rural (CODEUR)*, the municipality, the community and FODIGUA (*Fondo de Desarrollo Indigena Guatemalateco*) [Construction year] Oct. 1999 (started the services)

Table 5.3.6 (1) Rural Infrastructure in Pachum (3/3)

4. Roads and Bridges

(1) Road in/near the community	[Length] 8 km for under the administration of Pachum community [Pavement] Used to be gravel pavement but now deteriorated [Present conditions of road] Bad, specially in rainy season. The road was cut by slope sliding and sometimes cannot pass it for months. [Maintenance] By the road community but not sufficient because of lack of fund and man-power.
(2) Bridge	There are several bridges in the area constructed by several projects. The conditions of bridges are quite good and no any problems.

5. Improved Stove

(1) Diffusion % of the total household in village.	2 % of the sampled houses (2 houses) - Others cook with open fire.
(2) Remarks	Diffusion of the improved stove is so low. People are obliged to keep quite big amount of firewood for cooking and bathing. Taking into consideration of the heavy duty of firewood hauling by manual, the introducing of improved stove is effective way to alleviate heavy work.

6. Steam Bath "*Tamascal*"

(1) Diffusion % in village	Almost all houses
(2) Features	All the villagers take the steam bath, so-called "*Tamascal"* twice or three times a week. They heat up the dome with wood fire and take bath. [Shape and general size] a dome shape, front width 230 cm; high = 150 to 170 cm; depth front to back = 190 cm dimension of fire box are : width =40 cm; high = 45 cm; depth = 70 cm [Materials of *Tamascal*] concrete block, clay block, clay and soil [How to use] 1) Fire woods burn in the box built in Tamascal ; Half of the back side of box is open to pass hot air to the Dome. 2) The time required varies from 30 to 60 minutes, depending on the quality of wood. 3) Number of fire woods is 15 to 20 pieces of about 50 cm long.
(3) Remarks	They say that the diffusion of *Tamascal* in the area reaches almost 100%. Compared with that of electricity (28%), toilet (14%) and improved stove (2%), it is very clear that the popularity of *Tamascal* is so high and it relates closely to their living in Pachum. According to the villagers, consumption of firewood for the Tamascal is bigger than daily cooking fire and the *Tamascal* push up the consumption of fire woods in house. Taking into consideration of the heavy duty of firewood hauling by manual, the improvement of the *Tamascal* is effective way to alleviate their heavy work. It seems there is some rooms to be improved in order to have better efficiency for heating a dome and better air ventilation with chimney. These improvements will improve not only the labor condition for collecting fire wood but the health condition of villagers.

Table 5.3.7(1) Results of Potable Water Test in Pachum

Date of sampling		16/08/2000	16/08/2000	16/08/2000	16/08/2000	16/08/2000	19/09/2000	
Item	Unit	T-1	T-2	T-3	T-4	T-5	T-6	Standards
pH	-	6.6	7.6	6	7.4	7.8	8.1	5.8-8.6
EC	μ S/cm	170	73	40	108	270	57	-
Coliform group	cfu/ml	**2**	**4**	ND	ND	**1**	**-**	ND
Bacteria	cfu/ml	7	20	10	0	10	-	100
COD	mg/l	5	**10**	**10**	5	**10**	5	10
TH	mg/l	20	10	0	20	50	10	300
NH_4^+	mg/l	ND	ND	ND	ND	0.1	ND	-
NH_4^+-N	mg/l	ND	ND	ND	ND	0.08	ND	-
NO_2^-	mg/l	ND	ND	ND	ND	ND	ND	-
NO_2^--N	mg/l	ND	ND	ND	ND	ND	ND	10
NO_3^-	mg/l	5	ND	1	ND	ND	1	-
NO_3^--N	mg/l	1.15	ND	0.23	ND	ND	0.23	10
Cu	mg/l	ND	ND	ND	ND	ND	ND	1.0
Fe	mg/l	ND	ND	ND	ND	0.2	ND	0.3
Zn	mg/l	ND	ND	ND	ND	ND	ND	1.0

Remarks: fountain:T-1,T-3
well:T-5
tap water:T-4
river:T-2,T-6

Table 5.3.7(2) Water Use in Pachum

	T-1	T-2	T-3	T-4	T-5	T-6
Community	Pachum	Pachum	Pachum (outside of	Pachum	Pachum	Pachum
Owner	Private	-	Private	primary school	Private	-
Place	fountain	(branch of Pachum river)	fountain	tap water	well	Pachum river
Size	1mX1mX depth0.5m	width 2m, depth 0.3m	1mX0.6mX depth0.2m	-	3mX2mX depth0.7m	width 3m, depth 0.3m
When to use the water	When water supply is cut off during Jan. and Feb.	When water supply is cut off during Jan. and Feb.	When water supply is cut off during Jan. and Feb.	All the time	When water supply is cut off during Jan. and Feb.	When water supply is cut off during Jan. and Feb.

Table 5.3.8 (1) Existing Development Projects in Infrastructure Sector in Pachum

1. Drinking Water Supply by by CODEUR

(1) Construction year, executing body and beneficiaries' share of construction costs	[Pachum 1] Construction year: 1994 Sep. Executing body: Consejo de Desarrollo Urbana y Rural (CODEUR) Beneficiaries' share of cost: voluntary services only (1 person per a house for 3 months) Construction cost : N/A [Pachum 2] Construction year: August 1997 Executing body: Municipality Beneficiaries' share of cost: voluntary services only Construction cost : Q. 35,000
(2) Facilities	[Pucum 1 distribution system] 1) type of system : Gravity system 2) tank capacity: 31.9 m^3 [W4.2 *L4.0*H1.9m] 3) pipe length: about 1.5 km of conduction pipe (3.5 inches in diameter) [Pucum 2 distribution system] 1) type of system : Gravity system No other data available

2. Sanitary Project

Toilet facility	[Number of facility] 30 houses got it. (But only 2 existing toilet were identified through the ad hoc survey) [Executing body] : unknown [Facilities] 1 no of Toilet seat made by concrete and 1 no of concrete top slab [1m*1m] [Beneficiaries' share of cost] digging holes seting up the facilities

3. Electricity Supply Project by CODEUR

(1) Number of beneficiaries for power supply	[Number of beneficiaries] 38 houses
(2) Construction year, cost and others	Present electric system was installed by the PER III project. Financial supports were made by *Consejo de Desarrollo Urbano y Rural* (CODEUR), the municipality, the community and FODIGUA (*Fondo de Desarrollo Indigena Guatemalateco*) [Total construction cost] Total Q. 258,493 Community Q. 32,453.5 Municipality Q. 22,571 CODEUR Q. 150,000 Credit by FUNDAP Q. 53,468 [Construction year] Oct. 1999 (started the services) [Beneficiary] 38 houses (125 habitants) [Finance shouldered by the beneficiary] Q. 6,000 per house and voluntary services for construction works. [Condition of credit by FUNDAP] 30% interest for 24 months

Table 5.4.1 (1) List of Water Resources in Palestina in Queatzaltenango

Name:	1) *Los Molinos springs*
Composition:	2 springs
Discharge:	25 lit/s
Present Usage:	30 % ; Water resource of the Rural Portable Water system and laundry tank.
Owner:	Municipality
Potentiality:	High
Remarks:	Located outside of the project area
Name:	2) *Monteroso spring*
Composition:	1 spring
Discharge:	less than 0.01 lit/s approx. and seasonally varied
Present Usage:	Partially ; Water resource of drinking water when tap water is not available in the area.
Owner:	Private
Potentiality:	Low
Remarks:	Spring dry up in every dry season
Name:	3) *Los Diaz public tank's spring*
Composition:	1 spring
Discharge:	less than 0.01 lit/s approx. and seasonally varied
Present Usage:	100% ; Water resource of the public water tank for laundry
Owner:	Caserio Los Diaz
Potentiality:	Low
Name:	4) *Sector I spring*
Composition:	1 spring
Discharge:	less than 0.01 lit/s approx.
Present Usage:	Main resource of drinking water in Sector I area
Owner:	-
Potentiality:	Low

Note ; If spring does not have specific name, the name of the owner is substituted for it.

Table 5.4.3 (1) Potato Price

(1) Price flow by transactions

: Loman, middle size, middle of August, 2000

Farm-gate (Pelestina)	Q 30 ~ 35 / quintal	26.1 ~ 30.4 %
CollectionCenter(La Cumbre)	Q 40 ~ 55 / quintal	34.8 ~ 47.8 %
City Terminal(Guatemala City)	Q 65 ~ 75 / quintal	47.8 ~ 65.2 %
Retails: Super-Market I	Q 125 ~145 /quintal	
Super-Market II	Q 115 ~125/quintal	100 %
Roadside shop	Q 85 ~105/quintal	

(2) Monthly Potato Price change on Potato in 1999

: Anuario Estadistico de Pricios 1999
Productos e Insumos Agropecuarios

	WHOLESALE(quintal)			CONSUMMER(lb)		
Month	Ave.	Min.	Max.	Ave.	Min.	Max
Jan.	209.58	200.00	220.00	2.54	2.50	3.00
Feb.	215.00	200.00	230.00	2.61	2.00	3.00
Mar.	160.00	100.00	200.00	2.21	2.00	2.50
Apr.	122.50	100.00	175.00	1.83	1.50	2.00
May	107.50	100.00	120.00	1.51	1.40	1.50
Jun.	98.67	85.00	110.00	1.40	1.25	1.50
Jul.	85.42	75.00	100.00	1.29	1.00	1.50
Aug	71.25	60.00	85.00	1.00	0.90	1.25
Sep.	76.67	65.00	90.00	1.05	1.00	1.25
Oct.	90.42	75.00	110.00	1.27	1.25	1.50
Nov.	100.00	80.00	115.00	1.48	1.25	1.50
Dec.	90.00	85.00	100.00	1.33	1.25	1.50
1999 ave.	118.92			1.63		

(3) Monthly Average of Margins of Middlemen Retail/Wholesale During 1999

Sistema de Informacion de Mercados
United de Politicas e Informacion Estrategica/Area de Informacion

Loman Washed	Jan	Feb	Mar	Apr	May	Jun
	21.27	21.51	38.39	49.66	40.70	41.89
	Jul	Aug	Sep	Oct	Nov	Dec
	51.22	40.94	36.96	40.55	47.92	47.22

Table 5.4.3 (2) Financial Crop Budget of Potato Production under Present Condition in Paletina d

Potato

Item	Unit	Price l)	Quantity	Amount nz.)
A) Gross Income				
Unit Yield	qq.	25	240	**6,000**
B) Production Cost				**4,480**
1) Farm Inputs				
- Seeds	qq.	25	40	1,000
- Fertilizers				
N	pound	2.00	320	640
P	pound	1.7	260	442
K	pound	1.6	100	160
- Compost	quintal	20	20	400
- Insecticides				
Cursate	lit	90	5	450
Antracol	kg.	50	13	650
Bondecebe	kg.	40	6	240
Adherent	lit	20	5	100
2) Labor (Paid)	man-day	20	20	400
Labor (Family)	**man-day**		**100**	**0**
C) Net Income	(Quetzal/Manz .)			**1,520**

Table 5.4.6 (1) Rural Infrastructure in Palestina (1/3)

1. Community Drinking Water Supply

(1) Number and % of beneficiaries	[No. of Beneficiary] (1) Rural system : 927 houses in the whole system, and 106 houses are located in the project area (data from the water committee as of July 2000) (2) Urban system : 400 houses in the whole system. Most of the taps of the urban system are located at out of the project area, i.e. the Palestina town area, and only Los Cabrera and Los Morares area have the water services from the Urban system. In the Los Cabrera and Los Morares, about 60 % of the houses which have a water tap receive the water through the Urban system. [% of Beneficiary] 60% of all the houses in the area (according to the ad hoc survey by Study Team, which covered 112 houses and 152 families)
(2) Management organization and its regulations	[Water committee] Rural system and central system are managed by CONSIDER - " *La Comision interinstitutcional para la Administracion del Sistema de Agua Rural* " [Water committee member] 17 person of represent of 17 communities, 4 consejales and Mayor) [Regulation of committee] Exists; " *Regamento para la administracion, operacion y mentenimiento del sistema de captacion y distribucion de agua de las comunidades rurales de Palestina de Los Altos* "
(3) Water consumption and operation	[Water record made by the water committee] Exists. [Estimated water consumption per person] 40-80 lit/day/person (condition: 1 house has 6.7 family members) [Average operation hour and discharge of the Rural system] 5-6 hours/day * 21 lit/s (pumping up for 3 hours continuously and 45 minutes interval for re-fulfilling the 1st tank) (the average from Mar-July 2000 based on the electric consumption records)
(4) Facilities	(1) Rural Portable Water system - type of system : pumping-up system - water resources : spring - tank capacity: [1st tank]50m^3 + [2nd]25 m^3 + [3rd]100m^3 - conduction pipe length (from 1st tank to 3rd tank): 2.7 k m - pump : [1st pump]75HP (21 litters/sec) + [2nd] 75HP (21 litters/sec) + [3rd] 50HP (14 litters/sec) (2) Urban Portable Water system - type of system : pumping-up system - water resources : well - pump : 30 HP

Table 5.4.6 (1) Rural Infrastructure in Palestina (2/3)

(5) Rule of operation and distribution of drinking water to each family	[Limitation of water usage in volume] : No limit [Limitation of usage for irrigation] Irrigation by the portable water is prohibited. [Daily limitation of usage] : No limit
(6) Water charge price, how to collect water charge, outstanding status, and means against delinquent	[Monthly water charge] (1) Rural system : Q.2 per 1m^3, and minimum charge is Q.12 for/up to 6 m^3 (2) Urban system : Q.0.35 per 1m^3, and Minimum charge is Q.11 for/up 30 m^3 [Collection of water charge] The water charge should be paid at the water committee in the municipality office at every end of month. [Total amount of collected water charge in a month] Q.7,000 – Q. 12,000 per month [Means against delinquent] Maximum period of the moratorium for payment: 3 months. *After such moratorium period, the committee cut the services.* *However this penalty deal is not taken frequently because of physical and administrative problems.* [Admission of the Rural Portable Water system] Q. 2,000-4,000 including installation of pipes to the house (Admission varies depending on his past voluntary contribution to the construction works of the system)

2. Sanitary system

(1) Diffusion % of the sanitary systems of the total house	[Toilet] 73 % (the ad hoc survey, which covered 112 houses and 152 families) [Drainage system "sumidero"] 22 % (the ad hoc survey)
(2) Features	[Toilet] Toilet is furnished with a concrete/wooden seat on the top of a dug hole, about 5-8m in depth, and covered with cloth, wooden or plastic screen. [Drainage] Dug pit, 10m in depth, and concrete top cover [1m*1m] Dug pit collects sewerage water from house and water infiltrates ground.
(3) Remarks	[High percentage of self-contained for toilet facility] About 70% of the houses which has the toilet made it by his own finance, and the villagers have high interest in the toilet facility. [Drainage] The drainage facilities installed in the houses were provided by a project and nobody made it by himself. All the houses have surface drainage ditch. And, through the ditch, sewage water can be drained without being stagnate in a house because of its geographical condition. It seems to be no any problem caused by the present poor drainage condition.

Table 5.4.6 (1) Rural Infrastructure in Palestina (3/3)

3. Electricity supply

(1) Number and diffusion % of beneficiaries	[Diffusion %] 73 % (the ad hoc survey, which covered 112 houses and 152 families)
(2) Construction / installation cost	Present electricity supply system was constructed by the financial supports of "*Consejo de Desarrollo Urbano y Rural*", the municipality and the community. [Construction year] 1997 for Los Cabrera/Morares, Los Perez and Los Diaz 1999 for Sector I [Finance shouldered by the beneficiary] Q.1000/house and the voluntary services contributing to the construction works
(3) Remarks	According to a farmer, he pays about Q.50-70/month for 3 nos of 75w light bulbs and electricity cut is happen about 4 times in a month and its duration is 3 hours to 1 day.

4. Roads and Bridges

(1) Road in/near the community	[Pavement] Gravel pavement [Present conditions of road] Partially damaged but no problem in general [Maintenance works] Led by the municipality mainly.
(2) Bridge	There are several bridges in the area. The conditions of bridges are good.

5. Improved Stove

(1) Number, diffusion % of the total household in village.	[Diffusion % of the total house] 70 % (the ad hoc survey, which covered 112 houses and 152 families)
(2) Remarks	[High percentage of self-contained for toilet facility] Around 70% of the houses which has the stove made it by his own finance, and the villagers have high interest in the improved stove.

Table 5.4.7(1) Results of Potable Water Test in Palestina de Los Altos

Date of sampling		17/08/2000	17/08/2000	17/08/2000	17/08/2000	18/08/2000	20/09/2000	20/09/2000	
Item	Unit	Q-1	Q-2	Q-3	Q-4	Q-5	Q-6	Q-7	Standards
pH	-	7.0	6.6	6.8	7.1	6.5	7.0	6.7	5.8-8.6
EC	μ S/cm	116	92	128	159	108	85	99	-
Coliform group	cfu/ml	**10**	**1**	**50**	**30**	**6**	**-**	**-**	ND
Bacteria	cfu/ml	40	10	**100**	10	8	-	-	100
COD	mg/l	5	5	5	5	**10**	**50**	**50**	10
TH	mg/l	20	10	20	20	10	10	10	300
NH_4^+	mg/l	ND	ND	ND	ND	ND	0.2	0.2	-
NH_4^+-N	mg/l	ND	ND	ND	ND	ND	0.16	0.16	-
NO_2^-	mg/l	ND	ND	ND	ND	ND	ND	ND	-
NO_2^--N	mg/l	ND	ND	ND	ND	ND	ND	ND	10
NO_3^-	mg/l	5	2	5	5	5	2	2	-
NO_3^--N	mg/l	1.15	0.46	1.15	1.15	1.15	0.46	0.46	10
Cu	mg/l	ND	ND	ND	ND	ND	ND	ND	1.0
Fe	mg/l	ND	ND	ND	ND	ND	ND	ND	0.3
Zn	mg/l	ND	ND	ND	ND	ND	ND	ND	1.0

Remarks: fountain: Q-1,Q-5
well: Q-3
tank: Q-2,Q-4
river: Q-6,Q-7

Table 5.4.7(2) Water Use in Palestina de Los Altos

	Q-1	Q-2	Q-3	Q-4	Q-5	Q-6	Q-7
Community	Los Cabreras	Los Diaz	Los Perez	Los Perez	Sector 1	Las Rosas	Los Cabreras
Owner	Private	Community	Private	Community	Community	East river of three ones	West river of three ones
Place	fountain	public tank	well	public tank	fountain	river	river
Size	0.7mX0.7mX depth0.3m	-	0.8mX0.8mX 6m(to water surface)	through a pipe	1mX1mX depth2.0m	width 2m, depth 0.4m	width 2m, depth 0.3m
When to use the water	When water supply is cut off, about 10 families use this water.	About 15 families utileze it as daily drinking water.	All the time. No affordability to have running water yet	Washing place. Possibility to use the water to drink.	Several times a day. There is no water service in this community.	Washing place. Possibility to use the water to drink.	Washing place. Possibility to use the water to drink.

Table 5.4.8 (1) Existing Development Projects in Infrastructure Sector in Palestina

1. Drinking Water Supply Project by CARE

(1) Construction year, executing body	Rural system [Construction year] 1997 [Executing body] CARE Guatemala & Municipality [Beneficiary] 927 houses [Beneficiaries' share of cost] Q 800 and voluntary services (about 5 weeks)
(2) Facilities	- type of system : pumping-up system - water resources : spring - tank capacity: [1st tank]50m^3 + [2nd]25 m^3 + [3rd]100m^3 - conduction pipe length (from 1st tank to 3rd tank): 2.7 k m - pump : [1st pump]75HP (22 litters/sec) + [2nd] 75HP (22 litters/sec) + [3rd] 50HP (14 litters/sec)

2. Sanitary System Project by CARE

(1) Number or % of beneficiary the total house	[Toilet] 23 % (the ad hoc survey, which covered 112 houses and 152 families) [Drainage system "sumidero"] 22 % (the ad hoc survey)
(2) Remarks	Some houses have the toilet and the drainage system which were installed by CARE at the same time of the portable water project. CARE granted the people all the material and the villagers made it following the instruction of CARE. CARE has also introduced a sewerage drainage pit, so called "*sumidero"*, into houses as the same manner of toilet system.

3. Electricity Supply by CODEUR

(1) Number of beneficiaries for power supply	[% of beneficiary] 73 % (the ad hoc survey, which covered 112 houses and 152 families)
(2) Construction / installation cost	Present electric system was constructed by the financial supports of "*Consejo de Desarrollo Urbano y Rural*"(CODEUR), the municipality and the community. [Construction year] 1997 for Los Cabrera/Morares, Los Perez and Los Diaz 1999 for Sector I [Finance shouldered by the beneficiary] Q.1000/house and the voluntary services contributing to the construction works

4. Improved Stove by FIS

(1) Number, % of beneficiaries of the total houses	[% of beneficiary] 73 % (the ad hoc survey, which covered 112 houses and 152 families)
(2) Installation/construction	[Provided by FIS] : Materials, such as blocks, cement and sand, etc. [Provided by the villagers] : Labor services

Table 6.2 (1) Procedure of the Participatory Study

Steps	Activities	Contents	Output at each stage	Final Output
Explanation of Study Procedure (Opening)	1) Public Meeting-I	- Explanation of objectives, outline, procedure of the study. - Request cooperation of community members.	-	*1. Community Profile* 1) Socio-economy 2) Agriculture & Livestock 3) Infrastructure 4) Environment 5) Health & Sanitation 6) Resource Map 7) Problem Analysis 8) Objective Analysis 9) Proposed Approach *2. Activity Report* 1) Key-informant Interview 2) Questionnaire Survey 3) Field Inspection 4) Public Meeting (I)~(V) 5) Representative Meeting (I)~(II)
Study on Present Situation	1) Key-informant Interview 2) Questionnaire Survey	- Interview with 5~10 key-informants with semi-structured interview. - Interview with 10~20 households with using simple questionnaire.	- Brief community profile (draft) - List of problems and needs	
Identification of Problems & Needs	1) Public Meeting-II, III (by gender, by age group) 2) Public Meeting-IV (by all members)	- Identification of problems and needs - Consensus on problems and needs - Ranking of needs - Selection of representatives	- List of problems & needs with ranking - List of representatives	
Investigation of Problems, Needs & Potentials	1) Field Inspection with representatives 2) Representative Meeting-I	- Confirmation of problems and potentials through site inspection - Preparation of Resource Map - Marketing condition in/around the cuenca - Environmental impact in/around the cuenca - Problem analysis	- List of confirmed problems & needs - Resource map - Problem trees	
Investigation of Solutions	1) Representative Meeting-II 2) Public Meeting -IV (by all members)	- Alternative (Approach) analysis - Consensus on approaches - Ranking of the approaches	- Objective trees with approaches	

Table 6.3 (1) People's Participation in Survey Activities

Activities	Xeatzan Bajo				Panyevar				Pachum				Palestina			
	Date	Participants			Date	Participants			Date	Participants			Date	Participants		
		Male	Female	Total		Male	Female	Total		Male	Female	Total		Male	Female	Total
Public Meeting																
1. Public Meeting 1	07/18	150	90	240	07/17	80	80	160	07/19	50	20	70	-	95	95	190
2. Public Meeting II	07/31	140	80	220	07/26	94	84	178	08/02	50	30	80	-	63	132	195
3. Public Meeting III	08/01	155	135	290	07/27	101	71	172	08/08	29	10	39	-	54	99	153
4. Public Meeting IV	08/07	125	120	245	08/01	106	97	203	08/16	43	30	73	-	52	89	141
5. Public Meeting V	08/28	90	80	170	08/09	88	71	159	08/30	47	37	84	-	57	101	158
Average Participation		132	101	233.0		93.8	80.6	174.4		43.8	25.4	69.2		64.2	103.2	167.4
Number of Households				325				360				160				297
Participation Rate (%)				71.7				48.4				43.3				56.4
Other Activities																
1. Key-informant Interview	7/19~21	15	3	18	7/18~20	8	4	12	7/25~26	14	3	17	-	22	8	30
2. Questionnaire survey	7/24~28	-	-	30	7/20-23	29	2	31	7/21~8/1	47	2	49	-	108	15	123
3. Representative Meeting I	08/24	20	10	30	08/04	17	7	24	08/23	23	8	31	-	19	11	30
4. Representative Meeting II	08/25	19	6	25	08/07	20	9	29	08/23	23	8	31	-	19	11	30

Activities	Los Cabrera/Morales				Los Diaz/Sector I				Los Perez			
	Date	Participants			Date	Participants			Date	Participants		
		Male	Female	Total		Male	Female	Total		Male	Female	Total
Public Meeting												
1. Public Meeting 1	07/21	30	35	65	07/21	30	40	70	07/20	35	20	55
4. Public Meeting II	08/04	14	54	68	08/03	21	50	71	08/02	28	28	56
5. Public Meeting III	08/09	17	17	34	08/10	24	43	67	08/11	13	39	52
6. Public Meeting IV	08/16	16	33	49	08/17	18	32	50	08/18	18	24	42
9. Public Meeting V	09/13	12	37	49	09/12	27	40	67	09/11	18	24	42
Average Participation		17.8	35.2	53		24	41	65		22.4	27	49.4
Number of Households				83				107				107
Participation Rate (%)				63.9				60.7				46.2
Other Activities												
2. Key-informant Interview	7/28-29	7	3	10	7/26-27	7	3	10	7/24-25	8	2	10
3. Questionnaire survey	7/31-8/1	39	3	42	8/2-3	43	11	54	8/4-7	26	1	27
7. Representative Meeting I	08/22	7	3	10	08/22	6	5	11	08/22	6	3	9
8. Representative Meeting II	08/22	7	3	10	08/22	6	5	11	08/22	6	3	9

Table 7.5 (1) Monitoring Indicators and Organization of the Implementation and Management of the Projects (1/3)

No.	Name of the Project	Monitoring Indicators		Organization of monitoring
		condition of before implementation of the project	condition after implementation of the project	
Environment and Conservation Plans				
a-1	Restoration plan of the collapsed lands	1. Progress of completion of construction 2. Qualitative monitoring soil erosion 3. Farmer's participation rate	1. Growth rate of trees 2. Soil amounts to be eroded	An environmental committee in the community A executing office
a-2	Soil Conservation plan for steep farm lands	1. Progress of completion of construction 2. Farmer's participation rate	1. Growth rate of crop 2. Soil amounts to be eroded	An environmental committee in the community An executing office
a-3	Forestation plan	1. Progress of completion of construction 2. Farmer's participation rate	1. Growth rate of trees 2. No. of participant for forestation and training programs	An environmental committee in the community An executing office
a-4	Agro-forestry development plan	1. Progress of completion of construction 2. Farmer's participation rate	1. Growth rate of crops and trees 2. No. of participation for tree planting and training programs	An environmental committee in the community An executing office
a-5	Management plan of water quality	-	1. Content of toxity materials in water	Municipality office
a-6	Solid wastes treatment plant	1. Progress of completion of construction	1. Quantity of solid wastes 2. Amount of produced composts 3. Financial status of a executing committee	An committee in the municipality A municipality office An executing office
Plans for Increasing Income Generation			3. Financial statement	
b-1	Plan for making composts	1. Progress of completion of construction	1. Production cost of compost per ton 2. Production of composts 3. Financial statement	A municipality office An executing office
b-2	Plan of model farm on potato production	1. Progress of completion of implementation	1. Number of farmer's visitors 2. Yield of potatoes	An executing committees in the municipality An executing office
b-3	Potato storage plan (a) farmer's level	1. Progress of completion of construction	1. Price of potatoes 2. Amount damaged during storage period and quality of potatoes	A executing committee in the community An executing office
	Potato storage plan (a) commercial level	1. Progress of completion of construction	1. Price of potatoes 2. Quality of potatoes 3. Financial statement	An executing committee in the municipality A municipality office An executing office
b-4	Potato processing plan	1. Progress of completion of construction	1. Production cost 2. Financial statement	Cooperatives in the community An executing office
b-5	Mini-irrigation plan	1. Progress of completion of construction 2. Farmer's participation rate for provision of labor force for construction	1. Net benefits 2. Collection Rate of water charge	Irrigation committee in the community An executing office
b-6	Payer-chicken Raising Plan for women's groups	1. Progress of completion of construction	1. Status for raising 2. Amount of eggs and saled eggs, and net profit of cooperatives	Women' cooperative in villages An executing office

Table 7.5 (1) Monitoring Indicators and Organization of the Implementation and Management of the Projects (2/3)

No.	Name of the Project	Monitoring Indicators		Organization of monitoring
		condition of before implementation of the project	condition after implementation of the project	
b-7	Project for improvement of coffee plantation	1. Progress of completion of construction	1. Growth rate of coffee seedlings 2. Areas that replanted by new seedlings 3. Number of farmers who use composts and imporved technical methods 4. Yield of coffee and other cash orchard trees 5. Financial statement of cooperative	A coffee farmer's cooperative in the community An executiong office
b-8	Coffee processing plan	1. Progress of completion of construction	1. Total amount of coffee bean to be pulped 2. Rate of milling 3. Financial statement of cooperative	Coffee processing cooperatives in the community An executiong office
b-9	Agro-processing development plan	1. Progress of completion of construction	1. Total production 2. Amount of sales of production 3. Financial statement of cooperatives	Agro-processing farmer's cooperatives in the community An executing office
b-10	Plan of direct sale of vegetables	1. Progress of completion of construction	1. Total amount of agricultural products to be dealt with 2. Price of agricultural products to be dealt with	Crop production cooperatives in the community An executing office
b-11	Improvement plan for maize threshing	1. Consumed time to be threshed for maize by traditional method	1. Consumed time to be threshed for maize by threshing equipment	A committee in the community An executing office
b-12	Institutional plan for fostering nucleus farmers	1. Progress of completion of implementation	1. Number of meetings 2. Improvement of capacity of nucleus farmers	A nucleus farmer committe in the community An executing office
b-13	Plan of Revolving fund for hand weaving thread	1. Progress of completion of implementation	1. Amount of sales and stock of thread 2. Financial status of committee 3. Reduction of production costs	Cooperatives An executing office
Improvement plan for living environments				
c-1	Rehabilitation plan of roads in the village	1. Progress of completion of construction		A road committee in the community/ an executing office
c-2	Rehabilitation plan of regional roads	1. Progress of completion of construction		Mininstry concerned
c-3	Plan of rural electricity	1. Progress of completion of construction	1. Collection rate of electric charge	A electric and energy committee in the community/an executing office
c-4	Rehabilitation plan for drinking water system	1. Progress of completion of construction	1. Collection rate of water charge 2. Frequency and duration of suspension of water supply	Water committee in the community An executing office
c-5	Water quality improvement plan for the existing drinking water supply system	1. Progress of completion of construction	1. Number of users 2. Status of water treatment system 3. Number of diarrhea patients 4. No. of colon bacillus in potable water	Water committee in the community An executing office
c-6	Plan of extension use of improved cooking stoves and of Sauna bath "Tamascal"	1. Consumption of wood fuel	1. Farmer's perception 2. Consumption of wood fuel	A committee in the community
c-7	Plan of provision toilette facilities	1. Progress of completion of construction	1. Status of facilities	A committee in the community

Table 7.5 (1) Monitoring Indicators and Organization of the Implementation and Management of the Projects (3/3)

No.	Name of the Project	Monitoring Indicators		Organization of monitoring
		condition of before implementation of the project	condition after implementation of the project	
c-8	Plan of night time health education		1. Number of participants	Health committees in the community/an executing office
c-9	Plant medicine growing plan	1. Progress of completion of construction	1. Yield of medical crops 2. Amount of sales of production 3. Financial status	Health guards in the community An executing office
c-10	Improvement plan of service quality given to Comadronas	1. Progress of completion of implementation	1. Maternal mortality rate 2. Number of paitients	Comadronas , Health committees in the community An executing office
c-11	Plan for installation of minimal phaaarmacy unit (MPU)	1.Progress of completion of implementation	1. Kind and aomount of drug to be saled and stocked 2. Profit in MPU 3. Accounting status of MPU 4. Budget use in health committee	A health committee in the community MPU An executing office
c-12	Integrated community health activity Plan	1. Progress of compretion of implementation	1. Kind and aomount of drug to be saled and stocked 2. Profit in MPU 3. Accounting status of MPU 4. Budget use in health committee	A health committee in the community MPU A municipality office An executing office
c-13	Plan for immigrant people to the coastal areas	1. Progress of completion of implementation	1. % of farmers contaminated by agricultural chemicals 2. Number of diarrhea patients	A committee in the community An executing office
c-14	Plan for reducing work load in the mountainous area through coffee processing	1. Progress of completion of implementation	1. Income of beneficiaries 2. Processed amount of coffee and milling rate	A committee in the community An executing office