

G.5.2 SWM Organizational System

a. Scheme of Municipal Cleansing Service

Based on the information compiled during the visits to the 14 municipalities the Study Team has prepared Table G-62 and Table G-63 that show the following:

- The 14 municipalities have their own organization charts. Soyapango (Figure G-23) and Ayutuxtepeque (Figure G-24) are attached herein. In general terms all municipalities follow the same model, with certain variables. It can also be noted that at least 4 of these organizational charts lack of the cleansing service.
- Only three municipalities have detailed charts on their cleansing services. San Salvador example is also attached herein (Figure G-25).
- Likewise, only 4 municipalities have ordinances that regulate the cleansing service; as a consequence, the remaining municipalities collect even hazardous refuse because there is no provision that prohibits such. In the same manner, only 4 municipalities have a Handbook of Cleansing Functions.
- The 14 municipalities have their ordinance for the payment of cleansing fees. However, regarding the payment of fees for the use of MIDES sanitary landfill, 4 municipalities do not have such (Antiguo Cuscatlán, Cuscatancingo, San Martín and Tonacatepeque), and they do not use this sanitary landfill. Nejapa has a fixed fee per user that includes collection and sanitary landfill fees, which are directly charged by the municipality.
- Almost 30% (variation from 9% to 41%) of municipal personnel belongs to the cleansing service; more than 20% (variation from 5% to 48%) of municipality budget are spent on the cleansing service. The aforementioned confirms, as in all the cities, that the cleansing service is the most important activity performed by the municipalities. Nevertheless, it is surprising and contradictory that in spite of being the most important service, its hierarchic rank within the municipal organizational charts of AMSS is so low. It is found at the 5th level in 4 municipalities, at the 4th level in 9 and only the 3rd level in one municipality.
- San Salvador municipality is implementing a re-organization process of its administrative structure that has three phases: transformation is called “*terciarización*”. Phase III that is the final one should be achieved in year 2002. This final organization chart shows the cleansing service as one of the four sections within the Sub-management Office of Urban Services. However, hierarchy of the cleansing service would have moved down from the actual 4th level to the 5th.

Table G-62: Organization chart and Municipal Ordinances in AMSS

Municipality	Organization Chart		C.S. Regulating ordinance	Ordinance Fees		C.S. functioning handbook
	Municipality	C.S.		C.S.	S/L	
San Salvador	Yes	Yes	Yes (May 1989)	9/4/99		Yes
Mejicanos	Yes	-	-	14/5/99	19/1/200	-
Delgado	Yes	-	-		20/5/99	-
Cuscatancingo	Yes	Yes	-		-	-
Ayutuxtepeque	Yes	-	-	22/1/93	26/3/99	-
San Marcos	Yes	-	-	3/6/99	17/3/99	-
Nueva San Salvador	Yes	-	-	26/3/99	26/3/99	-
Antiguo Cuscatlán	Yes	-	Yes (Jan. 3, 1998)	1/6/94	-	-
Soyapango	Yes	Yes	Yes (Nov 25, 1998)		17/3/99	Yes
Ilopango	Yes	-	-	12/1/2000	12/1/2000	-
San Martín	Yes	-	-	26/5/95	-	Yes
Apopa	Yes	-	Yes (Feb 22, 1993)	21/5/99	25/5/99	-
Nejapa	Yes	-	-	10/12/98	-	Yes
Tonacatepeque	Yes	-	-	3/2/99	-	-

Note:

C.S.: Cleansing service
S/L: Sanitary landfill

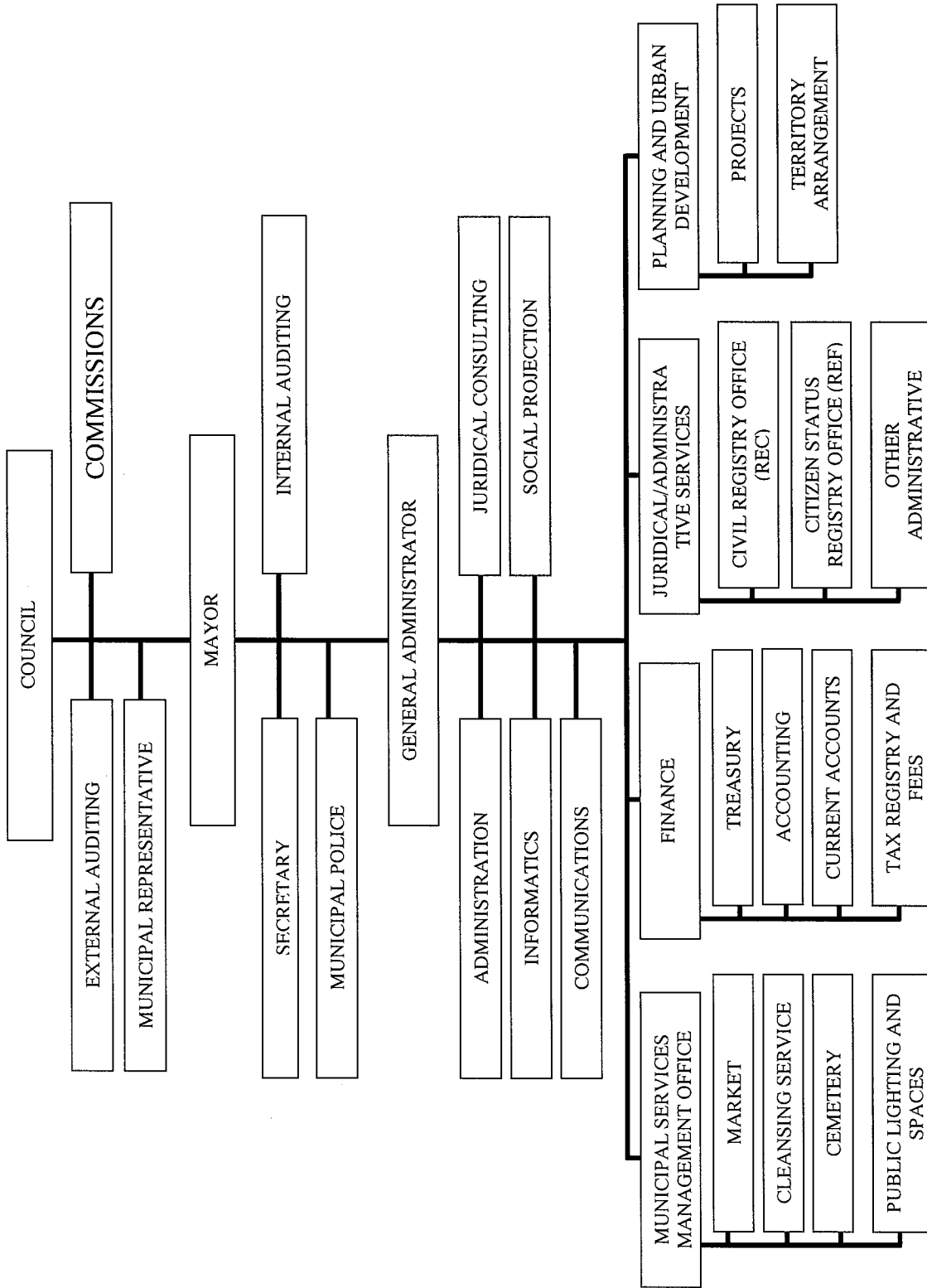


Figure G-23: Organizational Structure of Soyapango Municipality

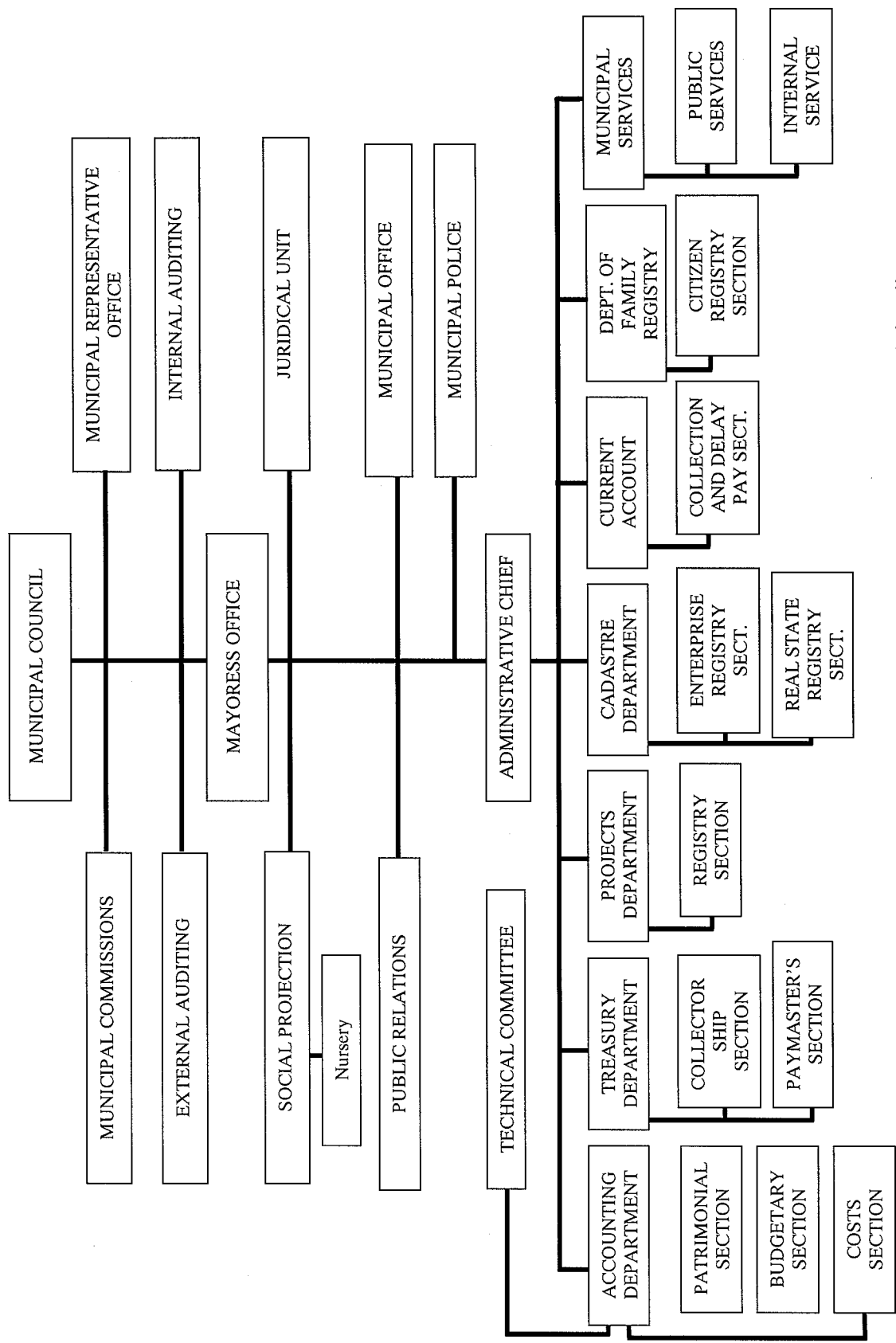


Figure G-24: Organizational Structure of Ayutuxtepeque Municipality

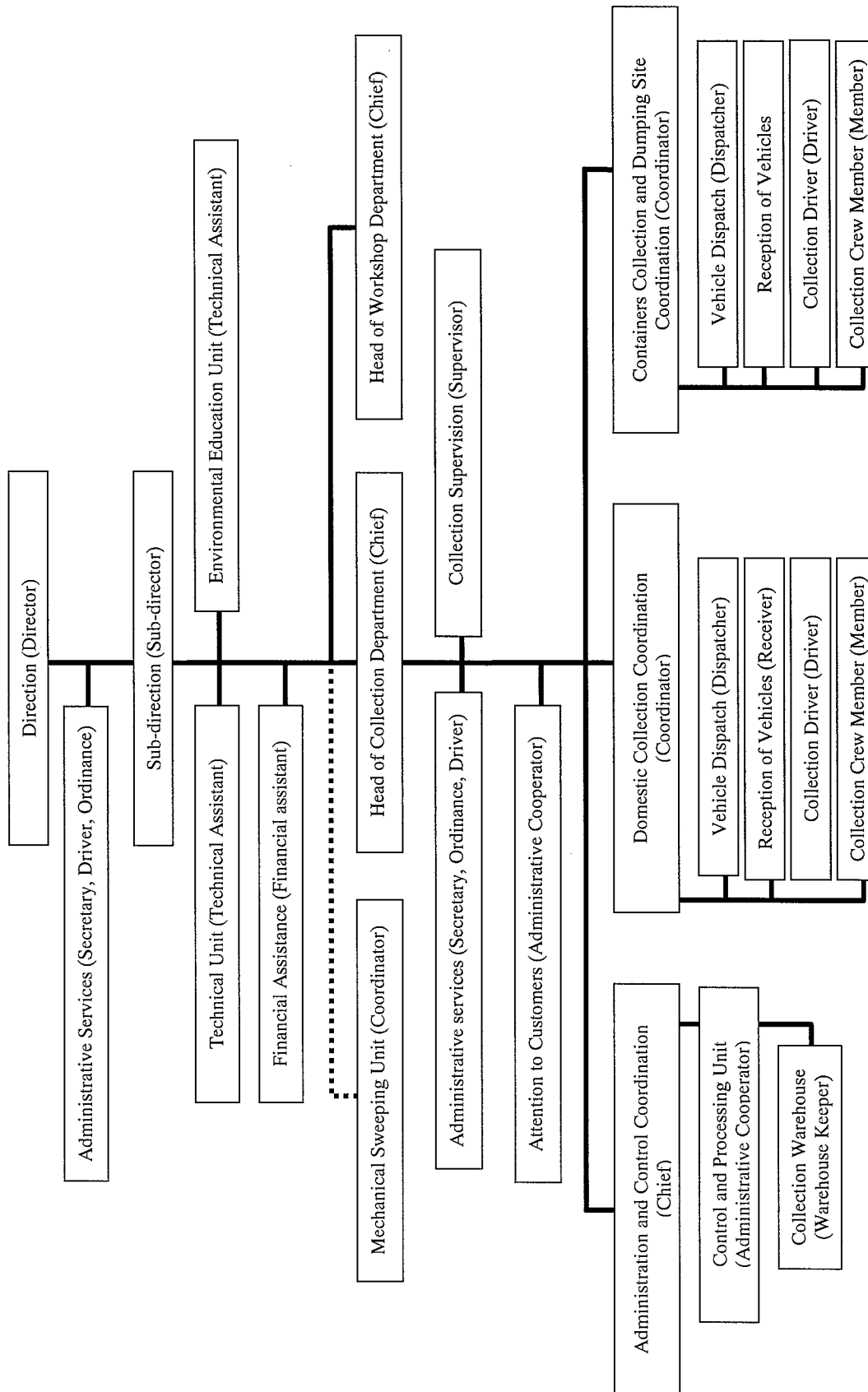


Figure G-25: Organizational Structure of Cleansing Department in San Salvador Municipality

Table G-63: Hierarchy of the Cleansing Service in Municipalities of AMSS
(Staff and resources), 1999

Municipality	1999 budget (million ¢)			Personnel(N°)			Position of cleansing service within municipal organization
	M	CS	CS/M%	M	CS	CS/M%	
San Salvador	353.0	54.6	15	4,000	1,000	25	Environmental sanitation manager (4 th level)
Mejicanos	17.0	6.6	39	237	85	36	Does not appear in environmental sanitation (4 th level)
Delgado	18.0	5.0	28	124	45	36	Does not appear in cleansing department (5 th level)
Cuscatancingo	24.1	1.6	7	200	37	19	One of 12 departments (3 rd level)
Ayutuxtepeque	8.7	1.6	18	52	11	21	One of 2 units of Public Services section (5 th level)
San Marcos	10.7	1.8	17	102	42	41	One of 9 Sections of Services (4 th level)
Nueva San Salvador	34.6	5.4	16	530	172	32	One of 8 Sections of Services (4 th level)
Antiguo Cuscatlán	18.6	5.9	32	370	97	26	One of 8 Units of public services (5 th level)
Soyapango	40.3	14.5	36	375	116	31	One of 4 Sections from the Municipal Services Management Office (4 th level)
Ilopango	13.0	6.2	48	208	72	35	One of 5 Sections of public services (4 th level)
San Martín	7.1	2.8	39	106	24	23	One of 4 Sections of public services (4 th level)
Apopa	12.2	2.2	18	179	41	23	One of 9 Sections of Services (4 th level)
Nejapa	8.5	0.5	6	45	12	27	Does not appear in Public Services (4 th level)
Tonacatepeque	6.0	0.3	5	45	13	29	

Note: M: Municipality
CS: Cleansing service

Source: Table prepared by the Study Team based on information collected during the visits.

b. Planning of Cleansing Services

Table G-64 shows the people or bodies in charge of planning and regulating cleansing services and plans on projects to be carried out as from year 2000, as a response to the main problems identified by officials of the cleansing service during the visits to the 14 municipalities.

Table G-64: Planning System of the Cleansing Service

Municipality	Planning	Regulation	Route design	Future plans/projects
San Salvador	Environmental sanitation management office	Environmental sanitation management office/jurist	Environmental cleansing management office	Modernization of environmental sanitation
Mejicanos	Environmental sanitation management office	Jurist	Environmental sanitation management office	Equipment replacement
Delgado	Services Department	Mayor/Jurist	Services department	Equipment replacement
Cuscatancingo	Mayor/Secretariat	Jurist	Collection team	Equipment replacement
Ayutuxtepeque	Municipal services department	Jurist	Public services	Compost and recycling through micro-enterprises

Municipality	Planning	Regulation	Route design	Future plans/projects
San Marcos	Juridical Committee	Jurist	Cleansing section	- Community education, - Equipment replacement - Modernization of fee collection
Nueva San Salvador	Communal services management office	Juridical consulting	Cleansing management office/Cleansing chief	- Community education - Modernization of commercial system
Antiguo Cuscatlán	Services management office	Representative (<i>Síndico</i>)	Services management office	- Final disposal - Study on fee structure
Soyapango	Municipal services	Juridical department	Municipal services	Modernization of commercial system
Ilopango	Public services	Administrative commission	Public services chief	Equipment replacement
San Martín	Mayor/representative (<i>Síndico</i>)	Juridical consulting	Mayor/representative (<i>Síndico</i>)	Final disposal
Apopa	Communal services	Jurist	Communal services	Improve commercial and cadastre system
Nejapa	Public services	Representative (<i>Síndico</i>)	Public services	Expand service coverage to other places
Tonacatepeque	Mayor	Representative (<i>Síndico</i>)	Mayor/representative (<i>Síndico</i>)	Final disposal

This table suggests the following:

- Yet planning and regulations such as route design is in charge of public service management offices or cleansing units in most of the municipalities, only in few of these their human resources are qualified to perform such functions and empirical solutions to these problems are frequent.
- Besides, since they do not have performance or management indicators nor cost accounting, planning possibilities become limited.
- Main projects are those concerning the replacement of the equipment, modernization of administration, improvement of the commercial system and therefore the financial one, and a sanitary final disposal of solid wastes of 4 municipalities that do not dispose of their wastes at the current sanitary landfill.

c. Operative System

55% to 95% of urban population of the municipalities in AMSS are rendered the collection service, as estimations are shown in Table G-65.

12 municipalities utilize contractors and/or concessionaires, which in most of the cases are micro-enterprises or one-person companies for the collection service in some specific areas or special wastes. In the case of contracts, the municipality pays the contractor per ton collected, whereas for concessions users directly make the payment of the service to the concessionaire.

Street sweeping service is conducted mainly in downtown streets of the municipalities and markets, and most of the former is provided by municipal cleansing services.

Table G-65: Operational System in Municipalities

Municipality	Collection %			Sweeping %			No. of markets	No. of containers	Final disposal
	M	C/C	T	M	C/C	T			
San Salvador	75	20	95	50	-	50	2	150	MIDES
Mejicanos	60	10	70	10	-	10	6	8	MIDES
Delgado	45	20	65	5	-	5	3	15	MIDES
Cuscatancingo	70	-	70	10	-	10	1	5	"La Chuca" (Espiga) dumping site
Ayutuxtepeque	75	-	75	2	-	2	1	-	MIDES
San Marcos	55	25	80	5	-	5	1	11	MIDES
Nueva San Salvador	80	10	90	50	-	50	1	32	MIDES
Antiguo Cuscatlán	90	5	95	60	-	60	1	2	"La Chuca" (Espiga) dumping site
Soyapango	80	-	80	5	-	5	4	21	MIDES
Ilopango	55	5	60	10	-	10	2	12	MIDES
San Martín	70	15	85	10	-	10	2	-	San Martín #1 dumping site
Apopa	65	5	70	5	-	5	1	16	MIDES
Nejapa	95	-	95	50	-	50	1	2	MIDES
Tonacatepeque	70	15	85	10	-	10	2	6	Dumping site at El Rosario canton

Note:

M: Municipality

C/C: Contractors/concessionaires

T: Total

Coverage percentages were calculated based on data provided during the visits to the 14 municipalities.

Likewise, there are more than 200 public containers within AMSS that are operated by the corresponding cleansing services. However –especially because of a lack of community education- an important amount of the containers become illegal dumping sites. Several municipalities are thinking about getting rid of such containers.

d. Commercial System

Table G-66 shows some aspects of the commercial system, and the following is noteworthy:

- Waste fee and tariff collection through electric consumption billing by CAESS and DELSUR is very important to achieve a high collection rate. Perhaps it is the most effective method: if the bill is not paid 30 days after being issued, electric power is cut off.
- However, since CAESS and DELSUR do not invoice the waste fees that are not paid in the following month, this allows debtors to pay only 50% of annual invoices. The municipalities are now negotiating with CAESS and DELSUR on this commercial restriction.
- Most of the municipalities are now updating fee-payer cadastre lists. This fact shows weakness of the commercial system, since the collection fee for residential areas is calculated on the area (m²) of the property.
- The fee of MIDES sanitary landfill for the residential sector is collected by ranges based on electricity consumption, although some population resist the charge.

Obviously, the electric companies have completely arranged their customer database, as they are calculated based on the number of electric meters installed.

- Another problem perceivable is the collection of the cleansing fee or S/L fee to those that are rendered the collection service. Modernization of municipal cadastres and their commercial system is urgent and demanded by most of the officials interviewed.
- Obviously, the delay in collecting directly the fees by the municipality is by far greater than the collection by CAESS/DELSUR.

Table G-66: Commercial System

Municipality	Fee (No. of users)		Cadastre	Collection (Billing)	
	Cleansing fee	S/L		by municipality	CAESS/DELSUR
San Salvador			Financial management office		
Mejicanos	33,846	38,000	General management office	Cleansing fee (60%)	S/L (65%)
Delgado	13,000	13,000	Representative (<i>Síndico</i>)	Cleansing fee (70%)	S/L (70%)
Cuscatancingo	14,221	-	Municipal secretary	-	Cleansing fee (70%)
Ayutuxtepeque	8,283	8,283	Administrative chief	Cleansing fee (60%)	S/L (90%)
San Marcos	7,500	12,210	Mayor	Cleansing fee (50%)	S/L (83%)
Nueva San Salvador	14,000	28,000	Registry Office	-	Cleansing fee and S/L (50%)
Antiguo Cuscatlán	9,515	-	Planning management office	Cleansing fee (70%)	-
Soyapango	70,700	70,700	Finances	-	Cleansing fee and S/L (40%)
Ilopango	20,000	23,000	Administrative office	Cleansing fee (65%)	S/L (85%)
San Martín	10,000	-	Secretariat	Cleansing fee (60%)	-
Apopa	26,713	29,633	Administrative chief	Cleansing fee (20%)	S/L (66%)
Nejapa	7,000	-	Administrative office	Cleansing fee and S/L (50%)	-
Tonacatepeque	9,200	-	Representative (<i>Síndico</i>)	Cleansing fee (55%)	-

Note:

S/L: sanitary landfill

Source: Table prepared by the Study Team based on information collected during the visits.

e. Financial System

Table G-67 shows some financial information gathered during the visits to the 14 municipalities; it should be noted that revenues and expenditures are only estimations not based on accounting data.

The table suggests the following:

- The 14 municipalities charge cleansing fees, be it directly or by means of CAESS/DELSUR.
- 9 municipalities charge the fee of the sanitary landfill through CAESS/DELSUR.

- No municipality conducts cost accounting, which turns the decision-making process into a difficult matter.
- Treasury works with only one and whole accounting for all the activities of the municipality.

Table G-67: Financial System 1999

Municipality	Fee		Budget control	Cost accounting	Treasury
	Cleansing fee	S/L			
San Salvador	Yes	Yes	Internal services management office	No	Only one and whole account
Mejicanos	Yes	Yes	Management office	No	" "
Delgado	Yes	Yes	Secretariat/treasurer	No	" "
Cuscatancingo	Yes	-	Secretariat/treasurer	No	" "
Ayutuxtepeque	Yes	Yes	Administrative chief	No	" "
San Marcos	Yes	Yes	Accounting	No	" "
Nueva San Salvador	Yes	Yes	Financial management office	No	" "
Antiguo Cuscatlán	Yes	-	Financial management office	No	" "
Soyapango	Yes	Yes	General management office	No	" "
Ilopango	Yes	Yes	Management office	No	" "
San Martín	Yes	-	Secretariat/treasurer	No	" "
Apopa	Yes	Yes	Administrative chief	No	" "
Nejapa	Yes	-	Administrative office	No	" "
Tonacatepeque	Yes	-	Secretariat/treasurer	No	" "

f. Administrative System

- The Mayor is in charge of the management of cleansing staff in three municipalities; the General Manager is in charge in 4 of them; the Administrative Office in other 3 municipalities; human resources department is in charge of it in one municipality; the Secretariat is in charge of it in one municipality and only two municipalities deal with the cleansing staff by means of the services departments.
- The acquisition of goods and services relies mainly on the amount; the major authorization depends on the Purchase committee, the Municipal Council, the Mayor, Treasurer, Secretariat, Representative (*Síndico*), administrative chief or office of the corresponding municipalities.
- Regarding equipment maintenance in 7 municipalities, it is in charge of the cleansing bodies themselves; in the other seven the Mayor, Representative (*Síndico*), the administrator of the municipality are in charge of it and even the Police chief is in charge in one municipality.
- There is no training program for the cleansing staff, with random exceptions.
- Table G-68 shows the ratios of the cleansing staff in the municipalities of AMSS. Although the ratio of 1.1 workers per 1000 inhabitants in AMSS is similar to that of other Latin American metropolitan cities, there is a distortion between the indicator in San Salvador (2.3 cleaning workers per 1000 people) and that of other

municipalities being less than 1.0 workers per 1000 inhabitants. Various metropolitan areas in Latin America also have the indicator below this 1.0 worker/1000 inhabitant ratio.

Table G-68: Cleansing Service Staff in AMSS (1999)

Municipality	Urban population (000)	Staff							Workerss/ 1000 HAB.
		Collection	Sweeping	Markets	Maintenance	Administration	Other staff	Total	
San Salvador	473	500	450	60	40	30		1,080	2.3
Mejicanos	185	49	34		2	4		89	0.5
Delgado	149	25	9	3	2	3	3	45	0.3
Cuscatancingo	90	22	9		3	1	2	37	0.4
Ayutuxtepeque	28	8	2			1		11	0.4
San Marcos	70	28	8	4		2		42	0.6
Nueva San Salvador	139	74	66	18	7	6	2	172	1.2
Antiguo Cuscatlán	43	55	30	5	5	4		99	2.3
Soyapango	284	90	12	12	4	6	7	131	0.5
Ilopango	127	56	3		3	4	6	72	0.6
San Martín	73	20	4					24	0.4
Apopa	164	28	10		2	1		41	0.3
Nejapa	15	6	4		1	1		12	0.8
Tonacatepeque	29	8	3	2		1		14	0.5
Total	1,869	969	644	104	69	64	20	1,870	1.0

Table G-69 shows the participation of micro-enterprises in AMSS' solid waste management. 45 micro-enterprises and cooperatives having more than 300 persons collect around 400 tons per day, sweeping certain streets and markets and some participate in disposing of around 70 tons per day at "La Chuca(Espiga)" final disposal site.

Micro-enterprises and cooperatives participate in these works in at least 12 municipalities. Some of them are formally organized, and even sponsored by NGOs, but most of them are informal.

Six formal contracts were entered with municipal councils, and the rest are 39 concessions, 19 out of which are duly authorized by the municipalities and 20 are informal but tolerated by the municipalities.

Payments received by these concessionaires for the concept of collection range between ¢ 8 to ¢ 15/user/month. Besides, CINTEC, S. A. de C.V., as will be explained in another chapter, is the contractor for MIDES sanitary landfill.

Table G-69: Participation of Enterprises and Micro-enterprises in SWM in AMSS

Municipality	Operation	No. of enterprises	Enterprise/ micro-enterprise	Staff number	Activity type	Amount handled ton/day	Payment
San Salvador	Collection	7	3 Coop./4 micro-enterprise	80	Concession (F)	40	13¢/ house/month
	"	2	MEDEL/ REDES	12	Concession (F)	100	60 ¢/ton
	"	4	Micro-enterprises	40	Concession (F)	150	1500¢/ ton
	Sweeping	2	Cooperative	15	Contract (F)	20.6 km.	70,000 ¢/month
Mejicanos	Collection	3	1 Coop./2 micro-enterprise	43	Concession (I)	5.5	12-15¢/ month
	Market	1	Coop/ABASAP	16	Contract (F)	Market/Compost	4,500¢/ month
Delgado	Collection	1	Nuevo Amanecer enterprise	15	Contract (F)	9	44.775¢/ month
San Marcos	Collection	1	Maquila	3	Concession (I)	12	\$18/day
	"	1	Brooklin	3	Concession (F)	3	\$ 18/day
	Pre-collection	1	Former scavengers	6	Concession (I)	3	
Nueva San Salvador	Collection	2	Morales/Herrera	20	Concession (F)	12	15¢/ month
Antiguo Cuscatlán	Collection	1	Sevilla	5	Concession (F)	3	
	Final disposal	1	"Espiga"	5	Contract (F)	70	40 ¢/ton
Soyapango	Collection	1	Cooperative	5	Concession (I)	2	8 ¢/month
	"	3	Former scavengers	17	Concession (I)	4	10¢/ month
Ilopango	Collection	6	Micro-enterprises	12	Concession (I)	18	15¢/ month
	"	1	Coop./ABA	8	Concession (F)	15	15¢/ month
San Martín	Collection	1	Micro-enterprise Sta.Teresa	4	Concession (I)	4	8 ¢/month
	"	1	Micro La Palma	2	Concession (I)	1	8 ¢/month
Apopa	Collection	1	Former scavengers	8	Concession (I)	6	15¢/ month
	Sweeping	1	Former scavengers	5	Contract (F)		12.50¢/ month
Tonacatepeque	Collection	3	Micro: 3 cantons	3	Concession (I)	2	10¢/ month

Note:

(F): Formal

(I): Informal

Source: Table prepared by the Study Team based on information collected during the visits.

Table G-70 shows the point of view by the Study Team with respect to the 3 management methods for solid wastes: direct administration, contract-out and concession.

Table G-70: Direct Administration, Contract-out and Concession

Method	Systems and sub-systems: duties		Bodies participating	Legal instrument	Financial risk
	Municipality	Contract-out/ concession			
Direct administration	Planning Operation Management Commercial Financial		Municipalities		Partial
Contract-out	Planning Financial Commercial Supervision	Operation Management	Private contractor: Enterprises Micro-enterprises People in general NGOs Scavengers Other	Contract: Municipality/ Contractor	Partial
Concession	Macro planning Supervision Authorization Fee	Micro planning Operation Management Commercial Financial	Private concessionaire: Enterprises Micro-enterprises People in general NGOs Other	Concession: Municipality/ Concessionaire	Total

g. Management of Hospital Solid Wastes

AMSS hosts 43 hospitals with around 5,000 beds that generate 3.3 tons of pathological hospital wastes per day, according to the information by MSPAS. These wastes come from hospitals of MSPAS, ISSS and some private hospitals.

In January 2000 an average of 2.7 tons of these pathological wastes are being collected per day (Monday through Saturday), 1.2 tons out of which belong to MSPAS hospitals and the remaining to ISSS and private hospitals.

Table G-71 shows the management of these pathological wastes, which includes intra-hospital separation, collection, haulage and treatment.

The following is perceived:

- 80% of wastes generated daily receive treatment.
- Collection by the hospitals of MSPAS is by means of direct administration. ISSS and private hospitals, on the other hand, contract out a private enterprise for this purpose.
- The participation of a new enterprise (SAE) as of year 2000 will improve competition.
- Each hospital of MSPAS estimates budget amount of about US \$0.36/kg. of pathological wastes generated within each hospital to meet collection and haulage costs. This value is similar to that paid by ISSS to the private company (¢ 1.50 per lb.).
- CINTEC charges US \$0.226/kg. for "Autoclave" treatment. Although this equipment started operating in January in Nejapa's sanitary landfill, MSPAS has not paid yet for this service to CINTEC. The reason behind is that Autoclave functioning has not been authorized by MSPAS and MARN.

- One aspect under discussion was that the company that owns Autoclave system wants to ensure a minimum amount of wastes treated of about 1,000 tons per year during ten years. MSPAS accepted one year contract.

Table G-71: Management of Pathological Hospital Wastes

Concept	MSPAS	ISSS	Private hospitals
Intra-hospital separation	- Managed by health professionals (certain regulations exist)	Same	Same
Collection and haulage	MSPAS does it directly by means of 2 vans with 2 drivers and 4 assistants. They collect 1.2 Ton/day. "SAE" will start operations as from year 2000.	"Transporte Guadalupe" that uses one transfer vehicle and 4 small vehicles. Servicios Ambientales Especializados (SAE) will start operations as from year 2000.	"Transporte Guadalupe". "SAE" will start operations as from year 2000. As a whole and along with MSPAS and ISSS, 2.7 Ton/day are collected.
	Frequency: daily, Monday through Saturday (6 a.m. - 11 a.m.)	Daily frequency (Monday through Saturday).	Same
	Personnel: Trained by MSPAS.	"Transporte Guadalupe" staff trained by MSPAS.	Same
	Cost: each hospital should allocate US \$ 0.36/kg. in their annual budget for the collection and treatment of pathological wastes.	ISSS pays "Guadalupe" ¢ 1.50 lb. transported. In small hospitals, "Guadalupe" charges ¢ 1,300/month. Contracts are entered with ISSS.	Same as ISSS
Treatment	"Autoclave" treatment operated by CINTEC, next to Nejapa's S/L. In total for MSPAS, ISSS and private hospitals, 2.7 Ton/day are treated.	Same	Same
	Contractor: CINTEC Fee: US \$0.20/kg + V.A.T. MSPAS has not paid yet for this treatment, since MSPAS and MARN have not authorized this Autoclave yet.	Same	Private hospitals should be paying the treatment fee (US \$0.226/kg)
	Duration of contract: MSPAS accepted one year renewable	Same	Same
	Minimum amount proposed by contractor to be treated: 1000 Ton/year		

G.5.3 Financial System

G.5.3.1 Actual Financial Situation of Municipalities

The municipal finance for the 14 municipalities in AMSS mainly consists of:

- Municipal fund (Sección I) and
- Subsidies from Central Government (Sección II and Sección III).

Since Sección I used to be categorized as autonomous funds, it had been basically managed at municipality's discretion.

However, since "Fondo de Desarrollo Economico Social(FODES)" was established in 1998, whose subsidy has been granted to municipalities for the establishment of their infrastructure through "Fondo de Inversion Social para el Desarrollo Local(FISDL)" and "Instituto Salvadoreño de Desarrollo Municipal (ISDEM)", 20% of the subsidy became available as funds for municipal operations. That accounts for a part of present Sección I.

a. Cost Accountability of SWM

Municipalities formerly collected only cleansing fee (tasa de aseo) from citizens for covering the expenditure of cleansing services. Since Nejapa landfill site started to be operated in 1999 by the MIDES, 10 municipalities collect landfill fee (tasa de relleno sanitario) from citizens to cover the final disposal cost in addition to the cleansing fee.

Cost accountability of municipal SWM further becomes unclear for most of the municipal officers, because landfill fee collection from the citizens and its payment to the MIDES has started just recently and an independent (revenue and expenditure) accounting for the sanitary landfill is started to be employed.

b. Trends of Annual Revenue and Expenditure

Table G-72 shows trends of annual revenue and expenditure of respective municipalities from 1997 to 1999. Comparing (Tax + Non-tax) per population of municipal revenue projected for 1999, the following municipalities which encompass high-income residential areas ranked top among the 14 municipalities.

- San Salvador: 492.2 colon/person (U\$56.3/person)
- Antiguo Cuscatlan: 367.4 colon/person (U\$42.0/person)
- Nueva San Salvador: 271.0 colon/person (U\$31.0/person)

As for the other 11 municipalities, it fluctuates around one-tenth of the top 3 cities. An average of all 14 municipalities is as follows:

- AMSS average: 187.3 colon/person (U\$21.4/person)

Table G-72: Trend of Annual Revenue and Expenditure

Unit : 1000colón

	San Salvador	Mejicanos	Delgado	Cuscatancingo	Ayutuxtepeque	San Marcos	Nueva San Salvador	Antiguo Cuscatlan	Soyapango	Ilopango	San Martin	Apopa	Nejapa	Tonacatepeque
1997 Real														
Revenue	Total	237,909	14,946	9,930	NA	2,757	NA	20,302	29,625	10,512	NA	NA	1,907	NA
	Tax revenue	91,745	1,505	NA	NA	769	NA	NA	6,622	NA	NA	NA	NA	NA
	Non-Tax revenue	71,951	7,608	1,480	NA	675	NA	6,090	6,234	NA	NA	NA	NA	NA
	Others	74,213	5,833	8,450	NA	1,313	NA	9,463	16,769	NA	NA	NA	NA	NA
	Expenditure(B)	254,369	NA	5,074	NA	2,757	NA	27,987	19,712	32,327	5,907	NA	NA	2,491
Balance(A-B)	-16,460	NA	4,856	NA	0	NA	402	590	-2,702	4,605	NA	NA	-584	NA
Revenue	Total	298,632	14,945	10,358	NA	3,533	NA	22,754	31,364	11,254	NA	NA	6,034	1,906**
	Tax revenue	90,942	1,909	NA	NA	1,295	NA	NA	6,163	NA	NA	NA	NA	NA
	Non-Tax revenue	97,028	7,720	5,059	NA	900	NA	5,024	7,123	NA	NA	NA	NA	NA
	Others	110,662	5,316	5,299	NA	1,338	NA	16,585	18,078	NA	NA	NA	NA	NA
	Expenditure(B)	281,664	16,538	8,700	NA	3,543	NA	30,437	20,046	34,563	9,957	NA	NA	7,472
Balance(A-B)	16,968	-1,593	1,658	NA	-10	NA	3,569	2,708	-3,199	1,297	NA	NA	-1,438	NA
Revenue	Total	322,537	15,227	18,175	13,017	8,652	10,662	21,265	40,332	12,970	6,743	13,994	8,554	5,986
	Tax+ Non-tax(c)	233,013	9,312	11,486	4,959	1,740	4,622	15,713	19,585	7,274	4,534	8,420	1,265	1,785
	Tax revenue	115,299	1,621	1,363	227	114	1,191	14,716	7,003	2,081	1,044	3,082	55	24
	Non-Tax revenue	117,714	7,691	10,123	4,732	1,626	3,431	26,675	12,582	5,193	3,490	5,338	1,210	1,761
	Others	89,524	5,915	6,689	8,058	6,912	6,040	15,394	20,747	5,696	2,209	5,574	7,289	4,201
1999 Budget	(c)/population (colons/person)	492.2	50.3	76.9	55.1	45.6	66.4	387.4	69.1	57.1	44.9	51.3	40.2	44.8
	(c)/population (US\$/person)	56.3	5.7	8.8	6.3	5.2	7.6	42.0	7.9	6.5	5.1	5.9	4.6	5.1
	Expenditure(B)	322,537	15,227	18,175	13,017	8,652	10,662	21,265	40,332	12,970	6,743**	13,994	8,554	5,986
	Balance(A-B)	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	360,804	10,553	21,171	11,665	5,216	10,298	38,497	24,698	48,806	16,660	7,278**	10,222**	5,440
Revenue	Tax revenue	93,532	2,545	1,068	235	174	1,434	8,536	7,865	2,633	1,662	3,196	319	34
	Non-Tax revenue	146,023	5,056	6,345	5,684	2,379	4,759	18,091	17,954	6,762	3,582	5,310	1,220	3,061
	Others	121,249	2,952	13,758	5,746	2,663	4,105	6,676	22,987	7,265	2,034	1,716	3,901	1,238
	Expenditure(B)	383,030	18,240	20,841	11,750	6,754	9,436	34,600	18,597	41,728	13,337	11,297**	4,963	3,652
	Balance(A-B)	-22,226	-7,687	330	-85	-1,538	862	3,897	6,101	7,078	-3,323	-597	-1,075	477
Population (1999)	473,374	185,204	149,394	90,079	38,158	69,660	152,723	42,773	283,598	127,434	101,086	163,974	31,466	39,871

sources : financial department of each municipalities, note : ** projection, Non-tax revenue: mainly the fee for municipal service, NA: not available
1US\$=8.75colons

c. Tax Collection Capability

“Municipal tax + fee” in budget, which are self-financing component, and amount of “municipal tax + fee” collected per population of 14 municipalities are compared in the table below.

Table G-73: Tax and Fee Collection

Unit	1999 Budget 1,000 colon	Share of (Tax+ Fee) in Budget %	1999 Balance in Real 1,000 colon	(Tax+Fee)/population		Reference population Nos.
				1999 Budget Colon	Real in 1999 Colon	
San Salvador	322,537	72.2	-22,226	492.2	506.1	473,374
Mejicanos	15,227	61.2	-7,687	50.3	41.0	185,204
Delgado	18,175	63.2	330	76.9	49.6	149,394
Cuscatancingo	13,017	38.1	-85	55.1	65.7	90,079
Ayutuxtepeque	8,652	20.1	-1,538	45.6	66.9	38,158
San Marcos	10,662	43.3	862	66.4	88.9	69,660
Nueva San Salvador	56,785	72.9	3,897	271.0	208.4	152,723
Antiguo Cuscatlan	21,265	73.9	6,101	367.4	406.4	42,773
Soyapango	40,332	48.6	7,078	69.1	91.0	283,598
Ilopango	12,970	56.1	3,323	57.1	73.7	127,434
San Martin	6,743	67.2	-597	44.9	51.9	101,086
Apopa	13,994	60.2	-1,075	51.3	51.9	163,974
Nejapa	8,554	14.8	477	40.2	48.9	31,466
Tonacatepeque	5,986	29.8	681	44.8	77.6	39,871

Municipalities whose share of “municipal tax + fee” in budget exceeds 70% are San Salvador, Nueva San Salvador and Antiguo Cuscatlan. “Municipal tax + fee” collected per population in these municipalities ranges from 210 to 510 colons/person.

8 municipalities such as Mejicanos, Ciudad Delgado, Cuscatancingo, San Marcos, Soyapango, Ilopango, San Martín and Apopa have its share ranging from 30 to 70%. “Municipal tax + fee” collected per population in these municipalities ranges 45 to 91 colons/person.

The share of Ayutuxtepeque, Nejapa and Tonacatepeque are less than 30% and “Municipal tax + fee” collected per population ranges from 48 to 78 colons/person. Tax collection capability of these 3 municipalities, in terms of “municipal tax + fee” amount collected per population, does not have big differences with 8 municipalities mentioned above.

G.5.3.2 Cleansing Fee and Landfill Fee

Fees of municipal SWM consist of cleansing fee (tasa de aseo) and landfill fee (tasa de relleno sanitario) for 10 municipalities that use MIDES landfill. 4 municipalities that do not use MIDES landfill collect cleansing fee (tasa de aseo) only.

While the cleansing fee (tasa de aseo), which has been collected for quite some time, is generally levied in proportion to the size of real estate, landfill fee is levied in proportion to the electricity(kilowatts) consumed in San Salvador municipality. In some other municipalities, a certain fixed fee set per rank is levied in accordance with the amount of electricity consumed. Nejapa municipality sets a fixed landfill fee per user.

9 municipalities that use the MIDES landfill collect landfill fee through the electric power companies (CAESS or DELSUR). Nejapa municipality collects the landfill fee directly from the users.

a. Cleansing Fee (Tasa de Aseo)

Table G-74 summarizes rates of cleansing fee in 14 municipalities. San Salvador, Cuscatancingo and Nueva San Salvador municipalities collect the cleansing fee through the electric power companies.

Table G-74: Cleansing Fee

	Housing (colon/m ² /month)	Industrial/ Commercial (colon/m ² /month)	Condominium (colon/m ² /month)			Remarks
			business activity	housing	common area	
San Salvador	0.253*	>1000m ² 0.446 1000m ² > 0.428			0.178	Oct.1999
Mejicanos	0.15	0.36/0.24	36.30**	12.10**	0.12	May 1999
Delgado	100m ² > 6.00** >100m ² 0.10	100m ² > 15.00** >100m ² 0.15	0.15	8.00**	0.10	
Cuscatancingo	0.12	0.20/0.15				Oct 1999
Ayutuxtepeque	0.07	0.21/0.14				Jan 1993
San Marcos	0.05	0.12/0.10			10.00	Jun 1999
Nueva San Salvador						
Antiguo Cuscatlan	0.07	0.20/0.15				Jul 1994
Soyapango	0.08	0.08/0.08		0.08		Jan 1993
Ilopango	0.07	0.30/0.25				Nov 1998
San Martin	0.10	0.20/0.12				Apr 1995
Apopa	0.07	0.20/0.12				May 1999
Nejapa	16.00*	70/30*				Dec 1998
Tonacatepeque	0.10	0.15				Feb 1999

Note: * Property in the marginal area is 8 colon/lot/month.
** colon/apt./month

b. Landfill Fee(tasa de relleno sanitario)

b1. San Salvador

San Salvador municipality collects the landfill fee in proportion to the amount of electricity consumed (i.e., 0.075 colon/kWh). However, it also establishes the minimum charge (5 colons/month) and maximum charge (300 colons/month) for its citizens. In other words, where the monthly consumption is between 67 to 4000 kWh, the fee is charged proportionally.

b.2 Mejicanos

As for Mejicanos municipality, the fee rate was established as agreed with CINTEC-MIDES at the initial stage, however, that was later revised with more detailed classification per consumption ranks. Meanwhile the municipality established the maximum charge per household as 50 colons/month.

Table G-75: Landfill Fee of Mejicanos Municipality

	Power consumption amount (kWh/month)	Waste disposal fee (colon/month)
Household	0-49	5.00
	50-99	10.00
	100-149	20.00
	150-199	30.00
	200-249	35.00
	250-299	40.00
	300-399	45.00
	400-	50.00
Institution, Commercial, Industry	0-399	30.00
	400-599	50.00
	600-799	70.00
	800-999	90.00
	1000-1199	120.00
	1200-1399	150.00
	1400-1599	200.00
	1600-	300.00

Source: Mejicanos Municipality

b.3 Delgado

The landfill fee rate of Ciudad Delgado is summarized in Table G-76. Fee rates for institutions, commercials and industries are ranked in detail in accordance with electricity consumed. Furthermore, fee rates for milling industry and restaurants are set separately with maximum charge of 150 colons/month.

Table G-76: Landfill Fee of Delgado Municipality

	Power consumption amount (kWh/month)	Waste disposal fee (colon/month)
Household	0-49	4.00
	50-99	9.00
	100-199	24.00
	200-299	55.00
	300-	80.00
Institution, Commercial & Industry	0-50	15.00
	51-100	30.00
	101-150	50.00
	151-200	60.00
	201-250	70.00
	251-300	75.00
	301-350	84.00
	351-400	150.00
	401-450	175.00
	451-500	200.00
	501-550	250.00
	551-600	300.00
	601-650	350.00
	651-700	400.00
	701-750	500.00
751-800	600.00	
801-850	700.00	
851-1000	800.00	
1001-	900.00	
Other agency	Church and temple	20.00
	Clinic	15.00
	Public school	20.00
	Clínicas de Salud Publica	15.00
	Communal house	20.00

Source: Diario Oficial (TOMO No.342 and No.343)

b.4 Ayutuxtepeque, San Marcos, Soyapango, Ilopango, Apopa

Ayutuxtepeque, San Marcos, Soyapango, Ilopango, Apopa municipalities maintain the rates agreed with CINTEC-MIDES to date (as of February 2000).

Table G-77: Landfill Fee of Five (Ayutuxtepeque, San Marcos, Soyapango, Ilopango, Apopa) Municipalities

	Power consumption amount (kWh/month)	Waste disposal fee (colon/month)
Household	0-49	3.00
	50-99	9.00
	100-199	30.00
	200-299	40.00
	300-	60.00
Institution, commercial, industry	0-350	70.00
	351-650	110.00
	650-	300.00

Source: Diario Oficial (TOMO No.342, Marzo 1999)

However, Ilopango raised the minimum landfill tariff to 5.00 colon/month, and introduced a specific duty of 225 colon/ton in April 2000.

b.5 Nueva San Salvador

Nueva San Salvador municipality set the maximum fee rate at 40 colons/month for household and 500 colons/month for institution, commercials and industries.

Table G-78: Landfill Fee of Nueva San Salvador Municipality

	Power consumption amount (kWh/month)	Waste disposal fee (colon/month)
Household	0-99 kWh	3.00
	100-199	6.00
	200-299	15.00
	300-	40.00
Institution, commercial, industry	0-150	35.00
	151-300	70.00
	301-500	125.00
	501-650	300.00
	650-	500.00

Source: Diario Oficial (TOMO No.342, Marzo 1999)

b.6 Nejapa

Nejapa municipality is supposed to receive compensation of US\$ 2.0 million from CINTEC-MIDES in exchange for giving them a permission to establish the landfill within the municipality.

However to date, only US\$200,000 was paid to the municipality from MIDES as part of the compensation, therefore, the municipality has not started to pay the landfill fee to MIDES. As Nejapa municipality collects the fixed landfill fee directly from citizens (not through electric bills), the municipal revenue of the fee is substantially very small.

G.5.3.3 Actual Situation of Fee Collection

Table G-79 shows the municipal revenue collected as SWM fees in 1999 in respective municipalities. It illustrates that municipalities of San Salvador and Nueva San Salvador achieve the fee collection of more than 100 colons/citizen on average, however, Nejapa and Tonacatepeque only collect less than 10 colons/citizen on average.

Table G-79: Collected Fee in 1999

	Cleansing Fee (1,000 colon)	Landfill Fee** (1,000 colon)	Total (1,000 colon)	per capita (colon/capita)
San Salvador	73,296***	23,540	96,839	204.6
Mejicanos	2,228	4,924	7,152	38.6
Delgado	1,011	2,895	3,906	26.1
Cuscatancingo	2,100	-	2,100	23.3
Ayutuxtepeque	589	732	1,321	34.6
San Marcos	1,152	1,242	2,394	34.4
Nueva San Salvador	10,492	5,618	16,110	105.5
Antiguo Cuscatlan	3,191	-	3,191	74.6
Soyapango	3,702	9,492	13,194	46.5
Ilopango	2,582	2,775	5,357	42.0
San Martin	1,553	-	1,553	15.4
Apopa	883	3,098	3,981	24.3
Nejapa	*	*	250	7.9
Tonacatepeque	276	-	276	6.9

Note: * breakdown is not available, sources: each municipality
 ** payment to MIDES + commission to CAESS/DELSUR
 *** estimated from CAESS/DELSUR data base plus revenue of specific collection service

G.5.3.4 Annual Expenditure of Cleansing Department

a. Trends of Annual Expenditure

Table G-80 shows trends of annual expenditure on SWM in respective municipalities obtained through inquiries to C/P. It illustrates that expenditure (i.e., cost accountability) on SWM is unclear in many municipalities.

Table G-80: Trend of Cleansing Department Annual Expenditure

Unit : colons

	San Salvador	Mejicanos	Delgado	Cuscatancingo	Ayutuxtepeque	San Marcos	Nueva San Salvador	Antiguo Cuscatlan	Soyapango	Ilopango	San Martin	Apopa	Nejapa	Tonacatepeque
1997 Real	Total	NA	1,001,102	1,241,434	286,680	NA	NA	NA	3,432,608	NA	NA	NA	190,290	NA
	Personnel expense	NA	763,345	743,217	220,680	NA	NA	NA	2,806,118	NA	NA	NA	143,550	NA
	Service expense	NA	31,470	133,582	41,000	NA	NA	NA	0	NA	NA	NA	5,484	NA
	Material & supply	NA	206,287	364,635	25,000	NA	NA	NA	626,490	NA	NA	NA	41,256	NA
Capital expenditure(B)	NA	NA	0	0	0	NA	NA	NA	0	NA	NA	NA	0	NA
Total	NA	NA	1,001,102	1,241,434	286,680	NA	NA	NA	3,432,608	NA	NA	NA	190,290	NA
1998 Real	Total	51,024,000	1,261,567	1,266,038	295,200	NA	NA	NA	4,608,654	NA	NA	NA	229,601	NA
	Personnel expense	21,145,000	976,784	870,439	205,200	NA	NA	NA	3,738,906	NA	NA	NA	157,050	NA
	Service expense	926,000	50,000	65,822	0	NA	NA	NA	0	NA	NA	NA	17,957	NA
	Material & supply	28,953,000	234,783	329,777	90,000	NA	NA	NA	869,748	NA	NA	NA	54,594	NA
Capital expenditure(B)	0	NA	0	0	0	NA	NA	NA	0	NA	NA	NA	0	NA
Total	51,024,000	NA	1,261,567	1,266,038	295,200	NA	NA	NA	4,608,654	NA	NA	NA	229,601	NA
1999 Budget	Total	54,612,4530	NA	NA	283,320	3,004,000	NA	NA	3,728,459	NA	1,701,836	1,567,294	329,264	599,010
	Personnel expense	20,813,600	2,226,000	NA	199,320	2,305,000	NA	NA	2,721,498	NA	842,204	1,192,294	149,500	299,010
	Service expense	24,554,600	NA	NA	27,000	353,000	NA	NA	135,400	NA	80,000	35,000	94,764	250,000
	Material & supply	9,244,230	NA	NA	57,000	346,000	NA	NA	871,561	NA	779,632	340,000	85,000	50,000
Capital expenditure(B)	0	0	0	0	0	0	NA	NA	0	NA	0	0	417,000	
Total	54,612,430	3,500,000	NA	NA	283,320	3,004,000	NA	NA	3,728,459	NA	NA	1,567,294	329,264	1,016,010
1999 Real	Total	72,240,000	7,501,702	3,630,464	1,741,541	3,017,786	13,525,187	7,149,475	14,515,509	4,860,581	1,159,211	4,841,514	261,952	509,705
	Personnel expense	21,145,000	2,480,300	1,120,841	1,342,744	1,034,944	4,522,100	5,333,486	4,153,801	1,708,600	737,677	1,310,555	164,550	431,987
	Service expense	47,389,000	4,489,078	2,236,936	42,664	1,038,008	1,608,147	8,052,400	618,733	9,346,176	51,716	3,274,438	27,755	25,000
	Material & supply	3,706,000	532,324	272,687	356,133	57,000	374,695	950,687	1,197,256	1,015,532	369,818	256,521	69,647	52,718
Capital expenditure(B)	1,000	0	35,000	0	0	0	0	0	0	0	0	0	0	
Total	72,241,000	7,501,702	3,665,464	1,741,541	1,363,733	3,017,786	13,525,187	7,149,475	14,515,509	4,860,581	1,159,211	4,841,514	261,952	509,705

NA: not available

b. Breakdown of Annual Expenditure

Municipal expenditure on SWM works is classified into 6 components (collection, street sweeping, intermediate treatment, final disposal, workshop and administration) and annual expenditure for each component is estimated. The result is shown in Table G-82. This classification is based on the data regarding trends of annual expenditure as explained above, inquiries made by the team to C/P and assumptions described below.

b.1 San Salvador

The Sanitation Department (Gerencia de Saneamiento) in San Salvador manages and monitors expenditure accounting on cleansing services (collection, street sweeping, workshop and general administration). Accounting on landfill fee is managed and monitored by the central finance department of the municipality.

Breakdown into components is estimated with the following assumptions taking into account the comments from the C/P.

- The personnel expenses refers to that of 1998 data.

It is assumed that all service expense is born in collection activities, as the great majority of the expenses are vehicle maintenance cost (In 1998, expenditure for intermediate treatment is categorized as service cost, as the works are contracted).

b.2 Mejicanos

Trends in annual expenditure for SWM works in Mejicanos municipality was not provided to the Study Team. Although the finance department of the municipality projected annual SWM expenditure in 1999 as about 3.5 million colons, it is estimated that 1999 real expenditure is about 7.5 million colons considering the payment needed to be made to MIDES (3,562,569 colons) and CAESS (508,870 colons) in the year.

- Examining the 1999 annual budget projected and the real payment made for MIDES and CAESS, breakdown of the annual expenditure into components (collection, street sweeping, final disposal) is presumed.
- Breakdown of personnel expenses for collection and street sweeping is assumed based on the proportion of persons engaged in these two divisions (49 and 34 persons).

b.3 Delgado

Based on the inquiries to C/P, breakdown into components is processed by firstly adding the cost increased for final disposal, then re-estimating the proportion of collection and street sweeping expenditure.

- Breakdown of personnel expenses for collection and street sweeping is assumed based on the proportion of persons engaged in these two divisions (25 and 9 persons).
- It is generally estimated that street sweeping expenditure amounts to 1.8-4.2 US\$/capita/year in middle income nation and it comprises of 70% of personnel

expenses, 10% of O&M expenditure and 20% of capital expenditure.¹² However, as the municipality reckons only personnel expenses accrue for street sweeping, same manner is applied for this breakdown. Service expenses and material & supply expenses in cleansing works are all appropriated for collection component.

b.4 Cuscatancingo

Data detailed into collection, street sweeping and workshop components is provided by a municipal officer.

- Breakdown of personnel expenses into collection and street sweeping is assumed based on the proportion of persons engaged in these two divisions (22 and 9 persons).
- Service expense is not appropriated for street sweeping component.

b.5 Ayutuxtepeque

Data on SWM expenditure provided was detailed into collection, street sweeping and administration components.

- Breakdown of personnel expenses into collection and street sweeping is assumed based on the proportion of persons engaged in these two divisions (8 and 2 persons).
- As the municipality reckons only personnel expenses accrue for street sweeping, same manner is applied for this breakdown. Service expenses and material & supply expense in cleansing works are all appropriated for collection component.

b.6 San Marcos

Breakdown of annual expenditure for SWM works of the municipality per component has not been provided.

- Breakdown of personnel expenses into components is assumed based on the data of personnel expenses in December 1999.

b.7 Nueva San Salvador

Data on expenditure of SWM works provided by a municipal officer did not include the expenditure on final disposal. After including such expenditure, the breakdown of annual expenditure for the municipal SWM was detailed.

b.8 Antiguo Cuscatlan

Breakdown of the annual expenditure for SWM works of the municipality per component has not been provided.

- Breakdown of personnel expenses into collection and street sweeping is assumed based on the proportion of persons engaged in these two divisions (55 and 30 persons).
- As the municipality reckons only personnel expenses accrue for street sweeping,

¹² "Conceptual Issues and Experiences in Developing Countries, December 1991", Sandra Cointreau-Levine.

same manner is applied for this breakdown. Service expenses and material & supply expense in cleansing works are all appropriated for collection component.

b.9 Soyapango

Breakdown of annual expenditure for SWM works per component was provided by the municipality. The breakdown data provided was used as it was.

b.10 Ilopango

Data on the expenditure of SWM works provided was detailed into collection, street sweeping, final disposal and administration components.

- Breakdown of personnel expenses into collection and street sweeping is assumed based on the proportion of persons engaged in these two divisions (48 and 2 persons).

b.11 San Martin

Breakdown of annual expenditure for SWM works of the municipality per component has not been provided.

- Breakdown of personnel expenses into collection and street sweeping is assumed based on the proportion of persons engaged in the two divisions (20 and 4 persons).
- Service expense is not appropriated for street sweeping component.

b.12 Apopa

Data on the expenditure of SWM works provided by a municipal officer did not include the expenditure on final disposal. After including such expenditure, the breakdown of annual expenditure for the municipal SWM was detailed.

b.13 Nejapa

Breakdown of annual expenditure in SWM works per component was provided to the Team.

b.14 Tonacatepeque

Breakdown of annual expenditure for SWM works of the municipality per component has not been provided.

- Breakdown of personnel expenses into collection and street sweeping is assumed based on the proportion of persons engaged in the two divisions (8 and 3 persons).
- Service expense is not appropriated for street sweeping component.
- Capital expenditure is not appropriated in the breakdown, as it is judged that no investment was made for the municipal SWM in 1999.

Table G-81 summarizes component-wise breakdown of the annual expenditure in SWM works by 14 municipalities and Table G-82 further shows the breakdown of current expenditure classifying into personnel, service, material & supply and capital expenditure for respective municipalities.

Table G-81: Summary of Annual Expenditure (1999 Real)

Unit : colon

	Collection	Public cleansing	Intermediate treatment	Final Disposal	Workshop	Administration	Total
San Salvador	14,294,000	5,014,000	445,000	24,335,000	3,901,000	24,252,000	72,241,000
Mejicanos	2,352,122	1,016,187	0	4,133,393	0	0	7,501,702
Delgado	1,059,179	229,137	104,100	2,137,116	56,324	79,608	3,665,464
Cuscatancingo	1,296,022	445,519	0	NA	0	0	1,741,541
Ayutuxtepeque	502,918	41,745	0	759,070	0	60,000	1,363,733
San Marcos	1,297,148	151,900	0	1,519,022	0	49,716	3,017,786
Nueva San Salvador	7,068,121	458,115	0	5,598,730	231,889	168,332	13,525,187
Antiguo Cuscatlan	4,883,532	1,882,400	0	383,523	0	0	7,149,455
Soyapango	4,159,311	743,596	0	9,210,746	127,400	274,456	14,515,509
Ilopango	1,967,843	74,057	0	2,730,081	0	88,600	4,860,581
San Martin	1,018,701	140,510	0	NA	0	0	1,159,211
Apopa	1,209,608	286,801	0	3,269,837	40,757	34,511	4,841,514
Nejapa	223,913	6,789	0	NA	0	31,250	261,952
Tonacatepeque	391,891	117,814	0	NA	0	0	509,705
Total	41,724,309	10,608,570	549,100	54,076,518	4,357,370	25,038,473	136,354,340

NA: not available

Table G-82: Breakdown of Annual Expenditure

Unit : colon

		Collection	Public cleansing	Intermediate treatment	Final Disposal	Workshop	Administration	Total
San Salvador	Current Expenditure(A)	14,293,000	5,014,000	445,000	24,335,000	3,901,000	24,252,000	72,240,000
	Personnel Expense	10,885,000	5,014,000	445,000	0	3,690,000	1,111,000	21,145,000
	Service Expense	615,000	0	0	24,335,000	26,000	22,413,000	47,389,000
	Material & supply	2,793,000	0	0	0	185,000	728,000	3,706,000
	Capital Expenditure(B)	1,000	0	0	0	0	0	1,000
	Total	14,294,000	5,014,000	445,000	24,335,000	3,901,000	24,252,000	72,241,000
Mejicanos	Current Expenditure(A)	2,352,122	1,016,187	0	4,133,393	0	0	7,501,702
	Personnel Expense	1,464,113	1,016,187	0	0	0	0	2,480,300
	Service Expense	355,685	0	0	4,133,393	0	0	4,489,078
	Material & supply	532,324	0	0	0	0	0	532,324
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	2,352,122	1,016,187	0	4,133,393	0	0	7,501,702
Delgado	Current Expenditure(A)	1,024,179	229,137	104,100	2,137,116	56,324	79,608	3,630,464
	Personnel Expense	636,492	229,137	104,100	15,180	56,324	79,608	1,120,841
	Service Expense	115,000	0	0	2,121,936	0	0	2,236,936
	Material & supply	272,687	0	0	0	0	0	272,687
	Capital Expenditure(B)	35,000	0	0	0	0	0	35,000
	Total	1,059,179	229,137	104,100	2,137,116	56,324	79,608	3,665,464
Cuscatancingo	Current Expenditure(A)	1,296,022	445,519	0	0	0	0	1,741,541
	Personnel Expense	952,915	389,829	0	0	0	0	1,342,744
	Service Expense	42,664	0	0	0	0	0	42,664
	Material & supply	300,443	55,690	0	0	0	0	356,133
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	1,296,022	445,519	0	0	0	0	1,741,541
Ayutuxtepeque	Current Expenditure(A)	502,918	41,745	0	759,070	0	60,000	1,363,733
	Personnel Expense	166,980	41,745	0	0	0	60,000	268,725
	Service Expense	278,938	0	0	759,070	0	0	1,038,008
	Material & supply	57,000	0	0	0	0	0	57,000
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	502,918	41,745	0	759,070	0	60,000	1,363,733
San Marcos	Current Expenditure(A)	1,297,148	151,900	0	1,519,022	0	49,716	3,017,786
	Personnel Expense	833,328	151,900	0	0	0	49,716	1,034,944
	Service Expense	89,125	0	0	1,519,022	0	0	1,608,147
	Material & supply	374,695	0	0	0	0	0	374,695
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	1,297,148	151,900	0	1,519,022	0	49,716	3,017,786

Unit : colon

		Collection	Public cleansing	Intermediate treatment	Final Disposal	Workshop	Administration	Total
Nueva San Salvador	Current Expenditure(A)	7,068,121	458,115	0	5,598,730	231,889	168,332	13,525,187
	Personnel Expense	3,663,764	458,115	0	0	231,889	168,332	4,522,100
	Service Expense	2,453,670	0	0	5,598,730	0	0	8,052,400
	Material & supply	950,687	0	0	0	0	0	950,687
	Capital Expenditure(B)		0	0	0	0	0	0
	Total	7,068,121	458,115	0	5,598,730	231,889	168,332	13,525,187
Antiguo Cuscatlan	Current Expenditure(A)	4,883,532	1,882,400	0	383,523	0	0	7,149,455
	Personnel Expense	3,451,066	1,882,400	0	0	0		5,333,466
	Service Expense	235,210	0	0	383,523	0	0	618,733
	Material & supply	1,197,256	0	0	0	0	0	1,197,256
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	4,883,532	1,882,400	0	383,523	0	0	7,149,455
Soyapango	Current Expenditure(A)	4,159,311	743,596	0	9,210,746	127,400	274,456	14,515,509
	Personnel Expense	3,038,449	721,296	0	0	127,400	266,656	4,153,801
	Service Expense	135,430	0	0	9,210,746	0	0	9,346,176
	Material & supply	985,432	22,300	0	0	0	7,800	1,015,532
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	4,159,311	743,596	0	9,210,746	127,400	274,456	14,515,509
Ilopango	Current Expenditure(A)	1,967,843	74,057	0	2,730,081	0	88,600	4,860,581
	Personnel Expense	1,555,200	64,800	0	0	0	88,600	1,708,600
	Service Expense	0	0	0	2,730,081	0	0	2,730,081
	Material & supply	412,643	9,257	0	0	0	0	421,900
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	1,967,843	74,057	0	2,730,081	0	88,600	4,860,581
San Martin	Current Expenditure(A)	1,018,701	140,510	0	0	0	0	1,159,211
	Personnel Expense	614,731	122,946	0	0	0	0	737,677
	Service Expense	51,716	0	0	0	0	0	51,716
	Material & supply	352,254	17,564	0	0	0	0	369,818
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	1,018,701	140,510	0	0	0	0	1,159,211
Apopa	Current Expenditure(A)	1,209,608	286,801	0	3,269,837	40,757	34,511	4,841,514
	Personnel Expense	948,486	286,801	0	0	40,757	34,511	1,310,555
	Service Expense	4,601	0	0	3,269,837	0	0	3,274,438
	Material & supply	256,521	0	0	0	0	0	256,521
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	1,209,608	286,801	0	3,269,837	40,757	34,511	4,841,514
Nejapa	Current Expenditure(A)	223,913	6,789	0	0	0	31,250	261,952
	Personnel Expense	131,700	1,600	0	0	0	31,250	164,550
	Service Expense	22,566	5,189	0	0	0	0	27,755
	Material & supply	69,647		0	0	0	0	69,647
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	223,913	6,789	0	0	0	31,250	261,952
Tonacatepeque	Current Expenditure(A)	391,891	117,814	0	0	0	0	509,705
	Personnel Expense	314,173	117,814	0	0	0	0	431,987
	Service Expense	25,000	0	0	0	0	0	25,000
	Material & supply	52,718	0	0	0	0	0	52,718
	Capital Expenditure(B)	0	0	0	0	0	0	0
	Total	391,891	117,814	0	0	0	0	509,705