

G.5.3.5 Unit Cost

Table G-83 illustrates unit cost for SWM by respective municipalities based on the analysis above on annual expenditure. The result shows that the unit cost of SWM in AMSS ranges from US\$ 9.4 to 53.9/ton and the average unit cost in AMSS is calculated as US\$ 43.2/ton.

Table G-83: Unit Cost of SWM

City	Item	Service projected population (1998)	Colons				US \$			
			Per person	Per ton			Per person	Per ton		
				Overall cost (c/person)	Collection and transport (c/ton)	Disposal (c/ton)		Overall cost (c/ton)	Overall cost (US\$/person)	Collection and transport (US\$/ton)
San Salvador		467,006	154.7	87.7	147.7	443.4	17.7	10.0	16.9	50.7
Mejicanos		180,775	41.5	97.1	169.0	309.8	4.7	11.1	19.3	35.4
Delgado		145,189	25.2	100.1	202.1	346.6	2.9	11.4	23.1	39.6
Cuscatancingo		85,825	20.3	144.1	NA	193.6	2.3	16.5	NA	22.1
Ayutuxepeque		26,216	52.0	142.4	214.9	386.1	5.9	16.3	24.6	44.1
San Marcos		68,685	43.9	120.0	140.4	279.1	5.0	13.7	16.0	31.9
Nueva San Salvador		133,461	101.3	265.0	188.6	507.1	11.6	30.3	21.6	58.0
Antiguo Cuscatlan		40,515	176.5	337.5	25.3	494.1	20.2	38.6	2.9	56.5
Soyapango		282,066	51.5	96.2	192.1	335.7	5.9	11.0	22.0	38.4
Ilopango		122,309	39.7	132.5	180.2	327.2	4.5	15.1	20.6	37.4
San Martin		66,861	17.3	121.3	NA	138.1	2.0	13.9	NA	15.8
Apopa		155,588	31.1	76.4	206.2	305.8	3.6	8.7	23.6	35.0
Nejapa		14,464	18.1	135.5	NA	158.5	2.1	15.5	NA	18.1
Tonacatepeque		27,640	18.4	53.7	NA	69.8	2.1	6.1	NA	8.1
Total		1,816,600	75.1	128.0	NA	385.8	8.6	13.5	NA	44.1

NA: not available

Table G-84 shows typical cost of municipal SWM in Latin American countries.¹³

Table G-84: Typical Cost of Municipal SWM

Item	Portion (%)	Unit cost (US\$/ton)
Collection	43 to 45	15 to 40
Transfer	0 to 15	0 to 10
Final disposal	0 to 10	0 to 10
Total (without sweeping)	100	35 to 70

The unit cost in the AMSS that are estimated through the above analysis could be ranked in the middle value of typical municipal SWM cost in Latin American countries.

¹³ Diagnosis of Municipal Solid Waste Management in Latin America and the Caribbean, Second edition, PAHO, 1998

However, it is necessary to analyze and evaluate the unit cost in view of ability to pay by municipalities and citizens, in order to realize a sustainable municipal SWM.

Attentions should be paid that the 13 municipalities in AMSS (i.e., except for San Salvador municipality) did not bear the burden of capital expenditure for renewing the collection vehicles since the Japanese government donated such vehicles in 1996.

G.5.3.6 Balance of Municipal SWM

Table G-85 shows the balance of Municipal SWM. Municipal revenue is fees collected from users and expenses comprise of cost on cleansing services activities by municipal cleansing departments, and landfill fee paid to MIDES and commission paid to electric power companies.

Table G-85: Balance of Municipal SWM (1999)

Unit : 1,000 colon

	Revenue	Expense	Balance
San Salvador	96,839	72,241	24,598
Mejicanos	7,152	7,502	-350
Delgado	3,906	3,665	241
Cuscatancingo	2,100	1,742	358
Ayutuxtepeque	1,321	1,364	-43
San Marcos	2,394	3,018	-624
Nueva San Salvador	16,110	13,525	2,585
Antiguo Cuscatlan	3,191	7,149	-3,958
Soyapango	13,194	14,516	-1,322
Ilopango	5,357	4,861	496
San Martin	1,553	1,159	394
Apopa	3,981	4,842	-861
Nejapa	250	262	-12
Tonacatepeque	276	510	-234

The expense shown in the table above only refers to direct expenses of municipalities (i.e., indirect expenses are not added up), however, only 6 out of 14 municipalities have positive balance.

Municipalities that can not secure such revenue at present to at least cover the direct expenses should either

- re-structure the fee collection system, or
- cut down the expenses drastically,

in order to realize a sustainable municipal SWM.

G.6 Sanitary Education and Public participation

G.6.1 Sanitary Education System

A new attitude in solid waste management requires the use of formal, non-formal and informal education on the environment issues. Formal education is provided in the

educational centers; the community or non-governmental organizations give non-formal education, and informal education is given through the mass media.

Concerning present education in El Salvador, hygiene and environmental education is given by a number of institutions, organizations and agencies. In formal education, starting from pre-school age, environmental subjects are introduced to children and youth. In higher education, programs directly or indirectly related to environment are offered in many universities. In non-formal education programs, several NGO's are carrying out lectures and training courses on environmental issues all over the country. School educational programs have included environmental and waste issues. Some schools have been carrying out clean-up activities and collection of paper and plastic for recycling. However, most of these activities are not sustainable.

There are diverse and extensive educational programs on environmental and hygienic issues. However, these information do not fully accommodate the necessities of the different target groups.

Society as a whole can barely grasp on the surface of the magnitude of the solid waste problems, as a result, participation from the population in SWM activities is limited and modest public awareness has been observed. However, it should be noted that citizen participation does not happen spontaneously. For participation beyond rhetoric, mechanism should be established, space should be created, and some basic input should be financed.

a. Curricular Principles of the National Education

Health education as curricular component of the Ministry of Education (MINED), is based on the necessity of improving the conditions of the individual's life, the family and the community. It promotes the participation of the trainees in the improvement of the health through educational actions in order to prevent such negative factors for their health as diseases and accidents and to participate in finding out the solutions for the health problems in the individual and social environment.

The actions of health education, in the national curricula, are developing based on the following purposes:

- To attend the needs of growth and development of the trainees with sanitary sense, by means of prevention of diseases and accidents.
- To develop attitudes of trainees, educators and family parents toward a healthy school and communal life.
- To develop the basic knowledge of the trainees about their health, in terms of habits, abilities, knowledge and attitudes, in function of the nature and characteristic of their evolutionary age.
- To induce educational and communal agents to improve the relationships between the population and the natural means in order to have a healthy life.

G.6.2 Public Participation System

a. Community Participation

Generally the role of the community was to deliver the wastes to the municipal collection system, and to protest against the poor level of services.

After the civil war, local initiatives of community participation have increased through different mechanisms, especially the open town councils, where the community presents their demands, including requests for better services. The environmental problem of wastes is still secondary among high profile problems due to the lack of the inhabitant's awareness. It is necessary, therefore, to strengthen environmental education with an emphasis on the appropriate SWM.

Some local initiatives of community participation have been carried out where the roles of NGO and the municipalities have been important. Unfortunately, many of these initiatives have lost continuity and sustainability. The initiatives although fulfill an important function, is far from the real solution to the waste problems causing unhealthy conditions and contributing to the proliferation of diseases and degrading the environment and the urban landscape.

This constitutes a serious social problem for the whole metropolitan area, and their solution is an imperative matter to be approached urgently to improve the sanitary conditions, especially in marginal communities and illegal colonies of the AMSS.

b. Programs of Community Environmental Education by Several Organizations

The project "*Recycling Hopes*" began in 1998 through a cooperation agreement between the Olof Palme Foundation and the Communal Project Association of El Salvador (PROCOMES). Initially the project supported eight scavenger girls and boys of Mariona dumpsite to collect paper, glass, and aluminum cans for commercial purposes, later focusing this effort on the formation of a micro-enterprise.

MINED and MARN through "*Recycling Plastics with Community Participation*" coordinates the collection of plastics with Industrias Cristal (private company) and San Salvador Municipality with the participation of twenty educational centers of the municipality of San Salvador.

The Project of Productive Management of Solid Waste with community participation in the municipalities of Tepecoyo, Jayaque, and Sacacoyo (*PROTEJAS*) has been an initiative with the participation of professors, students, community leaders, municipal authorities, health inspectors, and the community of the involved municipalities. The project includes promotion topics, technical assistance, training, organization, basic sanitation, micro-enterprises, and final waste disposal. Youths have been trained in the recycling of paper and aluminum through a complementary project for youth development. The activities include clean-up campaigns, education for separate collection, and construction of storing centers for later commercialization. Also, it was carried out a small experience for compost production.

CESTA has developed experiences in the management of the organic wastes of Poptlan market in the Municipality of Apopa. Also, it designs and produces bicycles from used products. A plan was carried out with the support of the Danish Association for International Cooperation in 1995 and in 1996 in the barrio La Cruz of the Municipality of Suchitoto in the Department of Cuscatlan. This plan served as a basis for the preparation of a master plan for SWM. The project involved 104 families in separate collection and composting production activities, with the participation of 68% of the objective population.

In the country there are some successful experiences of community participation organized by NGOs; this is supported by international organizations to reinforce their efforts and to increase awareness on SWM issues.

G.7 Relevant Studies

The table below shows studies related with SWM that were carried out in El Salvador in recent years.

Table G-86: Relevant Studies

Date	Name of Study	Remarks
1992	Feasibility assessment for the implementation of a solid waste transfer station for the zone.	Ing. Jorge Sánchez, ISDEM
1992	Final consulting report on waste collection designing in the city of San Salvador	Ing. Francisco Gálvez Von Collas
1994	Current situation of solid wastes and guidelines proposal for the creation of policies and strategies to integrate the sector	Executive Secretariat of the Environment (SEMA), Ing. Juan Guillermo Umaña
1995	Project on Solid Waste Management Improvement of the Metropolitan Region, Phase-1: Diagnosis	Canada International Development Agency (CIDA), San Salvador municipality ADS Groupe-Conseil Inc., Doble G
1995	Project on Solid Waste Management Improvement of the Metropolitan Region, Phase-2: Execution program	CIDA, San Salvador municipality ADS Groupe-Conseil Inc., Doble G
1996-97	Metropolitan plans for the cities of Santa Ana, Sonsonate, San Miguel and San Salvador Metropolitan Area	
1997	Support to the Environmental Sanitation Program of El Salvador, Environmental Policy for Solid Waste Management	Executive Secretariat of the Environment (SEMA) SM Group International Inc.
1997-1999	Design and feasibility study of the Decontamination of critical areas, El Salvador (ES-0074). <ul style="list-style-type: none"> • Diagnosis– Current situation of Municipal Solid Waste • Report of alternatives– Municipal Solid Waste Management • Diagnosis– Current situation of Hazardous Medical Waste • Report of alternatives– Hazardous Medical Waste Management • etc. 	BID, ARCADIS-EuroConsult, Eurolatina
1998	Preliminary mission in the Solid Waste Management field	BID/San Salvador municipality Sandra Cointreau Levine
August 1998	Sector Analysis of Solid Wastes in El Salvador	MSPAS, PAHO
1998	Solid waste pollution in San Salvador Metropolitan Area. Work paper	MARN, USAID, PRISMA, Gilberto García
September 1998	“Regional Medical Solid Waste Management Program, Assessment study of possible alternatives in Medical Solid Waste treatment, in terms of typology and location, and Environmental Impact Assessment of the recommendable solution”	ALA 91/33 agreement, ECO Ingenieros

a. Findings

Many of the above relevant studies on SWM deal with the San Salvador metropolitan area. A few studies such as “BID ES-0074” are extended for cities other than AMSS.

The above SWM studies entail municipal SWM as well as medical SWM. An in-depth study on industrial SWM has not been carried out for the country to date. Hence, it is expected that such an industrial SWM study be carried out in the future.

G.8 MIDES Project

G.8.1 Background

From the decade of 1980-1990, the urban development of the city of San Salvador and the surrounding co-urbanized municipalities has concerned national and local authorities, as well as the residents themselves. As a consequence in 1986, several municipalities formed the "Mayors Council of San Salvador Metropolitan Area (COAMSS)". Later on July 14th, 1987, Official Gazette No.129 issued the creation of the denominated autonomous decentralized entity known as "Mayors Council of San Salvador Metropolitan Area (COAMSS)", whose purposes are the following among others:

- Coordinate the services rendered in the AMSS.
- Conduct actions among municipalities of AMSS with the purpose of achieving a harmonic and sustained development of their municipalities.

At the same time, public opinion media, environmental groups and municipal authorities themselves were also concerned about solving the management of solid wastes in AMSS.

From 1978 to 1994 several studies of SWM were carried out in AMSS, but none of the proposals or recommendations were implemented. Among others, the studies performed by PAHO: "Development of Urban Cleansing Services in the city of San Salvador" (Feb-1982); and the "Solid Waste Master Plan for AMSS" (May-1985) are noteworthy.

G.8.2 "Solid Waste Management Improvement in the Metropolitan Region" Project

In 1994, the Canadian Agency of International Development financed this project as a response to a request by the municipality of San Salvador, which was carried out in 1995. The study was carried out by the Canadian company "ADS Groupe-Conseil Inc." associated with the Salvadoran company "Empresas Doble G." The study consists of 2 phases.

The recommendations of the Phase 1 (Diagnosis) that were presented in May 1995 are summarized next.

Priority 1

- Beginning of a new project of SWM.
- Establishment of a SW collection and haulage system.
- Establishment of a new sanitary landfill, only one for the whole metropolitan area.
- Closing of "Mariona" dumping site.

- Establishment of an education and sensitization program for the citizens.

Priority 2

- Establishment of a separation-transfer station for solid wastes.
- Integration of scavenger (*pepenadores*) groups to the new program

Priority 3

- Production of energy or compost.
- Installation of a waste oil recovery system and others.

Phase 2 (Execution program) of the project was presented in October 1995. The proposed recommendations that are similar to the diagnosis of Phase 1, highlight the following:

Collection and haulage plan that includes “optimization of materials and human resources, equipment acquisition and replacement plan, a new design of the collection plan and possible privatization scenarios.”

- Construction of a new sanitary landfill.
- Construction of “a transfer unit and a separation center”
- Compost production.

Regarding the “Policy on fees and billing”, the following is recommended:

- The operation and administration of the new sanitary landfill, separation and transfer station should be in charge of a single contractor.
- A minimum annual tonnage should be guaranteed to the private company.
- To bill municipalities.
- Fixed duration of the long-term contract (15 years).
- Contractor must be paid according to a pre-established rate.
- The operation contract should be set in American dollars.

G.8.3 “Solid Waste Management Improvement in the Metropolitan Region” Proposal

In September 1997 the associated companies CINTEC (Canadian), SOPRIN ADS (Canadian) and LYNMAR (Salvadoran) presented COAMSS a proposal for SWM in AMSS.

The solutions outlined by these companies in their proposal were similar to those recommended in the “SWM Improvement in the Metropolitan Region” project, which was carried out in 1995, and in which the consulting company ADS also participated.

The investment costs estimated for the first five years were as follows:

Table G-87: Proposed Investment Costs

Activities	Cost (US \$)
Communication, education and sensitization program	2,150,000
Administration program	2,250,000
Integration program	1,000,000
New sanitary landfill	23,500,000
Separation center	9,000,000
Transfer station	6,200,000
Closing of two dumping sites	7,700,000
Compost plant	1,200,000
Warranties, insurance and financing	8,200,000
Total	61,200,000

The terms of execution of the proposal encompassed a 5-year program, as shown next:

Table G-88: Proposed Program

Activities	1998	1999	2000	2001	2002
Communication, education and sensitization program					
Administration program					
Integration program					
New sanitary landfill					
Separation and transfer station					
Closing of 2 dumping sites					
Compost plant					

For financing purposes, there were 3 options for stock sharing:

- (1) CINTEC 90%-COAMSS 10%,
- (2) CINTEC 75%-COAMSS 25%,
- (3) CINTEC 60%-COAMSS 40%.

G.8.4 Agreement COAMSS-CINTEC International Inc.

On November 14th, 1997, an agreement was signed between COAMSS -represented by the Mayor of San Salvador and Coordinator of COAMSS- and CINTEC International Inc., a company established under the laws of Barbados and represented by a Director of that company.

Such agreement was made in order to establish a PUBLIC/PRIVATE JOINT STOCK COMPANY, under the laws of the Republic of El Salvador and called "Manejo Integral de Desechos Sólidos, Sociedad por Acciones de Economía Mixta" or simply "MIDES". Said had the purpose of designing, building and operating an integrated solid waste management system and its related facilities in AMSS, which consists of a new sanitary landfill, transfer facilities, facilities to classify and recycle garbage,

facilities for processing compost and an educational center, as well as the closing of the existent landfills.

The main clauses of this agreement were the following:

- MIDES' equity will be divided into 200 stocks for public sector and 1800 stocks for private sector, each one having a nominal value of 100 colones.
- Three Directors will constitute MIDES' Board of Directors; one appointed by the public sector and the other two by the private sector.
- COAMSS is committed to acquiring and providing MIDES with two places within AMSS: the first one for the sanitary landfill, separation and recycling plants, the compost plant and the educational center; whereas the second one will be for transfer station.
- It is agreed upon that the price for use of the facilities of the project (all of them, not only the sanitary landfill) will be of US\$18/Ton. Such price will be annually increased according to the increase of cost of living in El Salvador, which is estimated by the Central Bank (Banco Central de Reserva, BCR).
- It is guaranteed that the municipalities participating in the Project will deliver MIDES a minimum amount of 360,000 tons per year during 20 years, with a minimum monthly payment equivalent to 30,000 tons, according to the metric ton price paid at that time.
- COAMSS will be responsible for the fee collection from users, which will be conducted by electric power distribution companies.
- COAMSS will provide MIDES, with no cost for the latter, with the equipment, machinery, vehicles and spare parts that were used in the APOPA-NEJAPA landfill.
- CINTEC is committed to financing the project up to a maximum amount of US\$61,200,000, as described in the PROPOSAL. (See section 4.8.3)
- The term of the agreement is set at 20 years as from the moment the sanitary landfill receives its first discharge of solid wastes. Although there is not a specific timetable for the execution of the project, it is considered that the programming presented in the PROPOSAL (section 4.8.3.) is valid.
- In cases of dispute or disagreement, arbitration will be carried out in Miami, Florida, USA.

G.8.5 Incorporation of "MIDES, S.E.M. de C.V."

On December 2nd, 1997, COAMSS and "CINTEC International Inc." prepared the authenticated document for the incorporation and creation of "MIDES, S.E.M. de C.V.", which contains most of the clauses included in the agreement reached between COAMSS and CINTEC International Inc. on November 14th, 1997.

"MIDES, S.E.M. de C.V." is therefore constituted as a public/private joint stock company, created under the Commerce Code of El Salvador.

Company stocks were divided as follows: 90% belongs to CINTEC International from Barbados and 10% to the government through COAMSS. Public shares cannot be transferred.

Other clauses from the articles of incorporation of this company are the following:

- Objective: Designing, construction and operation of a new sanitary landfill, a transfer station, facilities to classify and recycle solid wastes, facilities to process “compost” and an educational center dedicated to SWM in AMSS.
- The term of duration for the society is indefinite.
- Capital stock: Two hundred thousand colons, divided into 2,000 nominal shares with a value of 100 colones apiece.
- Administrators: coordination, arrangements and management of the company are steered by the Board of Directors integrated by three Directors, Chairman, Vice-chairman and a Secretary. (One elected by COAMSS and two by CINTEC).
- Stock subscription: CINTEC subscribes 1,800 stocks (90%) with a value of 180,000 colons and COAMSS subscribes 200 (10%) shares with a value of 20,000 colons.

G.8.6 Private Documents Authenticated between MIDES and Municipalities

On February 6th, 1997, Mayors of San Salvador, Mejicanos, Ciudad Delgado, Ayutuxtepeque, San Marcos, Nueva San Salvador, Soyapango, Ilopango, Apopa and Nejapa entered individual authenticated private contracts with “MIDES, S.E.M de C.V.”, so that each municipality participates in the project for the integral management of solid wastes in AMSS. The project consists of a new sanitary landfill, facilities to separate and recycle solid wastes, a transfer station, a compost plant and an educational center, as well as the closing of two dumping sites. Among the clauses of the contract, the following are noteworthy:

- The ten municipalities are committed to sending all solid wastes generated as of “beginning date”, i.e., date on which the sanitary landfill will receive the first discharge (April 24th, 1999).
- Term of the agreement: 20 years starting from the “beginning date”.
- Price: US\$18.00/Ton plus VAT. This amount will be increased on January 1st of each year according to the increment in the cost of living of the previous year, as determined by the Central Bank (BCR).
- Form of payment to MIDES: Every month within the five days after the municipality receives the payment from the electric company fee collection agent. An interest for delay of 2% per month will be imposed on those payments not done in the specified term.
- Fee collection: The Municipality will deposit the fee collected in a bank account exclusively opened for the payment of this service.
- Case of non-fulfillment: If delayed payment is not done, MIDES will be empowered to refuse receiving the discharges from the municipality to the sanitary landfill, unless the whole amount debited is settled, including interests

accrued.

- The 10 Municipalities have guaranteed MIDES the delivery of a minimum amount of solid wastes in the facilities during the 20 years of the contract. The total minimum amount per year adds up to 360,000 tons (30,000 ton/month), and each municipality is committed to delivering the following minimum quantity:

Table G-89: Minimum Amount to be disposed of at Nejapa's Sanitary Landfill

Municipality	% of total	Minimum amount/year (ton)	Minimum amount/month (ton)
San Salvador	46.67	168,000	14,000
Mejicanos	5.83	21,000	1,750
Ciudad Delgado	7.50	27,000	2,250
Ayutuxtepeque	1.50	5,400	450
San Marcos	2.67	9,600	800
Nva. San Salvador	5.00	18,000	1,500
Soyapango	13.89	50,000	4,167
Ilopango	3.61	13,000	1,083
Apopa	12.50	45,000	3,750
Nejapa	0.83	3,000	250
Total	100.00	360,000	30,000

- In the event of disputes or disagreement, the arbitration will be carried out in the city of San Salvador and will follow the norms of the Commerce Code and the Law on Mercantile Procedures of El Salvador.

G.8.7 Service Rendering Contract between the Municipalities and Electricity Distribution Companies of AMSS

G.8.7.1 CAESS

On August 7th, 1998, the "Compañía de Alumbrado Eléctrico de San Salvador, Sociedad Anonima de Capital Variable" or "CAESS S.A. de C.V." entered a service rendering contract with the municipalities of San Salvador, Soyapango, Ciudad Delgado, Mejicanos, Apopa, Nejapa, Ilopango and Ayutuxtepeque to include the fee for the solid waste final disposal site service in the electric power bills, so that both are paid jointly in the bills collected by CAESS. The municipalities pay CAESS a commission of 1.55 colones plus VAT for each bill issued. The amount to be collected or the percentage charged on the kilowatts-hour consumed will be updated periodically, so that CAESS can make the changes and necessary updates for each period. This information will be delivered through any magnetic means or by remote communication. Although Nejapa signed this contract they did not apply it, as the wastes fees were still directly collected from users.

Besides, the municipality of Cuscatancingo also entered a contract with "CAESS" for the collection of the waste fee only by means of the electricity bills, since this municipality does not charge fees for the sanitary landfill.

G.8.7.2 DELSUR

On August 27th, 1998, the company “Distribuidora de Electricidad del Sur, Sociedad Anonima de Capital Variable” or “DELSUR, S.A de C.V.” entered a service rendering contract with the municipalities of San Salvador, San Marcos and Nueva San Salvador. These contracts have similar clauses to those of CAESS, including the payment of 1.55 colons plus VAT per bill issued.

G.8.8 Technical Cooperation by IDB

G.8.8.1 Identification Mission for the Program of Municipal Development of AMSS, November 1998

The identification mission by IDB that visited San Salvador in November 1998 presented some proposals to finance consulting works aimed at municipal development in different fields. The following proposals related to SWM are highlighted:

- Financing a short term consulting work aimed at (i) the optimization of collection routes, and (ii) definition of a modernization strategy of the service, by analyzing such options as the decentralization at a district level, privatization and creation of micro-enterprises of workers.
- Financing a consulting work in the short term to finalize the concession contract of the sanitary landfill, in which several key points should be deeply analyzed.

G.8.8.2 IDB Mission: S. COINTREAU – C. Horning March 1999

This mission had the purpose of examining the existent contractual obligations for the municipality regarding the transfer and final disposal of its solid wastes, with the purpose of determining if equitable and safer terms could be achieved.

The report prepared by the consultants encompasses different chapters: Background; a Proposed project for the Transfer and Final Disposal of solid wastes; Inappropriate Minimal Flows to be Guaranteed; High Prices; Adverse Impacts occasioned by the Project; Problems with Contractual Agreements; Reasons to Abrogate the Contract. The report also has 10 Annexes (A to J) on different aspects of MIDES project.

The report points out that the findings, opinions and conclusions presented in it belong to the consultants S. Cointreau and C. Horning, and therefore do not reflect the opinions, policies or programs of the IDB.

G.8.8.3 IDB Mission: Ricardo Giesecke. April–May , 1999

This short-term mission had the objective of “conduct a technical consulting on the solid waste field for the municipality of San Salvador, to allow re-negotiation of the SWM contract with CINTEC in order to reach acceptable agreements for each one of the parties involved”.

As a result of the mission, the consultant presents in the annex a draft to modify the contract agreed upon between CINTEC and COAMSS in the following sections:

- Transfer station.
- Material selection plant.

- To eliminate the obstacles temporarily for receiving solid wastes from municipalities that did not sign the contract because of public health and environmental protection purposes.
- The principle of supervision on compliance of the services contracted, and the establishment of the principle of penalties.
- Compost plants.
- Technical closing of the Mariona/Apopa dumping site as soon as possible, for public health purposes.
- Fair and transparent price adjustments guide.
- Rights to eventual scale economies.
- Creation of incentives to promote separation and recycling of wastes.

In its annex 2, the consultant makes some comments on the minimum fixed amount of solid wastes to be received by the MIDES sanitary landfill.

G.8.9 Financing of MIDES Project

Financing initially proposed by means of a Canadian Pensions fund with a 8% interest rate was not selected. In November 1998 CINTEC financed the project through the French company TREDI, which has significant professional qualifications and experience.

G.8.10 Agreement between MIDES –Municipality Nejapa

In March 1998, MIDES and the municipality of Nejapa agreed that the latter will receive US \$2 millions as a compensation for the sanitary landfill that is located within its territory, and in which all solid wastes from AMSS are disposed of. This amount also includes the consensus by the local community to allow the passing of collection vehicles in their municipality. The municipality of Nejapa has stated that they have received so far (January 2000) two payments of 800,000 colones for concept of this agreement.

G.8.11 OPAMSS Technical Follow-up Commission for MIDES Project

On August 30th, 1999, OPAMSS, as the technical office of COAMSS, forms a Technical Follow-up Commission for “MIDES S.E.M. de C.V.” Project, which will also perform as CINTEC’s counterpart.

On September 1st, 1999, OPAMSS and MIDES reached an agreement upon which the latter was committed to pay the former 50,000 colones per month to finance OPAMSS’ technical commission. On the other hand, OPAMSS was committed to providing a full-time Environmental Unit technician and providing a space for the installation of the Technical Commission.

G.8.12 Project of Modifying the Contract between MIDES and Municipalities

On September 2nd 1999, Ruscani-Valdez Study prepared the Project of “Modifying the MIDES Contract with the municipalities of AMSS” for COAMSS/OPAMSS for

their reviewing. This project that takes into consideration some proposals outlined by IDB missions is still being reviewed and therefore not signed by the parties involved.

The modification project encompasses the following components:

- A) Transfer facilities;
- B) Selection or separation facilities;
- C) Facilities for the elaboration of compost;
- D) Minimum payment;
- E) Maintenance of MIDES project;
- F) Closing and rehabilitation of Apopa-Nejapa dumping site;
- G) Annual readjustment;
- H) Additional agreement;
- I) Scale economy;
- J) Supervision.

G.8.13 Performance and Management of MIDES Project

G.8.13.1 New Sanitary Landfill

This facility, inaugurated on March 17th, 1999, receives discharges of solid wastes since April 24th, 1999.

Table G-90 shows the information on the performance of Nejapa sanitary landfill during 1999.

Table G-90: Performance and Management of the New Sanitary Landfill, 1999

Municipality	Discharge amount (thousand ton)	% of Total	(A) MIDES billing (colones)	Paid to MIDES (colones)	(B) Delayed payments (colones)	(B)/(A) ratio
San Salvador	70,179.4	42%	25,699,977.31	21,334,741.53	4,365,235.78	17%
Mejicanos	17,401.7	10%	3,562,568.58	3,562,568.58	0.00	0%
Ciudad Delgado	7,992.0	5%	1,837,448.12	1,935,487.93	-98,039.81	-5%
Ayutuxtepeque	2,727.8	2%	689,079.58	569,392.05	119,687.53	17%
San Marcos	7,226.5	4%	1,456,897.94	1,456,897.94	0.00	0%
Nueva San Salvador	12,251.0	7%	5,174,687.10	2,999,318.47	2,175,368.63	42%
Soyapango	20,637.6	12%	8,265,636.95	8,265,636.95	0.00	0%
Ilopango	11,638.2	7%	2,373,580.94	2,129,143.87	244,437.07	10%
Apopa	13,795.8	8%	3,190,047.83	2,820,561.49	369,486.34	12%
Nejapa	1,916.0	1%	382,748.47		382,748.47	100%
Total	165,766.1	100%	52,632,672.82	45,073,748.81	7,558,924.01	14%

G.8.13.2 Other Activities of MIDES Project

Table G-91 shows the 1999 performance activities that comprise the MIDES Project.

Table G-91: Other Activities of MIDES Project, 1999

Activities	Performance
1. Transfer station	<ul style="list-style-type: none"> • CINTEC acquired the land for the transfer station in the municipality of Apopa, about 10 km away from Nejapa S/L. • CINTEC is preparing the Environmental Impact Assessment. • CINTEC previously presented to MARN the application to begin the environmental permission process.
2. Separation plant for recycling	<ul style="list-style-type: none"> • MIDES changed the location of the future separation plant to the land where the transfer station will be located.
3. Compost plant	<ul style="list-style-type: none"> • No progress
4. Closing of two dumping sites (Mariona and Ilopango)	<ul style="list-style-type: none"> • Initial topographic works in Mariona. • MIDES modified the initial proposal and will not close Ilopango dumping site.
5. Communication, education and sensitization program	<ul style="list-style-type: none"> • Participation in the “Yo no la riego (<i>I do not spill it</i>)” campaign carried out by the municipality of San Salvador. • Construction of an educational center: no progress • When the sanitary landfill began operations, different activities were conducted and preparation and diffusion of informative material on the project was carried out. • A video on the integral management of solid wastes was prepared. • Students’ visits to Nejapa sanitary landfill.
6. Program of Administration	<ul style="list-style-type: none"> • To expedite in order to allow CAESS and DELSUR be in charge of the collection of fees of Nejapa sanitary landfill. • Data processing project for billing through CAESS or DELSUR
7. Integration program	<ul style="list-style-type: none"> • MIDES has registered 370 authorized scavengers with an “identification card” and distributed as follows: 28 in carpentry shops in Ciudad de Don Bosco and Apopa; around 250 in separation activities in Mariona and the remaining in collection micro-enterprises in different municipalities.

G.8.13.3 Opinion on MIDES Project

The JICA Study Team visited the municipalities of Mejicanos, Ciudad Delgado, Ayutuxtepeque, San Marcos, Nueva San Salvador, Soyapango, Ilopango, Apopa and Nejapa. Mayors or officials interviewed expressed that the greatest advantage of the project was the direct benefit for public health and for the preservation of the environment. Regarding the greatest disadvantage, most of them mentioned high cost as the most important restriction.