Guadalajara - Social Impact Assessment  
MEXICO: Mexico: Waste Management and Carbon Offset Project

I. Introduction
Out of the three sub-projects only the Guadalajara site has social issues and needed a Social Impact Assessment.

The Matatlán landfill, located in the Municipality of Tonalá in the State of Jalisco, has been owned by the Guadalajara City Council since 1989. The City Council administered the landfill until 1994, when it awarded a concession to Caabsa Eagle, a private company. After 15 years of operation, the landfill has reached capacity, and has been officially closed. This closure has a social impact on a vulnerable segment of society whose primary or sole economic activity consists of sorting thorough the solid waste to find items with a resale value, which can be sold at the market.

There were 850 workers engaged in this activity, who have suffered a negative impact from the landfill’s closure. These workers have publicly demanded compensation and have asked the Guadalajara and Tonalá City Councils to maintain their source of employment and to provide them with land to build houses for their families. In the buffer area at the foot of the landfill, there is an irregular settlement lacking even the most basic services. This settlement is comprised of small huts or shacks built of waste materials (wood, cardboard, and rubber), which are used as homes, individual storage sheds where waste materials are accumulated and deposited, and dressing-rooms.

To minimize the impact of the landfill’s closure, the Guadalajara City Council, in coordination with the concessionaire Caabsa Eagle, has established an emergency measure aimed at maintaining jobs. To this end, the formal construction of a provisional transfer station in an area of the landfill measuring 30,000 m2, has begun. The Guadalajara City Council, and the concessionaire Caabsa Eagle, are also considering an additional mitigation measure. If adopted, this measure would call for the better maintenance and start-up of 10 sorting lines or belts at the Los Laureles sanitary landfill, which would also be owned by the Guadalajara City Council and awarded to Caabsa Eagle. To determine the socioeconomic characteristics and vulnerability of the affected population, as well as the risks and costs of mitigation measures, a Social Impact Study was carried out. The results are summarized below.

II. Geographic, Physical and Operational Characteristics

II.1. Municipality of Tonalá

Geographical Location. The Municipality of Tonalá, measuring 119.58 km2, is located in the east-central region of the State of Jalisco, at 1500 meters above sea level. It is bordered by the municipalities of Guadalajara and Zapotlanejo to the North; the municipalities of Zapotlanejo and Juanacatlan to the east; the municipalities of Juanacatlan and El Salto to the south; and the municipalities of El Salto, Tlaquepaque, and Guadalajara to the west. The northern part of the Municipality of Tonalá forms part of the Metropolitan Area of Guadalajara. Its two principal localities are Puente Grande and Coyula. The municipality’s principal economic activity is pottery making.

II.2. Coyula-Matatlán Landfill

The Matatlán landfill, which has been owned by the Guadalajara City Council since 1989, receives trash from the surrounding municipalities of Guadalajara, Tonalá, and Tlaquepaque. In 1994, the Congress of Jalisco authorized the Guadalajara City Council to award a concession to the Caabsa Eagle company for the collection, transportation, transfer, treatment, and final disposal of solid waste produced by the
Metropolitan Area of Guadalajara. The Matatlán landfill covers an area of 48 ha, which includes a 2 ha buffer area.

During its normal operations (Monday to Sunday), the landfill recorded an average reception of over 9,000 tons of waste weekly, with around 3,500 vehicles delivering approximately 1,300 tons of waste per day. From the time it opened in 1989 until September 2004 the landfill registered 7.5 million tons of waste. After reaching full capacity, the process of definitively closing the dump began.

II.3. Population Affected

There is a great deal of worker turnover amongst those engaged in informal economic activity of foraging. A significant percentage of these workers are temporarily unemployed or are unable to find work with better opportunities. Others are permanent workers who work exclusively at foraging. These are obviously the most skilled and have fewer opportunities for other kinds of work, and are thus restricted in their earnings.

II.3.1. Irregular Settlement

To the right of the landfill's entrance there is an irregular settlement identified as a right of communication facilities of the Federal Electricity Commission, because of the existence of towers that support high-voltage cables. Its residents consider it a refuge as most are from rural areas where they can no longer earn a living. This may be considered a clandestine community since they have no right to services and no obligation to pay for them. The settlement measures approximately 600 by 10 m, with approximately 90 shacks built of waste materials. These structures are used as houses, individual storage sheds, and dressing-rooms for workers. Families comprised of men, women, children, and the elderly live here.

III. Social Impact

After 15 years of continuous operation, the closure of the Matatlán landfill was announced in early 2004, directly affecting 850 scavengers. Following this announcement, the affected workers asked to retain their source of employment and to be given the option to purchase land for their families. Workers from the above-mentioned settlement are included in the total number affected. In the case of the settlement, whole families, including the elderly and even children, work at the landfill, foraging for trash that may have some market value. To work at the landfill, membership is required in the 5 de Mayo Union of similar, related trash workers of the State of Jalisco, affiliated with the Revolutionary Confederation of Workers and Peasants (CROC). The CROC delegation has 850 registered workers at the Matatlán landfill. Registered workers include both permanent and temporary workers, of whom an average of 450 show up to work each day. They are freelance workers, and as such, are not subject to a work schedule, and have no worker rights or obligations, and have no legal representation. Yet they have roll call and leave just as in any other workplace. Before the landfill’s closure was announced, the hours of operation were from 08:00 to 21:00 from Monday to Sunday, with an average of 1,300 tons of waste collected per day.

IV. SOCIOECONOMIC CHARACTERISTICS OF THE AFFECTED POPULATION (STUDY OF SETTLERS AT THE MATATLÁN LANDFILL)

This socioeconomic study is focused on understanding the characteristics of the settlers in the area located on reserved land, on the southwestern side of the Tomatlán landfill in Tonalá, Jalisco.

The following information is a summary of a series of tables and graphs presented in the project files.
The total population of the settlement is 123: 54% male, 46% female. 118 people live in family groups and 5 individually. This study focuses on the population living in family groups. Of those living in family groups, 20% are between the ages of 0 - 4, 80% are 5 and older. 53% of the total population is 18 and above, of which 49% are male, 51% are female. 24 women (=20.4%) of the total population living in family groups (118) are between the ages of 15 and 49.

82% were born in Jalisco, while 18% were born elsewhere.

One person is handicapped.

18.6% of the total population is between 6 - 14. Of these, 68% know how to read and write, and 32% do not.

The population age 15 and over represents 59.3% of the total population. Of these, 71% are literate and 29% are illiterate.

No 5-year-old child among this population attends school. Children between the ages of 6 and 14 represent 18.6 % of the total and only 9.1% attend school.

Among those between the ages of 15 and 24, i.e., 17.8% of the total population, none attends school.

Those 15 and over represent 69.3% of the total population. Of 70 people in this category, 84.3% have no post-primary or secondary education; 41.4% have no education; 20% have completed primary education; and only 5.7% have completed secondary education. Of this group, 10% have commercial or technical studies and have completed secondary and primary studies.

Only 1% of those aged 18 have highschool education.

The average level of schooling among the total population is 3.02 years.

61% are married or living together, and 39% are single.

6.8% speak an indigenous language, and 3.4% do not speak Spanish.

68% are Catholic, 16% from other Christian religion, and the remaining 16% practice no religion.

Of the population reported as employed, 35.5% earn less than one minimum monthly wage, 43.5% earn up to two minimum monthly wages, 16.1% earn between two and five minimum monthly wages, and only 4.8% earn between five and ten minimum monthly wages.

Of the population reported as employed, 19.4% work up to 32 hours per week, 3.7% work from 33 to 40 hours per week, 11.3% work from 41 to 48 hours per week, and 59.7% work over 48 hours per week.

The average number of occupants per house is 4.5, while the average number of occupants per room is 2.4.

The number of private, inhabited homes is 26, built entirely of waste materials.

Gas is used for cooking in 19.2% of houses, while 81.8% use firewood.

88.5% of houses lack piped water, drainage, and electricity.

53.8% of house have radios or radio-cassette players, and 26.9% have battery-powered televisions.

77% of homes have male heads of households, and 23% have female heads of households.

87.3% live in homes with male heads of households, while 12.7% live in homes with female heads of households.

V. MITIGATION MEASURES

1. Transfer Station:

The purpose of this mitigation measure is to continue to partially maintain the source of employment, benefiting 250 affected people. This work will be carried out in two stages: a) Construction of the platform and road access for a total of $28.4 million pesos, to be carried out from September to November 2004; b) Construction of the metallic structure totaling $10.7 million pesos, to be carried out from April to June 2005.
2. Repair of Sorting Belts

This consists of carrying out greater maintenance of the sorting belts installed in the industrial section of the Los Laureles plant, totaling $14.5 million pesos to be carried out from February to March 2005.

3. Cooperative

For the purpose of increasing the culture of formal employment, the Guadalajara City Council and the Concessionaire are promoting the creation of a scavenger’s cooperative that would promote the organized and trained participation of these workers. To this end, the Concessionaire may subcontract scavengers to develop their activities. The Receivership of the Municipality of Guadalajara will be obliged to supervise the legal process of this subcontracting.

4. Land purchase

The purchase of 7.6 ha of land is being negotiated for 392 families. The negotiations are being carried out by the leader of those affected. The land is located near the Los Laureles Sanitary Landfill. This plan has not been officially presented to the Guadalajara City Council. This measure comes in response to the public request of those affected, as a means of retaining their source of employment.

VI. BUDGET

### MITIGATION MEASURES

<table>
<thead>
<tr>
<th>CONCEPT</th>
<th>AMOUNT (pesos)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>General repair of sorting belts in the industrial section of Los Laureles Plant 1)</td>
<td>$14.6 million</td>
<td>$14.6 million</td>
</tr>
<tr>
<td>Construction of Matatlán Transfer Plant</td>
<td></td>
<td>$39.2 million</td>
</tr>
<tr>
<td>a) Construction of platform and roads</td>
<td>$28.4 million</td>
<td></td>
</tr>
<tr>
<td>b) Construction of metallic structure 2)</td>
<td>$10.8 million</td>
<td></td>
</tr>
<tr>
<td>Subtotal 3)</td>
<td></td>
<td>$43.8 million</td>
</tr>
<tr>
<td>Purchase of 7.6 ha of land</td>
<td></td>
<td>$7.6 million</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$51.4 million</td>
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</tbody>
</table>

1) Plus 15% value added tax (IVA)

**LAND FOR 392 AFFECTED PEOPLE**

Land price per square meter: $100.00.
Program to Implement Measures

The construction of the platform and roads is scheduled to be carried out in three stages, from September 20, 2004 to November 6, 2004.

<table>
<thead>
<tr>
<th>STAGES</th>
<th>PERIOD (2004)</th>
</tr>
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<tbody>
<tr>
<td>1) Reinforced Earthen Wall</td>
<td>September 20-October 23</td>
</tr>
<tr>
<td>2) Platform</td>
<td>September 20-October 30</td>
</tr>
<tr>
<td>3) Roads</td>
<td>October 4-November 6</td>
</tr>
</tbody>
</table>

Repair of Sorting Belts

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repair of sorting belts</td>
<td>April-June 2005</td>
</tr>
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VII. Evaluation of Mitigation Measures

1. Transfer Station

Advantages:
For City Council.
More efficient for the vehicle fleet to avoid the carrying of the waste directly to Los Laureles plant (23 km round trip), which means less time is spent per trip, and increases the capacity for carrying trash.
Savings in maintenance, gasoline expenses, and salaries.
For the company:
Los Laureles Sanitary Landfill receives sorted or more organic trash.
For those Affected.
Retains source of income.

Disadvantages:
Promotes the continuance of irregular settlements.

2. Repair and Start-Up of Sorting Belts

Advantages:
For the City Council:
Mitigates the effect of lighter loads of waste at Matatlán Dump by promoting the creation of sources of income for persons affected.
Prolongs the useful life of Los Laureles Sanitary Landfill by increasing the trash sorting process.
For the Company:
Makes better use of the sanitary landfill.
Complies with sanitation regulations.
For those Affected:
By being organized, they can obtain greater benefits (time and income) through the enabling of this source of income.

Disadvantages:
Expenditures for the maintenance of obsolete sorters whose budget does not ensure a minimum useful life of 5 years.
Dealing with workers in case the operation is not consistent and a high failure rate is observed.
Dealing with people who lack experience in organized work.
3. LAND PURCHASE

Advantages:
For the City Council:
Mitigates effects of job reduction at the Matatlán Landfill, creating order and social structure among the affected population.
For the Company:
Encourages greater organized participation by those affected, taking advantage of the recycling process.
For those Affected:
They acquire the possibility of social organization to help them increase their living standard by creating an organized community. For those who decide to work at Los Laureles, this allows them to avoid commuting, thus saving time and transportation, and giving them more time with family.

Disadvantages
Carrying out disbursements, affecting budget allocations.
Promoting human settlements that require urban services.

VIII. PARTICIPATION OF-political parties

The municipality of Tonalá is governed by the party (PRI) in opposition to the governing party in Guadalajara (National Action Party). Tonalá is the least economically developed municipality in the metropolitan area of the city of Guadalajara. Since the end of the 1980s, around 2,500 tons of solid waste have been disposed in Matatlán and at Los Laureles treatment plant, on lands purchased from ejidatarios by the Guadalajara City Council. Although the Guadalajara City Council owns these lands, the Tonalá Council has been protesting since 1990, arguing that irreparable damage is being done to its community from pollution by solid waste dumped by the city of Guadalajara and surrounding municipalities. To resolve this problem, the Government of Guadalajara has offered support to the Government of Tonalá for the maintenance of roads to the Matatlán dump and Los Laureles landfill, thus allowing them to benefit without paying for the disposal of trash.

Negotiations to resolve the trash management problem in the metropolitan area do not follow an integrated, systematic process in which medium-term programs are established with citizen participation. This makes it necessary for the Guadalajara City Council to hold separate negotiations each time a problem arises. The Guadalajara and Zapopan City Councils have experimented with granting concessions to private companies (Caabsa Eagle and Acroz), where the processes have not promoted sustainable development. Both city councils have had to quickly formulate new concession contracts, while there have been changes in administration and not enough time to develop a program aimed at inter-municipal integration to resolve the problem.

Observations
The Concessionaire, CAABSA EAGLE, is obliged to execute and develop, on its own, the projects, works, infrastructure, and equipment needed to comply with mitigation measures. However, these measures are subject to the signing of the amendment agreement to expand the concession to 15 years, once the current concession expires.

It is recommended that the City Council accelerate, study, and apply the program and commitment for structural mitigation measures, overseeing their preparation and compliance, in order to avoid social conflicts.

To benefit the most vulnerable population, i.e., those who live in the settlement, the Guadalajara City Council should develop and propose rural housing and housing improvement programs, which incorporate subsidies, credit, and strengthened financing mechanisms for the construction or purchase of
houses, and promote a local system for savings that enables workers in the informal sector to have access to housing loans.

Negotiations, either on an individual basis or through city councils, are not the most advisable in a metropolitan area that involves several municipalities. The problem should addressed through the creation of a metropolitan-style organizational or administrative agency to coordinate efforts to meet needs as a whole. In addition a management plan should be implemented that establishes immediate, medium- and long-term actions, with the autonomy to provide continuity to programs and actions, and complying properly with citizens’ needs. The City Council of Guadalajara, as a capital city, should promote a solid formula with a long-term metropolitan vision.

Detailed annexes on the landfill site of Los Laureles, the tables on the principal population indicators, the proposed amended agreement and other information on the site, can be found in the project files.

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