

# SOCIAL CARBON METHODOLOGY

INDICATORS FOR LANDFILLS PROJECTS  
COMMUNITIES EVALUATION



**socialcarbon**

## DOCUMENT'S HISTORY REVIEW

Version	Description of the main adjustments	Date o Review
01	First version of the indicators	03/2007

### 1. Elements considered in the application of the Social Carbon Methodology for the sector

Initially developed for evaluating the conditions of the communities involved with forestry projects, the Social Carbon Methodology was adapted for projects related to several kinds of enterprises, maintaining its fundamental characteristics. The application of the Social Carbon Methodology (SCM) constitutes a diagnosis of the social, environmental and economic conditions of the project, based in the Indicators of the SCM, which are specific for Landfill project activities.

These indicators are applicable to communities affected by the implantation and operation of landfills involved with greenhouse gases emission reductions projects.

The construction of the indicators is based in experience in previous applications of the Social Carbon Methodology for communities, and in the possible interferences of this type of project activity in the landscape and other local characteristics. It is known that the communities located near landfills are usually marginalized, with low incomes, deficiencies in the structure of residences and low scholarship levels.

It is not difficult to observe cases where these people are characterized by the social abandonment, finding themselves excluded from any economic professional activity and surviving from the products generated by wastes, through a precarious and disarticulated activity.

### 2. Application of the Indicators

The application can be done through:

- a) **Group Work:** Participatory meetings with representatives from the organizations involved in the project. The meeting is coordinated by a responsible professional whose function is orientating the participants to discuss the aspects included in the indicators. The results of the meeting ought to be registered, compiled, and valued according to the indicators.
- b) **Interviews:** Some of the key- informers are interviewed in a semi structured way, aiming to obtain, indirectly, information concerning the six resources of the Social Carbon Methodology. The results of the interviews ought to be registered, compiled and valued according to the indicators.
- c) **Questionnaires:** Questionnaires may be applied by responsible professionals with key-informers of the organization, in order to gather information. The results of the survey ought be registered, compiled and valued according to the indicators.

The one responsible for the application may select a unique method or combine them in order to obtain best results. Other application methods are subjected to the previous approval of the Social Carbon Technical Team.

It is recommended that the application includes visits to the locals where the projects are developed, which will help characterizing the community and obtaining evidences.

The attribution of an index for each indicator ought to follow the orientations below:

- a) The Professional responsible for the application shall obtain the necessary information for characterizing the enterprise/ community's situation in regard with a determined indicator.
- b) Next, the Professional ought to compare the characteristic presented by the enterprise/community with the six possible scenarios considered by the indicator.
- c) The most similar scenario that fits the presented characteristic must be selected and its respective index will be attributed to the indicator.

Special Cases:

- a) **The characteristic found does not fit any of the possible scenarios:** The professional responsible must get in contact with the Social Carbon Technical Team in order to verify if it is necessary to reformulate or to elaborate a new indicator.
- b) **The indicator is not applicable to the enterprise or the community:** The responsible must justify the reason why the indicator is not applicable in the Social Carbon Report, and identify it as "Not applicable". In this case, no values are attributed to the indicator.
- c) **Information necessary for the evaluation of the indicator does not exist or they are not available:** In cases where the lack of information is caused by the lack of registration, data or evidence, the index 1 (one) must be applied. If the lack of information is justified by confidentiality, the indicator may present "Not evaluated" in the Social Carbon Report, and no

values are attributed to it.

- d) **The characteristic found present similarity with more than one possible scenario:** The responsible must select the scenario with the lower index.

### 3. Indicators

**Social Resource:** are the social resources (network, social demands, social relationships, relationships of trust, association in social organizations) where people go in search of an alternative way of life.

N°	Indicator	1	2	3	4	5	6
1.	Associations	Absence of formal associations	Existence of formal associations, but they lack structure and are riven by internal conflict	Existence of formal associations, commanded by leaders interested in strengthening the group.	Community organizations exist and are headed by people who are recognized as leaders by the community	Existence of formal associations, commanded by leaders and not only representatives	Existence of formal associations, which internalize the sense of community exist and are headed by capable and experienced leaders
2.	Conflicts	Serious internal conflicts and of major consequence	Internal conflicts with a high degree of mediation	Internal conflicts with small consequences	Internal conflicts, but capable of being solved	Few internal conflicts	No internal conflict or conflicts within the group's tolerable limit
3.	Interferences	Group is completely vulnerable to external interference	Group is very vulnerable to external interferences, especially from local politicians	Medium vulnerability to external interferences	Little vulnerability to external interferences	Minimum vulnerability to external interferences	Minimum vulnerability to external interferences, with a group from institutional network to articulate the community
4.	Collectivity	Individualistic spirit in the majority of the community	Individualistic spirit in the majority of the community, but open to changes	Associativist spirit only in times of crisis	Associativist spirit, but with low level of cooperation	Community spirit is present	Community spirit is present and cooperation among people
5.	Family Relations	Unstructured family relations	Unstructured family relations with conflicts of little importance	Only few family ties	Family ties existent in the majority of the community	Existence of family and relatives' relations	Family and relatives' relations are strengthened

Monitoring Social Resource Indicators		
Indicator	Description	Evaluation Methods
Associations	Evaluates the existence of a formal association among the members of the community and the association structure grade.	Participatory, partly structured interviews
Conflicts	Evaluates the existence of internal conflicts among the association members or the organized groups.	Participatory, partly structured interviews
Interferences	Evaluates the existence of external interferences, such as politics and other institutions.	Participatory, partly structured interviews
Collectivity	Evaluates the existence of one associative culture or the predominance of individual interests.	Participatory, partly structured interviews
Family Relations	Evaluates the integrity of the family relations and its importance for the community members.	Participatory, partly structured interviews

**Human Resource:** it's the ability, knowledge and capacity for the job that people possess, besides good health. Together, these items turn out to be fundamental to guarantee a different strategy in the way of life.

Nº	Indicator	1	2	3	4	5	6
6.	Education - adults	High illiteracy rate	Illiteracy present among older people	Few illiterates	Minimum quantity of illiterates	Almost none illiterates	No illiterates
7.	Education - youth	Most people had 2-3 years of study	Young people with 4 years of school	Young people with 6 years of school or more	Young people with access to school and with more than 6 years of study	Young people with access to school and most of them completed middle school, but with no interest in continuing school	Young people with middle school completed and some are graduated in high school
8.	Health	High disease rates, specially those caused by residues from landfills, and almost no access to hospital and doctors	Incidence of diseases in children and old-aged and difficult access to hospitals and doctors	Incidence of diseases, with medium difficulty in the access to hospitals and doctors	Few diseases and little difficulty in the access to hospitals and doctors	Few diseases and access to health agents, hospitals and doctors	Almost no diseases and easy access to hospital and doctors
9.	Access to technology	No access to new technologies and information	No access to new technologies and information, but these are known by the community	Access to superficial information only	Access to information related to the work performed only	Most of the people have access to new information	New technologies and information are highly accessible to the community, showing concrete results
10.	Incentive to work	People are discouraged to work	People with little incentive to work	People with some incentive to work	People with incentive to work, but with difficulty in knowing how to perform	People with incentive to work, but with reasonable performance	People with incentive to work, with knowledge of the activities to perform
11.	Professional capacity	Group with almost no professional ability	Few are prepared professionally	Some qualified professionals	Qualified professionals, but demanding improvement	Qualified professionals	Different types of professionals and well qualified
12.	Leisure	No leisure	Leisure activities consist of visiting other family	Leisure activities consist of short journeys and sport	Leisure activities consist of excursions and sport	Leisure activities consist of excursions, religious	Leisure activities consist of sporting competitions,

			members			festivals, bathing in local rivers, sports, etc.	religious festivals, excursions and bathing in local rivers, etc.
--	--	--	---------	--	--	--	---

**Monitoring of Human Resources' Indicators**

Indicator	Description	Evaluation Method
Education - adults	Evaluates the incidence of people without schooling among the adults.	Interviews and constant visits, meetings and joint discussions, in a way integrated with the community
Education - youth	Evaluates the existence of scholar centers and spaces for education, the access to facilities and schooling degree, and studies opportunities among the youth.	
Health	Evaluates the degree of difficulty of access to doctors and hospitals as well as the incidence of epidemic diseases, such as tropical diseases (dengue, malaria, etc) or characteristics of the regions with conditions of poor nutrition and sanitation (cholera, malnutrition, etc).	
Access to technology	Evaluates the access to new technologies and information, as well as the depth of the information acquired.	
Incentive to work	Evaluates the incentive of people to work and their orientation. If they know how to act in the professional area or if they find difficulties.	
Professional capacity	Considers the existence of trained professionals or with some ability to work, as well as the need for further improvement. It also evaluates the upgrade and recycle of workers through the completion of courses and if these are accessible.	
Leisure	Evaluates the existence of public places, realizations of events and manifestations propitious for the activities of culture, sports and leisure.	

**Financial Resource:** it's the basic capital (money, credit/debit, savings and other economic assets), that are available for the people and that supplies them with different options of ways of life.

Nº	Indicator	1	2	3	4	5	6
13.	Credit	People are unaware of the existence of credit schemes	Some people have secured credit but are not keeping up with their repayments	Some people are aware of credit schemes, but have no access to them	Many people have secured credit and have begun to invest in their business	The majority have secured credit and have the repayments planned	People have made use of credit schemes before and, having paid off almost all of their debt, are applying for new loans
14.	Familiar Incomes	Familiar incomes are less than a minimum wage.	Family Incomes between 1 and 2 minimum wages.	Family Incomes between 2 and 3 minimum wages.	Family Incomes between 4 and 5 minimum wages.	Family Incomes between 5 and 6 minimum wages.	Family incomes are bigger than 6 minimum wages.
15.	Electricity	No access to electricity.	Access to electricity between 1-24% of residences.	Access to electricity between 25-49% of residences.	Access to electricity between 50-74% of residences.	Access to electricity between 75-99% of residences.	All residences have access to electricity.
16.	Canalized Water	No access to canalized water.	Access to canalized water between 1-24% of residences.	Access to canalized water between 25-49% of residences.	Access to canalized water between 50-74% of residences.	Access to canalized water between 75-99% of residences.	All residences have access to canalized water.
17.	Type of Residences	Absence of masonry residences in good conditions.	Masonry residences in good conditions represent 1-24% of the residences.	Masonry residences in good conditions represent 25-49% of the residences.	Masonry residences in good conditions represent 50-74% of the residences.	Masonry residences in good conditions represent 75-99% of the residences.	Masonry residences in good conditions represent all the houses.

Monitoramento dos indicadores de Recurso Financeiro		
Indicator	Description	Evaluation Method
Credits	Evaluates the facilities of obtaining credits from financial institutions and the facilities of fund payments or credits earned.	Interviews and visits to financial agencies
Family Income	Evaluates the situation of the family income of the community.	Interviews and Research
Electricity	Evaluates the availability and access of electricity for the population.	Structured research
Canalized Water	Evaluates the availability and access to piped water for the population.	Structured Research
Type of Residences	Evaluates the type of housing predominant in the community, as well as conditions of the infrastructure shown.	Structured Research

**Natural Resource:** it is related to the natural resource stock (soil, water, air, genetic resources) and environmental services (soil protection, maintenances of hydrological cycles, pollution sinks, plagues control, pollination, among others), from which resources livelihoods are derived.

Nº	Indicator	1	2	3	4	5	6
18.	Vegetation Cover	Complete absence of native ecosystems.	Native ecosystems account for less than 1% of the regional area and are highly fragmented.	Native ecosystems account for 1-5% of the regional area and are fragmented.	Native ecosystem account for 5-20% of the regional area and have little interconnectivity.	Native ecosystems account for 20-50% of the regional area and have good interconnectivity.	Native ecosystems account for over 50% of the regional area and are thoroughly interconnected.
19.	Soil use	Soil is not available due to the high contamination related to the wastes disposal contamination.	Soil is not available, however the contamination due to wastes disposal is low.	Soil is not available, but there is no sign of contamination due to the wastes disposal.	Soil is available, but presents low fertility and has no adequate management plan.	Fertile Soils, low costs for using it; however, it does not present an adequate management.	Fertile Soils, low costs for using it, and sustainable use of it.
20.	Impacts of activities	Socioeconomic activities have a high level of impact on native ecosystems.	Socioeconomic activities have a considerable impact on native ecosystems.	Socioeconomic activities cause moderate impacts on native ecosystems.	Socioeconomic activities cause a low level of impact on native ecosystems.	Socioeconomic activities result in minimal impact on native ecosystems.	Socioeconomic activities are undertaken in a sustainable manner.
21.	Pollution Control	Polluted air and unbearable smell proceed out from wastes disposal.	Polluted air and with some smell proceed out from the wastes disposal.	Ar relativamente poluído e sem odor provocado por resíduos	Level of air and smell acceptable for the human living.	Clean air and without smell; however, there is no management plan applied in the region.	Clean air, no pollution, and no smells proceed out from the wastes disposal.
22.	Water Resources	Water Resources are not available for use by local communities due to the contamination proceeded out from wastes disposal.	Water resources are available for use by local communities at a high cost due to the contamination proceeded out from wastes disposal.	Water resources are available for use by local communities at moderate costs due to the contamination proceeded out from wastes disposal.	Water resources are available at low cost but are used in an unsustainable manner.	Good quality water resources are available at low costs, but their use requires a certain level of control or demand management.	Good quality water resources are available at low costs, and are used in a sustainable way by local communities.

Monitoring Natural Resource Indicators		
Indicator	Description	Evaluation Method
Vegetation Cover	Evaluates the vegetation cover in the area of interest, considering the existence of native ecosystems in the region and their level of fragmentation or connectivity.	Analysis of satellite imagery.
Soil use	Evaluates the availability of soil suitable for agriculture or for activities that may generate incomes for the population, considering if the soil use is made in a sustainable manner.	Collects of samples for analyzing physical and chemical parameters of soils.
Impacts of activities	Evaluates the impacts of the socioeconomic activities developed on the native areas.	Collects of samples for analyzing parameters of vegetation and species composition in the areas affected by the activities.
Pollution Control	Evaluates the quality of the air in the region, considering some of the air characteristics such as smell, color, among others.	Collect of samples for analyzing physical and chemical parameters of the atmosphere.
Water Resources	Considers the availability of water resources for the local communities, either for economic activities (agriculture, cattle breeding, fishing, and others) either for leisure activities.	Collect of samples for analyzing the physical and chemical parameters of the water sources.

**Biodiversity Resources:** represents the species, ecosystems and genes which make up the biological diversity of a given region. Relevant aspects of this component are the integrity of natural communities, the way humans use and Interact with biodiversity, the degree of conservation, the pressures and threats imposed on native species and the existence of high priority conservation areas or conservation hotspots.

N°	Indicator	1	2	3	4	5	6
23.	Natural Communities	Natural communities completely degenerated and contaminated by wastes disposal, with no adequate management plan.	Natural communities very degenerated due to the increasing contamination proceeded out from wastes disposal, and with no adequate management plan.	Natural communities reasonably conserved, with visible signs of contamination by wastes and inefficient management.	Natural communities presenting well conserved conditions, however, they are propensity to contamination by wastes and inefficient management.	Natural communities with low alterations and well conserved, in the stage of implantation of a management plan.	Natural communities well conserved or almost intact, presenting adequate management of the residues.
24.	Biodiversity use	Biodiversity is not available due to the contamination by wastes.	Biodiversity is used in low proportion by the local community.	Local biodiversity is reasonably used by the local population.	Local biodiversity is significantly used, representing an expressive portion of the alimentary and medical needs of the local population.	Biodiversity is high used by local population, which presents a great dependence on native species.	Biodiversity is widely used by the local population, which depends intrinsically of the native species.
25.	Protected Areas	No protected areas near the communities.	No protected areas, however they are in implantation stage.	Protected areas in implantation stages.	Protected areas are implanted, but with no participation of the community.	Protected areas implanted with the support of a minority of the communities.	Protected areas with support and participation of the local communities.

**Monitoring Biodiversity Indicators**

Indicator	Description	Evaluation Method
Natural Communities	Evaluates the characterization of the natural communities and species, considering their conservation conditions.	On site inventories.
Biodiversity Use	Evaluates the availability and use of the biodiversity by the population and the impacts of the activities exercised in the region.	Interviews with local inhabitants.
Protected Areas	Verifies the existence of protected areas near the communities, as well as their relation and participation in the preservation of these areas.	Participatory meetings.

Carbon Resource: refers to the type of carbon management developed, which can be through sequestration, substitution and conservation.

Nº	Indicator	1	2	3	4	5	6
26.	Transaction costs	Project with high transaction cost	Project with high transaction cost, but with counterparts from the communities.	Transaction costs paid up front by financial agents (to be recouped later)	Moderate level of transaction costs	Transaction costs are shared	Transaction costs are shared in a cooperative manner
27.	Project Eligibility	Projects geared towards carbon conservation, ineligible under the CDM.	Projects with very few activities eligible under the CDM	Projects with 30% of the activities eligible under the CDM	Projects with 50% of the activities eligible under the CDM	Projects with 70% of the activities eligible under the CDM	All projects activities are eligible under the CDM.
28.	Community involvement	No community involvement in the conception or development of the project	Little community involvement	Moderate level of community participation	Considerable community participation	Significant community input and participation	Project processes are thoroughly participatory
29.	Social return	The project provides negligible social and economic returns for the community	Low social returns	Social and economic returns are adequate, based on the level of community participation	Satisfactory social and economic returns	Social benefits are evident and measurable in social and economic terms	High social and economic returns

Monitoring Carbon Resource' Indicators		
Indicator	Description	Valuing method
Transaction cost	Evaluates the transaction cost of the Project and the distribution of this cost among the stakeholders.	Analysis of the cost in each phase
Type of Project	Considers the eligibility of the project's activities in the CDM market.	Parameters of the Kyoto Protocol and CDM
Community involvement	Evaluates the intensity of the involvement of the community members with the project.	Participative process
Social return	Evaluates the benefits obtained by the community members with the development of the project.	Semi-structural and participative meetings and information about the income of the community