REFORESTATION OF URBAN AREAS IN RIO DE JANEIRO THROUGH A NGO - A STORY OF SOCIAL AND ECOLOGICAL SUCCESS

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Abstract

The states of Brazil have seen deforestation of major proportions, so much so that Rio de Janeiro today has less than 10% of its territory covered by native forests. This fact causes great aridity in the cities, with hot and dry districts, and falling water tables, resulting in a lack of water for the local population.

Reforestation of degraded areas by the municipal and state government does occur, but on an inadequate scale. Furthermore it happens without teaching the poverty-stricken populations of the surroundings that forests generate quality of life. Many of the reforested areas are burnt down and the work achieved is lost. Every year the few remaining native forest areas are affected.

By encouraging the third sector, the media and companies to participate in the issue of environmental education for the population in poverty-stricken areas, (mainly in day-care centres and schools), it will be possible to involve future citizens, who are the children, in waste recycling and the re-forestation of local degraded areas.

The creation of “aceiros” (strips with a width greater than 15 meters, where the invading vegetation is eliminated) in the vestiges of forests of the suburbs and near to the cities generates immediate and low-cost jobs for a portion of the Brazilian population lacking education.

The NGO Florescer has carried out a pilot work in Botafogo, Rio de Janeiro, which has been visited by many needy communities wishing to do something for the environment, but not knowing how to go about it.

The creation of Green Clubs in every district in the city, with participation by society and the institutions (companies, condominiums, neighbourhood associations and others), would bring lead to mobilization for the creation of jobs for those shut out, on a large scale, and a generation more involved in protecting the nature, as they have learnt its importance in practice.

Introduction

The city of Rio de Janeiro is located under the domain of the “Mata Atlântica” forest, a vegetal formation whose level of devastation has been huge in the past, during the colonial cycles of the Portuguese empire, and still is nowadays, due to the improper occupation of hillsides, construction of roads, and the expansion of the current agricultural borders, among other causes. These factors deepen the degradation of the remaining Mata Atlântica and lead to the extinction of species from its fauna and flora, many of which endemic.

The process of deforestation has turned this region into a high-priority area for biological preservation the world over. The Mata Atlântica, a rare and threatened ecosystem, represents an important target of environmental discussions, which are usually translated into re-florestration plans, or the mixed plantation of native species in degraded areas, seeking to form a forest as close as possible to the original.

The poverty-stricken communities in the city of Rio de Janeiro are usually located on the hillsides, and therefore the fact of teaching, in practice, of environmental education for children, and helping in the maintenance of the forests in their communities, takes on the nature of a crucial activity.

As there are many degraded areas near these communities, direct jobs are created around the dwellings, also for people deprived of education.

1.1 Reforestation of the City of Rio de Janeiro

The ecological recovery of areas deforested in the city of Rio de Janeiro has a history going back to the XIX century, with the episode of reforestation of the Floresta da Tijuca. At that time, the city was undergoing a serious crisis of water supply, due to the removal of vegetal coverage from hillsides, which led to negative impacts, nowadays known, in relation to the hydrologic balance. At that time, the Mata Atlântica was undergoing a process of relative recovery, following a phase of major destruction caused by the successive economic cycles of "pau-brasil", sugar cane and cattle breeding. However, the latest cycle, the coffee cycle, was the one to cause the deepest damages to the Brazil's coastal forests.

In 1986, the Municipal Environment Secretariat (SMAC) started the Preservation and Reforestation Program in Low-Income Regions – Reforestation Community Effort, aiming, among other targets, at the preservation of hillsides situated in poverty needy areas. The methodology used at the beginning of the Community Effort Project placed priority on the tree-planting aspect, and rapid coverage of the soil. Environmental education, in practice, for children in these communities where the community effort project was implanted, was not included.

1.2. Mobilization of Civil Society

Despite the efforts made by the public power, the city of Rio de Janeiro has paid a high price for its development, as it is a city squeezed in between the sea and the mountains, and with large deprived communities on degraded hillsides. The districts are hot, dry and suffer frequent floods due to the absence of forests. Considering the increasing volume of environmental problems, which generate a sensation of impotence in the population, this leads to discouragement in the exercise of citizenship, so dear to the destiny of any community.

At the same time, this situation promotes reflection by part of society, aware of the impossibility of governments solving all the issues with the means at their disposal.

One of the examples which may be mentioned within this context is the foundation of the SOCIETY OF FRIENDS FOR THE REFORESTATION – FLORESCER, on April 15th 1994. The mobilization happened by virtue of frequent fires occurred in the "Morro São João Baptista" (district of Botafogo – city of Rio de Janeiro). This landscape was dominated by capim-colonião (*Panicum maximum*) (a type of grass), which appeared in every part of the

relief and suffered annual burning, destroying every year thousands of hectares of the Mata Atlântica in the city of Rio de Janeiro.

Initially, the mobilized group opted to clean up the edges of the remaining vegetation, seeking to make it difficult for the capim-colonião to propagate, with a consequent decrease in the risk of fires. This work occurred in a middle-class condominium, with more than 700 apartments, where 90% of the condominium members contribute monthly with a very small amount of money to the work of the NGO Florescer.

This work, if it is extended and supported by the public power and the media (newspapers, TVs, radios), could provide jobs for hundreds of thousands of shutout citizens in the modern consumer society, if the population of Brazilian states such as Minas Gerais, São Paulo and Rio de Janeiro understand the importance of the forests for their quality of life, and help in the recovery of the local degraded areas.

The SMAC (Municipal Secretariat) estimates that more than a fifth of the state of Rio de Janeiro is currently covered by degraded areas, with a predominance of the afore mentioned grass (SMAC, 1995) The same thing occurs in São Paulo and Minas Gerais (Schmidt, 1998).

The absence of an understanding of the importance of nature for the Brazilian population largely contributes to the problems currently experienced, such as major deforestations, successive burnings of large stretches of territory, without concrete measures being taken to reverse these serious environmental problems.

1.3. Incorporation of the educational component

Considering the issue of environmental education inseparable from the preservation of nature, the NGO Florescer has discovered that it would be interesting for this environmental education to be IN PRACTICE, and with children at the age for day-care centres up to teenagers.This approach is being backed by Dias (1998) and Pedrini (1998).

In 1997, a program of environmental education was incorporated with the support of company TROPIFLORA – Plantas e Flores Ltda and the participation of the day-care center Criançartes, and the Cruzeiro School.

Fig. 1. Tree-planting kids

Financing was obtained for the construction of a small nursery for the production of seedlings of trees of the Mata Atlântica, from Unibanco Ecologia, in 1997.
Subsequently, in a number of districts, such as Vila Kennedy, São João de Meriti and Ilha de Guaratiba schools were incorporated with projects of Environmental Education in Practice.
Since then, communities from several poor districts of Rio de Janeiro have sought out the NGO Florescer's nursery, as Ebid (Yellow Pages) is a partner in the project and places in every telephone directory of the districts of the city of Rio de Janeiro (since 2001) phrases of an ecological nature, with NGO Florescer's telephone number.
The factory of reforestation inputs, Mecprec, has donated trays and substrate for projects, in an effort to support the work ofthe NGO Florescer.
Dozens of neighbourhood associations seek the NGO Florescer, and some have implanted community reforestations, as they have learnt the use of modern techniques of propagation of seeds and seedlings (trays, fertilizers and use of substrate), used in the NGO Florescer's nursery of seedlings, becoming volunteers in the Botafogo project, and applying the teaching in practice.
After planting Mata Atlântica tree seeds at schools and neighborhood associations, the children take their seedlings to a definitive location, which is a degraded area nearby. Until the end of 2003, more than 1,700 children have already participated in this project.

Fig. 2. Degraded area before reforestation in 1992

Fig. 3. Degraded area after reforestation in 1998

Many companies today help the project, since the maintenance of tree seedlings in degraded areas is the most expensive phase, and requires planning with technical guidance.

In 1999, the proposal to create waste recycling centres at schools was included in the PROJECT OF ENVIRONMENTAL EDUCATION IN PRACTICE (whose first unit implanted was at the Burle Marx Ciep (state school)), with the purpose of generating funds through waste recycling, which the children would bring to school, to then use the resources generated in the recovery of local degraded areas.

Big-bag units were built to collect paper, paperboard, glass, plastic, metal and Tetrapak, which are then forwarded to a recycling company in the neighbourhood, which pays for the material collected.

Children training, in practice, the recycling of waste and actively participating in the plantation of the Mata Atlântica seedlings, using several items considered waste (Example: For containers for planting tree seedlings, tetrapak 1.0-liter milk boxes were used, and for the field dripping device a 1.5-liter PET bottle is used.).

Children learn, in practice, two of the mankind's greatest problems, the generation of waste and the recovery of degraded areas.

FLORESCER has sought support from the silviculture sector of the Federal Rural University of Rio de Janeiro (UFRRJ). As a result of this association other objectives have been included, highlighting for studies destined to know in greater detail the behaviour and adaptation of the species planted, and the diffusion of this knowledge through activities destined to the public at large.

Currently, the project lists the following as fundamental objectives:

a) To foster community participation in the creation of solutions for the environmental problems in their districts.

b) To increase the production of seedlings of species from the Mata Atlântica, using small nurseries installed at day-care centres, schools or neighbourhood associations.

c) To use both the nursery and the reforested area as a field laboratory for environmental education activities.

d) To provide courses, lectures and seminars using works in progress, showing that environmental education in practice may result in future citizens with the importance of nature in their lives forever printed in their minds, as they have experienced the works and results.

e) To bring entrepreneurs, the government sector and the media to see the idea working in practice, with the purpose of future use in a great portion of the deprived communities.

Conclusion

The problem of hunger in Brazil may be reduced in the future, if every poverty-stricken community has projects of recovery of degraded areas and of waste recycling.

By creating at first only "aceiros" in degraded areas, the vestiges of local forests are preserved, avoiding the annual fires. Immediate and low-cost jobs are created for a portion of the population lacking education.

With this portion of the population included in the consumer group, an increase in the activities of small companies and industries and local retailers is generated.

Since expensive courses to generate jobs in the scything of degraded areas are not required, implementation is fast.

With the organization of schools by the Education Secretariats and the creation of Green Clubs by companies, neighbourhood associations, blocks of flats, condominiums, etc, children will be an integral and active part of the second phase of the project. With active participation of the community itself and of its children in waste recycling, production of Mata Atlântica seedlings, and maintenance of the Mata Atlântica tree seedlings in the local degraded areas, and accompanying for years the growth of trees, there will arise a future generation of more conscious citizens, really engaged in protection of the environment.

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