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## Urban and Environmental Rehabilitation of Sao Bernardo do Campo Watershed *Brazil*

Best Practice

New for 2002

### Categories:

#### Environmental Management:

- ecological sustainability
- environmental health
- environmental remediation
- incentives for sound management
- pollution reduction
- urban greening

#### Housing:

- affordable housing
- eco-logical design
- land tenure and security

#### Urban Governance:

- auditing
- human resources and leadership development
- institutional reform
- legislation
- management and information systems
- partnership development
- public administration and management
- public policy

**Level of Activity:** Metropolitan

**Ecosystem:** River Basin

### Summary

The project aims at improving the quality of life and enhance social integration of the population residing in squatters settlements in watershed preservation areas. It aims at fostering their involvement and awareness in the preservation of these springs and headwaters, improving the quantity and quality of the water available, as well as to rehabilitate the Watershed of the Billings Reservoir which is of crucial importance to the Greater Metropolitan Sao Paulo Area.

The practice consists of urbanisation of the Jardim Detroit and Carminha squatter areas (favelas), both located in watershed protection areas in the Municipality of Sao Bernardo do Campo. It includes infrastructure works for water distribution, sewage disposal, electricity, public lighting, storm drains, canals, slope stabilisation, paving and collective self-help building (mutirao) of 614 housing units.

Basic construction materials, blueprints and technical assistance have been provided by the

Municipality. The community benefits from participatory and integrated implementation of social, economic, technological, and environmental municipal programmes.

The proposed interventions have already been carried out and have reached their objectives. There is tangible evidence of significant decrease in the incidence of both social violence and water-borne diseases (associated with deficient sanitary conditions) due to mainly the implementation of regular waste collection and enhancement of better roads. We have noted an increase of self esteem in the beneficiaries. This is owing to the better living standards that this initiative has brought about.

## **Narrative**

### **SITUATION BEFORE THE INITIATIVE BEGAN**

The Detroit and Carminha slums had some 2,700 low-income inhabitants living in precarious, unhealthy shanties built along the Alvarenga Creek in the Billings Reservoir Watershed. Due to their living conditions these people were subject to floods, landslides, waste accumulation, rat infestation, lack of electricity and ventilation and violence.

### **ESTABLISHMENT OF PRIORITIES**

Two-thirds of the territory of the Municipality of Sao Bernardo do Campo are located in a Watershed Protection Area, with 38 settlement areas for squatters and a total of some 8,414 low-income families living in degraded, unhealthy, high-risk conditions.

Land is scarce and expensive outside the Billings Reservoir Watershed. Hence, it is very hard to relocate these people to other areas. The choice was thus made to urbanise the area itself, combining direct intervention with a Social and Environmental Education Programme in order to create awareness among the population regarding their role as stakeholders in protecting the springs and headwaters.

### **FORMULATION OF OBJECTIVES AND STRATEGIES**

The policies set by the Municipality, with the participation of its Secretariats, for Housing and the Environment, Social Development and Citizenship, Health, and Education, were aimed at urban and environmental remediation of the target areas, improved housing, and social integration of the community. Integration of existing municipal programs and the partnership established among the Municipality, Caixa Economica Federal (Federal Savings and Loan Bank), Sao Paulo State Judiciary and the community, allowed for the interventions to be done as planned. The project was prepared by an NGO called Technical Support Group (GTA).

The partnership and participatory approach resulted to the commitment of all the stakeholders concerning their responsibilities and involvement in the environmental preservation of the watershed and the signing of a Cooperation Agreement (Termo de Ajustamento de Conduta) between the Municipality and the Sao Paulo State Judiciary.

### **MOBILISATION OF RESOURCES**

A total of US\$ 2,594,260 was invested, of which US\$ 915,770 came from the Federal Budget as funding in grant (specifically from the "Pro Infra" Programme, with US\$ 791,590 in 1997, and the "Habitar Brasil" Programme, with US\$ 124,180 in 1998, transferred through the Federal Savings and Loan Bank) and US\$ 1,678,490 from the Municipal Budget.

The integrated Urban and Environmental Recovery Project was prepared by the Technical Support Group (GTA) and the construction, social work, and sanitary and environmental education received technical supervision from the Municipal Secretariat for Housing and the Environment.

Other programmes implemented in the area involved direct participation of experts. Human and financial resources came from the following secretariats: 1. Health - providing community-based health agents to give orientation on disease prevention and thereby decreasing the number of hospital admissions; 2. Social Development and Citizenship- providing income generation through vocational training courses and workshops, and the Young Citizens movement, with courses and talks for youth, focused on prevention of drug abuse, citizens' empowerment, and other topics.

The community participated actively, building houses through community self help (known as mutirão in Portuguese), as well as planting trees and grass in a joint effort with employees from the Municipality, in order to promote environmental preservation.

## PROCESS

The Detroit and Carminha slums were first occupied in 1975. This area has always been known as the areas with the worst levels of environmental degradation and violence in the Municipality. In 1997, the Municipality applied for funds from the "Pro Infra" Programme, and in 1998 a socioeconomic survey was done. This produced guidelines for an integrated project which would involve community participation.

Since land was scarce and expensive, it was impossible to resettle the 614 families elsewhere. An urbanisation project was thus developed for Favelas, an area which at the time was characterised by the violation of the prevailing federal and state environmental legislation. In order to legally implement the Project, the Municipality sought an agreement with the Sao Paulo State Judiciary, which includes, among other provisions and conditions to be met, an Environmental Education Program, reforestation and creation of recreational areas, and installation of a primary sewage treatment plant as well as drainage system.

The project was discussed with the community and approved in a general assembly, the discussion of which led to the signing of a Letter of Intent - sort of a memorandum of understanding between the Municipality and the community organisations.

In order to begin the construction work, the local authority negotiated a common understanding of political interests among the three Favela slum communities (Detroit and Carminha I and II), since the project provided for integration of the three. Due to the high population density, and in order to allow the construction crews to proceed with their work, families had to temporarily be relocated to provisional lodging on the site. Therefore, focused, individualised social work was carried out to prepare the community during this stage as well as to define the self-help teams which would be involved in building up of the houses.

Transition from the old shanties to the new core housing units (with the materials donated by the Municipality) and the temporary lodging situation was one of the problems jointly dealt with and solved with the help of the Municipality's social staff and community leaders.

In order to differentiate the neighbourhood with an ecological focus and seek ways to decrease the soil's impermeability, local inhabitants planted grass walkways or "green sidewalks", which preserve the soil's permeability, besides planting native Atlantic Forest tree species. Meanwhile, the Municipality installed an innovative system for storm drainage and paving (ecological asphalt) which allows rain water to drain through the pores in the top layer of asphalt, with lengthwise drains and absorption wells underneath.

In addition, the community environmental awareness was enhanced through environmental and sanitary education activities and social mobilisation in order to teach people about selective waste recycling practices with a participatory on-going approach.

## RESULTS ACHIEVED

The practice provided the opportunity to create a new stance by public agencies vis-a-vis environmental degradation. Beyond their traditional roles of inspecting and punishing, the practice led them to their promotion of concrete actions for Environmental Remediation.

The green sidewalks and permeable paving helped the environmental education teams transmit knowledge concerning the vital importance of the water cycle for all living things (Ecological Neighbourhood Programme), which helped in creating awareness among the population concerning its responsibility as a stakeholder in protecting the springs and headwaters.

The opening of a street system allowed for waste collection and the beginning of a Waste Recycling and Citizenship Programme in the neighbourhood, with workshops on techniques for the use of recyclable materials for purposes of income Generation.

The former slum is now a proper neighbourhood, integrated into the surroundings, with practically all of the 614 houses built out of bricks. The safe water supply, sewage disposal through a public sewage system, households correctly connected to the electricity supply, proper disposal of storm water, and slope stabilisation have all led to improved quality of life, with a corresponding decrease in disease rates and elimination of the former risks of floods, landslides, and accidents with electricity.

Urbanisation and identification of housing lots with official addresses has made it possible to receive correspondence and purchase the houses on credit. The housing system has enabled the accessibility of the area by vehicles (delivery vehicles, ambulances, and fire trucks), accessibility for the elderly, people with disabilities, and pedestrians in general, decreasing rates of violence and guaranteeing the rights of the individuals.

## SUSTAINABILITY

The methodology used in the urbanisation process, the technologies proposed for environmental rehabilitation, and all the programmes for social integration of local dwellers were discussed at length with the population using a participatory approach, thereby facilitating the execution of the integrated projects and works.

Decisions were made in community assemblies, respecting the majority will. This process was significant to the project's success thus changing the life of the community: many families had their dwellings demolished and transferred to other lots, so the project's credibility guaranteed its sustainability during the execution phase and subsequently during the occupation of the new dwellings, with various families investing their savings in upgrading and filling in the core housing units (self-construction). The collaboration with the Sao Paulo State Judiciary (Ministerio Public) and the signing of the Cooperation Agreement (Termo de Ajuste de Conduta), ensuring the legal framework for implementing the project and its sustainability, resulted into the discussion on drafting specific legislation for the Billings Reservoir Watershed, aimed at regulating activities in the area already occupied.

Dwellers were oriented by professionals from the Water and Sewage Department and the electric utility company Eletropaulo, concerning the new lifestyle and the proper use of water and electricity and their responsibility as stakeholders in protecting natural resources.

The entire community, including adjacent areas, is now being mobilized to learn selective waste recycling on a participatory and on-going basis, which includes workshops on the re-utilisation of recyclable materials as well as vocational training courses aimed at socio-environmental integration and income generation.

A Minimum Income Programme was implemented, providing monthly grants for families with children and adolescents, considering the social and personal risks facing them, in order to improve their living conditions.

The changes involving community participation and continuity of its activity have led to the slum's gradual assimilation into the formal city, fostering the project's sustainability.

## LESSONS LEARNED

Joint action by the various agencies and stakeholders (based on the Cooperation Agreement) within a responsible and realistic vision of the need to promote environmental and socioeconomic improvements with the local population, made it possible to rehabilitate a degraded area and improve the quality of life of its inhabitants, while promoting their social integration.

The practice demonstrated that it was possible for the public sector to act in preventing major calamities such as floods, landslides, and epidemics, seeking new and feasible technical and economic alternatives, through a partnership between the Municipality and the community in the defense of its interests.

The success of such a programme is not limited to improving the quality of life of the local population and its immediate surroundings. By the inclusion of a health and environmental approach, the programme fosters the population's shared responsibility in the environmental rehabilitation and preservation of the Billings Reservoir Watershed, by seeking innovative technical solutions and encouraging the proper use of innovations.

Community participation in the project from the beginning, through local leadership (with women in the vast majority), was indispensable for its success and as well as for its sustainability after the construction was concluded, guaranteeing the project's socioeconomic and environmental sustainability, with integrated surveillance by the community and Municipality in order to prevent the area from being invaded again, avoiding an increase in the number of families to be served (beneficiaries).

Programmes focused on social integration, prevention of violence and measures of combating it and more specifically prevention of violence against women, are provided by the Municipality in the community through joint efforts among the various Municipal Secretariats. Such integration was crucial for the population to trust in the proposed changes, empowering local dwellers in their struggle for citizens' rights.

## TRANSFERABILITY

The Cooperation Agreement, a clear demonstration of the commitment by the Sao Paulo State Judiciary, the Municipality, and the local population in solving environmental and socioeconomic problems jointly in the favelas, brought major benefits to the local communities and made this practice feasible in the Jardim Detroit and Carminha slums.

The methodology applied to this practice will be used in the IBRD Technical Assistance Programme for the urbanisation of 4 slums with 2,070 families in the same watershed as the Jardim Detroit and Carminha favelas. A sanitation project by which the sewage generated by 12,775 families will be collected and transferred to the ABC Paulista Sewage Treatment Plant, also located in Greater Metropolitan Sao Paulo, reducing by some 25% the amount of raw sewage currently dumped into the Billings Reservoir.

The urbanization and design of the Ecological Neighborhood program will also be applied to other projects in the Sao Bernardo do Campo Municipality in the urban and environmental rehabilitation of 3 favelas with 2,455 resident families. Construction work is scheduled to begin in February 2002.

The intervention described herein fostered citizens' empowerment through discussion, participation and solution-building with a socio-environmental perspective, using concrete measures that transform the landscape, rehabilitate the environment, and implement compensatory environmental measures (ecological sidewalks and paving, greening and a sewage booster station) which balance the relations, thereby promoting equilibrium between land use and occupation.

The results obtained from this practice can be observed through the physical integration of the favelas and their surroundings, transforming them into urban neighborhoods and creating awareness among community members vis-a-vis its crucial role as stakeholder in the region's environmental rehabilitation, which in principle speaks for the transfer of the methodology, techniques, and processes to other contexts presenting similar problems.

CARMINHA was one of the 10 practices awarded by CAIXA in 2001 through its Best Practices Programme. As such, it will be prepare a guide to facilitate its transfer to other interested Municipalities.

## Key Dates

May 11, 1999: Beginning of the socioeconomic survey

Feb 10, 1999: Presentation of project to the inhabitants of this area and signing of the letter of intent.

April 15, 1999: Beginning of construction work

Nov 4, 1999: Signing of Cooperation Agreement

July 31, 2001: Conclusion of construction work

## References

Title of Article:

Technical Workbook (2 volumes, in Portuguese)

Sao Bernardo do Campo Municipality, Secretariat of Housing and the Environment.

Photographic Report (before and after), blueprints, technical manuals: dwellers, collective self-help building of housing units, and ecological asphalt, folder on the ecological neighborhood, waste collection, and citizenship.

Newspaper Clippings:

O Sonho da Casa Própria (One's Own House: a dream come true), Diário do Grande ABC, Dec. 26, 2001.

Natal e Ano Novo em Casa Nova (Christmas and New Year's in a New House), Diário do Grande ABC, by journalist Andrea Maziero, Dec. 24, 2001.

Carminha e Detroit ganham prêmio nacional (Carminha and Detroit Win International Award), Jornal da Prefeitura Municipal de São Bernardo do Campo, p.5, Dec. 2001.

Bairro ecológico (Ecological Neighbourhood), Jornal da Prefeitura Municipal de São Bernardo do Campo, Dec. 2001.

Moradores comemoram resgate da dignidade (Slum dwellers celebrate their empowerment), Diário do Grande ABC, Aug. 20, 2001, p. 12, by journalist Marta Alves.

Bairros ecológicos conseguem despertar a consciência da população (Ecological Neighbourhoods Raise Community Awareness), Diário do Grande ABC, p.13, by journalist Marta Alves, Aug. 20, 2001.

Carminha e Detroit - Desespero (Carminha and Detroit: Despair), Com a nota, jornalista Donizete de Sousa, May 6, 2001.

Carminha e Detroit - Urbanizadas (Carminha and Detroit Urbanized), Diário do Grande ABC, jornalista Andrea Maziero, Feb. 1, 2001.

Obras de infra-estrutura mudam visual (Infrastructure work slum appearance), São Bernardo Hoje, May 25, 2000.

Casas construídas através de mutirões (Blitz-building houses), A voz do ABC, Aug. 21, 1999.

## Contact

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**Type of Organization:** Local Authority

## Nominating Organization

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**Type of Organization:** Central Government

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**Type of Organization:** Central Government

**Type of Partner Support:** Financial Support

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**Type of Organization:** Central Government

**Type of Partner Support:** Legal

## Financial Profile

TABLE BORDER CELLSPACING=1 CELLPADDING=4 WIDTH=585>

Year

Total Budget (US\$)

PartnersÃ,Â Ã,Â

CEF \*

SÃfÂ£o Bernardo do Campo Municipality

1999

853,700

9.15%

20.85%

2000

1,105,690

14.61%

26.79%

2001

634,870

11.54%

17.06%

Total

2,594,260

35.30%

64.70%

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