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**Activities of the United Nations Human Settlements
Programme (UN-Habitat), including coordination matters**

**Guiding principles on access to basic services for all: documented
best practices**

Note by the Secretariat

The annex to the present note reports information on documented best practices supplementary to the note by the Executive Director on guiding principles on access to basic services for all, document HSP/GC/21/2/Add.7, in the context of her progress report on the activities of the United Nations Human Settlements Programme, document HSP/GC/21/2.

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I. Overview

1. The present report documents the shortlisted initiatives using the agreed format and guidelines for documentation of best practices. The practices are drawn from various sectors in basic services and various geographical regions. The distribution per sector and per region of the documented best practices is summarized in the table below.

Sector	Total no. of best practices	Distribution per region						
		Africa	Asia	LAC	Europe	North America	Arab States	Transition economies
Water	5	2	2	-	-	1	-	-
Sanitation	4	2	2	-	-	-	-	-
Waste management	3	-	1	1			1	-
Health	1	-	-	-	1	-	-	-
Energy	1	-	1	-	-	-	-	-
Public safety	2	-	1		1	-	-	-
Education	1	-	-	1	-	-	-	-
Transportation	3	-	1	1	-	1	-	-
Social welfare	1	-	-	-	-	-	-	1
Total	21	4	8	3	2	2	1	1

II. Water

A. Johannesburg water corporatization model, South Africa

Sector: Water
Region: Africa
Source: Various publications

1. Background information

2. Johannesburg is one of South Africa's largest cities, with an estimated population of 3.2 million (2004). It is also the country's financial epicentre, with the highest concentration of skills. It contributes more than 13 per cent of South Africa's GDP. By most developing countries' standards, Johannesburg is not a poor city. Nevertheless, it faces many serious development and service delivery challenges. Apartheid ensured that exclusively white suburbs were well serviced and forced black residents into sprawling, underdeveloped slums. Poverty, unemployment and homelessness are all worsened by the deeper problem of inequality. The five low-income settlements where the city's poverty is concentrated are Soweto, Alexandra, Ivory Park and Diepsloot to the north of the city and Orange Farm to the south. These parts of the city have experienced systemic underdevelopment, where the declining resource base failed to meet Johannesburg's ever-growing service needs. This is illustrated by the continuing increase in the number of families living in shacks in formal and informal settlements.

3. In a bid to address the service imbalances and to ensure the sustained provision of services to city residents, various institutional transformations, changes in legislative frameworks and policy reforms were undertaken. These targeted financial sustainability and affordable access to services, particularly to the marginalized poor. The corporatization approach was aimed at ensuring efficiency in the delivery of water services while mitigating the social risks occasioned by pure privatization. This approach aimed exclusively to ensure delivery of water services at affordable rates to the low-income settlements that had been excluded from the service delivery ambit by the apartheid regime.

4. The objectives of the initiative included:

(a) Enhancing access to basic services for the poor, particularly those resident in the city's five poverty-concentrated areas, by making water affordable for them;

(b) Addressing the financial crisis which the local authorities were experiencing in the delivery of services;

(c) Setting up effective institutional and legal frameworks capable of facilitating the service providers' delivery of services to the people, and ensuring that they deliver in accordance with their mandates.

5. The corporatization approach to the provision of water services was an initiative of local authorities.

2. Building partnerships

6. The initiative was a partnership between various actors, in both the private and the public realms. For example, during this period of local government restructuring, the Development Bank of South Africa (DBSA) and the Municipal Infrastructure Investment Unit (MIIU), two powerful, national-level lending institutions, were influential in promoting private-sector involvement in the provision of public services. Their influence helped spark protracted negotiations in secondary cities and towns to introduce build-own-operate-transfer (BOOT) arrangements, affermage-type contracts, management contracts and concessions as a solution to the financial crises facing smaller local authorities in trying to expand services rapidly to previously excluded areas. In addition, the poor, together with international agencies such as the World Bank, were also involved in the implementation of the initiative.

3. Implementation process

7. The water reform initiative in Johannesburg is implemented through an international management contract. The management contract aims to integrate the different management structures, improve operational efficiencies and begin branding the newly corporatized water company as part of a strategy to become more customer-focused. The contract was awarded to a joint venture formed by the Suez Group of France and its subsidiaries in the United Kingdom and South Africa – Ondeo Services UK and Water and Sanitation South Africa (WSSA). Subsequent to the establishment of the joint venture, known as JOWAM, 27 per cent of the shareholding was sold to black empowerment partners. These groups are Mowam (10 per cent), Nhuthoko (10 per cent), Tholo (4 per cent), and Powerhouse Utilities (3 per cent). Approximately 13 professional staff from the Suez Group were deployed within Johannesburg Water structures, including positions at executive management level.

8. Operation Gcin'amanzi, meaning "save water" in Zulu, is a three-pronged strategy put in place to reduce unaccounted water:

(a) By reducing on-property leakage losses through a one-off scheme for the repair and replacement of domestic plumbing;

(b) By tackling physical losses resulting from dilapidated infrastructure by replacing old, leaking infrastructure, including valves, pressure reduction equipment and the replacement or resizing of over 500 large meters;

(c) By addressing commercial losses through the introduction of a prepaid metering system across Soweto, where the payment rate was 13 per cent.

9. Johannesburg Water claims that unless physical and commercial losses are addressed, the company faces high financial risks: Operation Gcin'amanzi was the make or break project which, it was estimated, would ultimately achieve savings of 158 million Rand a year upon project completion (Johannesburg Business Plan 2004–2005).

10. The Gcin'amanzi project is bold in its objectives:

(a) To improve infrastructure affecting water and sanitation services to 162,000 households, which translates to approximately 1 million people;

(b) To reduce the unaccounted water rate in order to lower purchases of bulk water from Rand Water, obtain a proportionate reduction of inflows into sewerage works (hydraulic loading) and contribute to a reduction in sewage purification costs to Johannesburg Water.

11. In the 2001–2002 financial year, the 6,000 litres of free water per month tariff (the so-called 6kl tariff) was implemented. To cross-subsidize the free 6,000 litres within the tariff system there was a 5 per cent real increase on industry and high-income users. The bulk of the cost to Johannesburg Water in subsidizing services is through financing free basic services to formal and informal settlements. At present, the cost to the company is 95 million Rand per year, little of which is covered through national and local subsidies to the company to service the poor.

12. To help the company in the task of providing services to low income households, JOWAM established a full-time post of Customer Manager for Low-income Areas and integrated that function into core operations. JOWAM advised Johannesburg Water on a typology of service levels in which to deal with service delivery based on what was deemed affordable to low-income households. The company distinguishes between impermanent informal settlements and permanent informal and low-income formal settlements. In the first case, temporary emergency services, such as water tankers, buckets and chemical toilets, are provided, as these settlements are generally intended for relocation.

13. In addition, a customer satisfaction survey was conducted. It was designed by the City Council's Contract Management Unit to begin making inroads in unpacking the very complex relationship between service users and their service provider. Five graduate students from Wits University were hired to use random sampling techniques in four township areas in order to get a sense of low-income household perceptions of the quality of the water services received. Approximately 182 household surveys were conducted in Diepsloot, Eldorado Park, Klipspruit and Stretford Extension 4 in Orange Farm. These areas were randomly selected in conjunction with the City's Environmental Management Division in its Region 1. The survey was structured thematically to tease out issues regarding affordability, water quality, the experiences of households receiving prepaid meters and public participation.

4. Impact

14. The initiative has generally led to enhanced access to water services by a majority of Johannesburg residents. This was particularly true for the poor communities that had been excluded from the mainstream economy, and hence service provision, by the apartheid regime. The impact was most felt in the five low-income settlements where the city's poverty is concentrated, Soweto, Alexandra, Ivory Park and Diepsloot to the north of the city and Orange Farm to the south.

5. Sustainability

15. The key factors that led to the sustainability of the initiative included:

- (a) Cost-effective use of resources;
- (b) Enabling policy, legislative and institutional frameworks;
- (c) Good funding: the initiative enjoys funding from both the private and public sectors;
- (d) Community support as a result of the initiative's pro-poor approach to the delivery of services;
- (e) The effective and efficient management systems aimed at enhancing accountability and transparency in the management of financial resources which were put in place under the initiative;
- (f) High-quality and well-coordinated partnership arrangements under the initiative, with clear definition of roles and responsibilities for both local and international actors, and a clear exit strategy.

6. Principles

16. The following principles emerge from the initiative:

- (a) Partnership involving the public and private sectors, backed by the support of the communities, with parameters set on how the local government can form partnerships with the private sector while still retaining government obligations to the public;

(b) Involvement of the target groups in the implementation process; in this case, through the establishment of 11 administrative regions within the jurisdiction to ensure that residents had access to their ward councillors and to people's centres, with the aim of facilitating interaction between the local authority and residents in their service delivery area;

(c) Decentralization and the centrality of the role of local authorities, as illustrated through the devolution of operational issues for service delivery to the local levels, with the City retaining, however, substantive control over selection between policies and priorities, determination of options for resource allocation and standards and with the local authorities playing a very central role in the delivery of services;

(d) Provision of affordable water services to the poor: in this case, the provision of affordable water services particularly targeted poor areas, and there are also policy and legal frameworks aimed at protecting the poor by controlling the prices of essential services such as water, and by seeking to provide subsidies to the poor in a bid to ensure affordability and equity in access to water services, with the aim of providing water services to low-income households based on what is deemed affordable for them;

(e) Establishment of transparent and effective management systems in the delivery of water services, such as the iGoli 2002 model for service delivery which established Johannesburg Water, for example, to ensure accountable and proper financial management systems; also, under the Gcin' amanzi initiative, several factors are monitored relating to cost-effectiveness in water delivery. Thus, the decision to combine a one-off repair to indoor plumbing fixtures to reduce leaks with the installation of prepaid meters constituted a novel approach to addressing commercial losses attributable to non-payment as well as physical losses.

7. Policies

17. The initiative undertook various policy, legislative and institutional reforms aimed at improving the provision of water services to all, but particularly to the poor:

(a) The iGoli Model of 2002 was a new institutional design that aimed to address the factors underpinning the City's financial crisis and to redesign the city's administration, where the main theme was decentralization: the decentralization aspect aimed at handing over operational matters to service providers responsible for administering services across the city;

(b) Operational issues were devolved and the City retained substantive control by keeping authority over the selection between policy priorities and the determination of allocation options, service strategies and delivery standards;

(c) A small but strong contract management office to discharge oversight functions was set up to monitor the contractors on behalf of the clients by ensuring that the former satisfied the necessary business conditions to fulfil their mandates; defining tariffs in line with city policies; and applying penalties to the latter in the event of non-compliance;

(d) The national Department of Water Affairs and Forestry and the local government provided a legislative framework for alternative forms of service delivery which establishes national guidelines, sets national norms and standards, minimum levels of service, minimum reporting requirements and tariff policy;

(e) Various legislative texts govern how local authorities must either themselves deliver or regulate external providers in delivering water; those texts include the Bill of Rights in the Constitution, the Water Service Act of 1997, and the Municipal Systems Act of 2000, which seeks to protect the poor by controlling the price of essential services such as water;

(f) Regulations also provide parameters on how local governments should form partnerships with the private sector while still retaining government obligations to the public.

8. Innovations and replicability

18. The most innovative aspect of the initiative was the corporatization model which was adopted in the provision of water services. The model promises efficiency in service provision as it permits greater State involvement than the privatization model and, in so doing, can mitigate the negative social risks. The

approach is neither private nor public. Furthermore, there are established parameters on how to form partnerships with the private sector while still retaining government obligations to the public.

19. The initiative has also set up policy, institutional and legislative frameworks aimed at ensuring that service providers live up to their mandates. This has ensured efficient service provision, particularly to the poor segment of the population.

20. Fundamentally, the strategies that were put in place to reduce unaccounted-for water included the Operation Gcin'amanzi project, which epitomized innovation in the utilization of water resources. The Operation is designed in particular as a massive infrastructure repair and upgrading project for Soweto to address the "uncontained water" supply problem.

21. The introduction of prepaid meters is being increasingly adopted by municipalities across the country with the rationale that prepayment is a corrective measure to non-payment. Tshwane Water, Ethekwini Municipality, and the City of Cape Town are three metropolitan areas which have piloted this technology. The technology has also been introduced in smaller towns such as Ashton (950 units installed) and Riversdal (1,200 units installed) in the province of the Western Cape. In rural areas such as the Matatiele and Ingwe municipalities in Kwa Zulu Natal, prepaid meters have been inserted into communal standpipes that service 800 households in each area.

9. Success and failure factors

22. The following factors led to the success of the initiative:

- (a) Enabling institutional and policy arrangements;
- (b) Elaborate and well-coordinated partnership arrangements;
- (c) Exclusive focus on the provision of water services to the poor;
- (d) Transparent and effective management systems;
- (e) Participation and consultation of the target beneficiaries.

10. Project financing

23. The initiative was mainly financed by the Development Bank of South Africa (DBSA), the Municipal Infrastructure Investment Unit (MIIU) and the State. DBSA and MIIU are two powerful, national-level lending institutions which were influential in promoting private sector involvement in the provision of public services. Their influence helped spark lengthy negotiations in secondary cities and towns to introduce BOOTS, affermages, management contracts and concessions as a solution to the financial crisis facing smaller local authorities in trying to expand services rapidly to previously excluded areas.

B. Innovative contracts, sound relationships: urban water sector reform in Senegal

Sector: Water
Region: Africa
Source: UN-Habitat Best Practices Database
Year of submission: 2004

1. Background information

24. Senegal is a mid-sized country in West Africa with a population of approximately 10.5 million (2002). Three quarters of the country lie in the arid Sahel region, severely limiting its development options. Senegal's annual population growth rate is 2.46 per cent while the urbanization rate was 47.4 per cent in 2000 (UN-Habitat, 2003).

25. In 1995, Senegal undertook major reforms in its urban sector. The public-sector utility *Société Nationale d'Exploitation des Eaux du Sénégal* (SONEES), which had managed the water supply in the urban areas since 1983, was dissolved and three new entities were created: the *Société Nationale des Eaux du Sénégal* (SONES), a State asset-holding company; the *Office National d'Assainissement du Sénégal* (SONAS); and a private company, the *Sénégalaise des Eaux* (SdE), to operate and maintain water services.

The latter was opened to international competitive bidding and was bought by the French transnational SAUR.

26. The objectives of the broad reforms initiated in 1995 in Senegal included the creation of an enabling governmental framework to attract private finance, increase efficiency and improve service delivery, including through the rehabilitation of the network. The major objective was to establish long-term financial viability through increased efficiency and effectiveness:

(a) To ease the burden on the State of providing direct and indirect subsidies to the sector and free resources for other uses;

(b) To increase the sector's capacity to generate enough resources to finance part of future investment-capital expenditures;

(c) To reduce the level of indebtedness to a level in keeping with the sector's capacity to service it;

(d) To attract private investors to finance an increasing part of future investment needs.

27. The programme was initiated by SONES under the auspices of the central Government.

2. Building partnerships

28. The role of the various stakeholders was clarified in the implementation process (see below): SONES manages the water sector in collaboration with the private sector (SdE) and non-governmental organizations. The latter ensured community participation in the project. The World Bank made loans to the water sector under the condition of privatization.

3. Implementation process

(a) Planning for the new arrangement

29. The implementation process included the following steps:

(a) Setting the parameters: this entailed the creation by the Government of a steering committee made up of representatives from each government agency concerned with water supply and sanitation. The committee had the responsibility of analysing all reform options against the identified weaknesses in the sector. The committee drew up a list of functions for the State asset-holding and operating company, including recommendations that remuneration of the private operators be linked to the efficiency of the network and that the operators should contribute to capital expenditures;

(b) Learning from experience: the committee members placed great emphasis on learning from experiences of other transactions and reform processes conducted in other countries. This involved a wide range of consultations with other countries which had carried out similar reforms, and fact-finding missions to countries such as the Gambia, Guinea and Ivory Coast. These findings resulted in a number of recommendations and, in particular, that the fixed assets should be owned by a State asset-holding company;

(c) Establishing a goal of financial equilibrium: this entailed establishing the financial objectives of the sector's reform and financial policy, creating a financial model to track progress and establishing SONES.

(b) Designing contracts and engaging the private sector

30. This entailed the creation of institutional and contractual structures for deciding on the contracts to be awarded for the provision of water services during the reform period. The process was heavily influenced by the information gathered during the fact-finding missions and the consultation processes. Various contracts were signed between SONES, SONAS and the private sector. It was decided to enter into contracts with a number of different companies for the provision of urban water. Calls to tender were expected to attract bidders from various regions and countries.

(c) Defining the roles of the various stakeholders

31. The affermage-type contract required the private sector to finance part of the investment in necessary network renewals, connection renewals and electromechanical equipment. The non-governmental organization sector ensured community participation in the programme and also catalysed the consultation process between the stakeholders.

4. Impact

32. The reform programme resulted in the provision of more water to more people. Since the process began, the volume of water produced for use in the urban water sector has risen steadily, from 96.3 million cubic meters in 1997 to 114.6 million cubic meters in 2002, a 19 per cent increase. It should be noted that about 75 per cent of this water is used in Dakar.

33. The availability of more water to consumers can be seen from the sales figures between 1996 and 2001. There was a substantial increase in the number of clients, from 241,671 in 1996 to 327,501 in 2001, an increase of over 35 per cent. In the Dakar area, which represents about 75 per cent of the total service area, the number of private water connections increased from 135,414 in 1995 to 181,824 in 2002, a 34 per cent increase, which exceeded the target. Over the same period, the number of standpipes in Dakar rose by 5 per cent, from 940 in 1995 to 1,424 in 2002.

34. The increase in the number of people connected was attributable to the fact that the network had been made substantially denser and also reached into areas that had not had service before.

5. Sustainability

35. The factors that make the programme particularly sustainable include:

- (a) That lessons were drawn from other similar initiatives so as to avoid mistakes, and a well-designed process and flexibility in innovation;
- (b) The use of particularly appropriate forms of contract;
- (c) Strong political will and leadership within the Government;
- (d) A strong financial base: reform of the water sector was facilitated by the strategic use of private-sector financing from private operators and local private banks, with the banks providing credit to assist SONES with cash flow;
- (e) Positive outcomes for the poor as a result of the nature of the operator incentives established and government policy on subsidizing connections in low-income neighbourhoods;
- (f) The development of a regulatory framework in which the affermage-type contracts were largely self-regulating.

6. Principles

36. The following principles emerge from the initiative:

- (a) Participation of the beneficiary groups, with the programme ensuring the participation of the beneficiaries and of non-governmental organizations in design and implementation;
- (b) Well-coordinated and task-oriented partnerships, in which the various partners performed distinct but complementary tasks: for example, the non-governmental organizations assisted communities in requesting, installing and managing standpipes. The programme also had strong partnerships with various agencies, development partners (World Bank), the private sector and the State. The creation of SONES provided an institutional framework which was transparent, efficient, accountable and autonomous, and included incentives to attract private-sector investment;
- (c) Firm commitment on the part of the Government to make water accessible and affordable for the poor: the initiative lowered water-service costs to the majority of the poor, an approach ensuring social equity through affirmative action;
- (d) Effective and transparent governance.

7. Policies

37. The Government has put in place pro-poor policies aimed at ensuring access to water services by the poor. These can be summarized as follows:

(a) The policy of providing private connections to poor households at subsidized rates, referred to as “social connections”, with an established set of criteria determining which households are eligible for subsidies;

(b) Subsidizing water consumption up to a certain volume through a “social block” in tariffs and focusing on the poor;

(c) In addition to subsidizing consumption, the State backed the extension of the network with the necessary investment funds to increase access for the poor;

(d) The Government, in partnership with the private sector, designed performance contracts aimed at increasing efficiency in the delivery of water services, and a successful bidding process engaged the private sector in financial investment, the supply of equipment and the implementation of the programme.

8. Replicability and innovations

38. The use of the equilibrium model to guide the sector towards financial sustainability was an important innovation. Its impact was felt throughout the reform process, during which it helped decision-makers to analyse the various options available. This approach has been widely replicated in other African countries, including Guinea and Ivory Coast.

9. Success or failure factors

39. The most outstanding factors that led to the success of the programme included:

(a) Prioritizing the improvement of the water supply to the poor as an important reform process by the Government, the bilateral donors and the World Bank;

(b) Making conscious efforts to set aside a budgetary allocation;

(c) Wide application of transparent and effective management systems;

(d) Political commitment to ensuring the success of the programme;

(e) Clear definition of roles and responsibilities.

10. Project financing

40. The initiative was financed by the World Bank and the private sector (investment and financing the cash flow of the project). In addition, the SONES funded 10 per cent of the \$100 million needed.

41. Financing from commercial bank loans displayed some shortfalls. However, the sale of equipment by the State asset-holding company generated income for the initiative.

42. The programme’s financing partnerships were key to its sustainability.

C. Sustainable fresh water management in Jinan City, China

Sector: Water

Region: Asia

Source: UN-Habitat Best Practices Database

Year of submission: 2002

1. Background information

43. Jinan City is located in the semi-arid plains of China. For over two decades, the people and industries of Jinan have been exploiting the natural and abundant groundwater supply to improve their living conditions and to fuel economic growth. During this period, Jinan's economic growth has thrived on its cultural-environmental heritage as the "City of Springs" by attracting many tourists, as well as domestic and foreign investment. By the mid-1990s, the decline in the groundwater level and lack of freshwater resources reached crisis point. Domestic and industrial water supplies were unpredictable. The water table fell dramatically, causing the natural springs to dry up intermittently. This resulted in a slowdown in tourism development and added costs for industrial production and businesses. These factors threatened the well-being of the citizens of Jinan and jeopardized prospects for long-term economic growth.

44. In 1997, a decision to remedy this state of affairs was made in order to provide the citizens of Jinan with safe water and restore the perennial flow of its springs. A three-pronged strategy was therefore adopted: demand management through the conservation and recycling of water resources; supply management through the diversification of sources of water; and watershed conservation and urban greening.

45. The objectives of the initiative were:

- (a) To ensure the treatment, recycling and reuse of wastewater;
- (b) To manage water demand through the conservation and recycling of water resources;
- (c) To manage water supply through the diversification of sources of water and watershed conservation;
- (d) To enhance urban greening;
- (e) To improve infrastructure in order to reduce leakage.

46. The project was an initiative of the local authority.

2. Building partnerships

47. The partners in the project included the International Bank for Reconstruction and Development (IBRD), the Australia Export Finance and Insurance Corporation and the Chinese Government. The stakeholders, including the general public, were consulted at each phase of the initiative.

3. Implementation process

48. The implementation process entailed mobilization of all stakeholders, and of the general public, from the outset. Town-hall meetings, workshops and seminars were organized at each step of the design, implementation, monitoring and evaluation processes. Multi-stakeholder committees reviewed progress made and played an active role in project supervision, quality and cost control. The Jinan municipal government established a solid waste management team, and the Yellow River adduction project headquarters, with the mayor as commander-in-chief. All municipal departments, including the Development Planning Bureau, the Planning Bureau, the Environmental Protection Bureau and the Water Conservancy Bureau were mobilized within this framework.

49. A loan from the World Bank was used to build the Queshan reservoir, which has a capacity of 46 million cubic metres, and the Banqiao pumping station. A package involving a domestic loan and a loan from the Government of Australia was used to finance the building of the Yuqing reservoir, which has a capacity of 48.5 million cubic meters, and the Yuqing water plant, which processes 400,000 cubic metres per day.

4. Impact

50. Jinan City's water supply has been augmented to 1.5 million cubic metres per day, of which 0.9 million cubic metres are derived from surface water. The springs of Jinan City are once again flowing on a regular basis. The environment has been improved and the unique cultural and urban environmental heritage of the city preserved.

51. The initiative led to a reform in the management of utilities in the city. New technologies, new working methods and human resources training turned what had previously been an inefficient and ineffective branch of the government into a modern, accountable and transparent operation.

5. Sustainability

52. The factors that contributed to the sustainability of the initiative included:

(a) Increases in water pricing and user charges that are in turn used to service the loans, while at the same time the municipality's budget provided matching funds for water catchment improvements, urban greening and various other components of the initiative;

(b) The initiative's endeavour to change the pattern of water resource management in Jinan: on the water supply side, the diversification of water sources allows the City of Jinan to meet present and future demands for water without jeopardizing groundwater sources, while the supply of safe water and the revival of Jinan's scenic and cultural heritage are renewing the city's economic development potential and competitiveness, especially in the tourism sector, thus contributing to long-term economic sustainability;

(c) The development of laws and policies regarding the regulation of the use of resources through thorough discussions involving all stakeholders, providing a level playing field for regulating the use of resources and the application of user charges and water tariffs and providing an enabling framework for the adoption of new technologies and production methods as well as new management systems.

6. Principles

53. The fundamental principles that emerged from the initiative include:

(a) Participation of beneficiary groups: beneficiary groups were involved in all phases and aspects of the project, including planning, the decision-making process and implementation; it is noteworthy that the participatory process led to the adoption of a vision for a more sustainable future with social and economic benefits for all;

(b) Partnerships: the initiative was implemented in partnership with well-established institutions and stakeholders, and various policy and institutional structures were put in place to ensure the effective management of water resources;

(c) Environmental sustainability: the project and the various policy initiatives were aimed at ensuring environmental sustainability in order to ensure a sustained supply of freshwater to the residents of Jinan;

(d) Decentralization and centrality of the role of local authorities: the local authorities, through the municipal government, played a fundamental role in the realization of the objectives of the project;

(e) Effective and transparent governance: the establishment of institutional frameworks reinforced by the mobilization of adequate resources in a transparent manner aided in the management of water resources with the objective of achieving financial viability.

7. Policies

54. Policies were formulated to govern and manage the supply, demand and conservation of water. These included:

(a) Pricing of domestic and industrial water which encouraged conservation in the uses of water and in consumption;

(b) Incentives for the acquisition and use of water-saving technology;

(c) The strict regulation of groundwater use and the replenishment of the water table.

55. Policies and objectives were subject to multi-stakeholder consultations which included experts, industries and the general public. The adoption of new policies and legislation has led to more efficient and transparent utilities management and to pricing policies which contribute to the long-term financial sustainability of Jinan's public administration.

8. Innovations and replicability

56. The innovative aspects of the initiative included the adoption of new technologies using geo-textiles to reduce water leakage in reservoirs. The process and principles of tackling the issue of safe and reliable freshwater by using a concerted and participatory approach to supply and demand management and watershed conservation are transferable to many cities in China where similar problems occur.

57. In the formulation of the initiative, Jinan took note of other successful practices such as those implemented by the cities of Weihai and Qingdao, both of which are recognized in the UN-Habitat Best Practices Database. In 2002, the initiative was given the award of “China’s Best Practice in Improving the Living Environment”. This is a unique accolade for the campaign for the city’s safe water supply and preservation of its springs. It was also awarded the title of “National Water-Conserving City” in the campaign to create water-conserving cities.

58. These achievements drew the attention of many cities, including Kunming, Xiamen, Yantai and Weihai, which have sent delegations to learn from Jinan’s experience. Jinan was invited by the China Water Supply Association and the Shandong Provincial Construction Department to share the lessons learned from its experience and to transfer the use of water leakage prevention technology.

9. Success and failure factors

59. The following factors led to the success of the project:

(a) Effective legal, institutional and policy frameworks aimed at regulating the use of water, water pricing, and protection of water catchment areas;

(b) Public participation in all phases and aspects of the policy- and decision-making process; the participatory process led to the adoption of a vision for a more sustainable future with social and economic advantages benefiting all;

(c) Extensive and well-coordinated partnership systems;

(d) The meaningful involvement of the local authorities in the whole project process, including its initiation.

10. Project financing

60. The total investment required for realizing the objectives of the initiative led Jinan City to embark on a multi-faceted financial package. A loan from the World Bank was used to build the Queshan reservoir, which has a capacity of 46 million cubic metres, and the Banqiao pumping station. International Bank for Reconstruction and Development contributions amounted to 17.24 per cent of the total costs during the first year. In the second year the figure fell to 10.86 per cent and rose again in the third year to 12.26 per cent, while there was no contribution in the fourth year. The second partner, the Export-Import Bank of China, contributed 2.84 per cent for the first year and nothing in the subsequent years. The third partner, the China Government Public Debt Section, contributed 15.69 per cent in the first year, 7.71 per cent during the second year, 30.92 per cent in the third year and 26 per cent in the final year.

61. A package involving a domestic loan and a loan from the Government of Australia was used to finance the building of the Yuqing Reservoir, which has a capacity of 48.5 million cubic meters, and the Yuqing Water Plant, which processes 400,000 cubic meters per day. Increases in water pricing and user charges were used to service these loans, while the municipality’s budget provided matching funds for water catchment improvements, urban greening and various other components of the initiative.

62. The financing partnership adopted by the initiative assured its financial sustainability and hence its success.

D. Integrated safe water supply, Changshu municipal government, Jiangsu Province, China

Sector: Water
Region: Asia
Year of Submission: 2004
Source: UN-Habitat Best Practices Database

1. Background information

63. Located in the southeast of Jiangsu Province as a regional hub for the Yangtze delta, Changshu county has a total area of 1,142 km², a resident population of 1,030,000 and a population of 300,000 from elsewhere. It has a built-up urban area of 60 km² with a population of 315,000. There are 12 towns under its administration.

64. Situated at a confluence of rivers, water pollution began to be a serious problem with the rapid advance of industrialization and urbanization. By the early 1980s, Changshu was experiencing critical shortages in water sources and poor-quality drinking water. Increasing demand for domestic water led to the mass use of deep-well water which was of poor quality, mainly because of high mineral content. This seriously affected the health of both urban and rural inhabitants. As a consequence of the serious situation, the No. 3 Water Supply Plant was brought on line in 1997. The plant, representing an investment of 300 million yuan (\$ 36 million), uses the Yangtze River as its source and provides 700,000 city-dwellers with clean and pure water. In order to extend a safe drinking water supply to the whole county, including the surrounding rural areas, the No. 3 Water Supply Plant was expanded in 2000.

65. The deteriorating health situation and increasing public concern compelled the municipal government of Changshu to respond actively. It brought together all the towns and the two utility firms responsible for urban and rural water in the region in an attempt to formulate an integrated and comprehensive approach to ensuring a safe and adequate drinking-water supply. After numerous studies and consultations with a wide range of stakeholders, partnerships comprising all the administrations concerned and water supply agencies were established. The objective was to encourage the stakeholders to invest in the No.3 Water Supply Plant on Yangtze River to provide a daily capacity of 400,000m³. This in turn required the redesign and upgrading of the water mains, distribution networks and booster stations. The decision was made to implement an integrated water supply and management system to ensure coverage of the whole area of 1,142 km² and to ensure the equitable supply and distribution of safe water to urban and rural inhabitants.

66. The objective of the initiative was to improve the quality of drinking water and the health of Changshu citizens.

67. The project was initiated by the local authority.

2. Building partnerships

68. The initiative was implemented through elaborate and well-coordinated partnerships involving the various local authorities, private sector organizations, the central Government and financial institutions. The task-oriented partnership systems entailed financial, technical and administrative inputs from the partners involved. The various stakeholders were involved in the planning and decision processes.

69. The partnership succeeded in combining the resources of the municipal government, the 12 towns and water supply companies to cover over 80 per cent of the capital investment required for building and expanding the No.3 Water Supply Plant. By pooling resources, the remaining capital was raised through bank loans. Land-use rights for the plant were provided by the municipal government of Changshu. The 30 different water distribution systems owned by urban and rural jurisdictions pooled their resources to upgrade and rationalize their networks.

3. Implementation process

70. The key issue that needed to be addressed was the uncoordinated use and exploitation of water resources between urban and rural jurisdictions. The studies undertaken showed that competing demands for water had led to the overexploitation and pollution of groundwater by two urban water supply companies. Furthermore, 30 smaller water supply plants were sinking wells in the same area.

71. Three years of consultation between the various stakeholders led to the adoption of an integrated water supply strategy and an initial investment of \$30 million for the establishment of the No. 3 Water Supply Plant on the Yangtze River. This first phase was completed in 1997 and provided a daily water supply capacity of 100,000m³. In 1998, capacity was brought up to 200,000m³, ensuring a steady and reliable supply to 700,000 urban dwellers.

72. In 2000, the second phase was implemented to solve the problem of a drinking-water supply for farmers living on the outskirts of Changshu. The capacity of the No.3 Water Supply Plant was increased to 400,000m³. Network connections with all the existing water supply plants of the rural towns were upgraded and completed by October 2001.

73. The process of consultation and partnership between urban and rural jurisdictions, administrative institutions and their respective water supply companies has resulted in an integrated water supply and management system for the entire county. The system, which features the promotion of urban-rural linkages, is the first of its kind in Jiangsu Province.

74. The strategy used to achieve the objective was to adopt an integrated regional water supply system capable of expanding the production and distribution of good-quality drinking water in urban and rural areas. The implementation of this strategy required a high level of coordination and mobilization of resources between urban and rural towns, their respective administrations and urban and rural water supply companies. The end result was the establishment of the No.3 Water Supply Plant through a joint effort to meet the water supply requirements of the entire region.

4. Impact

75. After years of hard work, all the water supply indices have reached national water quality standards. The integrated approach to urban and rural water supply provides the same standard of water quality to all the 1 million citizens living in the area. The most significant impact has been in health, with the number of patients suffering from infectious intestinal diseases declining dramatically, from 53.87 per cent of presentations to 14.29 per cent in 2004.

76. In economic terms, the initial investment of \$20 million by the municipal government has led to overall investments of \$73 million in infrastructure and fixed capital assets. Over 1,000 new jobs have been created in the water supply and distribution sector, providing a new source of employment and skills. In this respect, water should be considered as a productive investment and not just a social cost.

77. In addition, the provision of water has led to further investment in the construction of sewage treatment plants and facilities. Six newly built sewage plants with a total daily capacity of 226,000m³ have contributed to a substantial improvement in the environment. Also, the new water supply system has led to the closure of 320 deep wells, thus preserving the aquifer.

78. These achievements have contributed significantly to local economic development. Since the establishment of the plant, Changshu has successfully attracted foreign investment of over \$10 billion, creating a more diversified and sustainable economy.

5. Sustainability

79. The adoption of a regional integrated urban-rural water supply system has had a major impact on long-term ecological sustainability. Over 30 outdated and poorly managed water supply plants have been shut down. All these plants were previously exploiting and polluting the same deep aquifer, leading to environmental problems. At the same time, the new supply system, focusing on a more sustainable source of water and more rational distribution, has vastly reduced wastage and leakage.

80. In addition, the expansion and modernization of the water supply through a modern management system has greatly contributed to the financial sustainability of both urban and rural water supplies. Affordable pricing made the widespread expansion of the system and good levels of cost recovery possible. Revenues in 2003 amounted to \$2 million. Projected revenues allowed the municipality to pay back the remaining \$17 million within four years. This encouraged banks to overcome their initial reluctance to fund public works projects, providing additional sources of capital for future projects.

81. Furthermore, the integrated urban-rural approach to water supply has enabled Changshu to overcome the long-standing problem of an urban-rural divide. It has enabled the municipality and surrounding towns to forge a common policy regarding water sourcing and distribution, and to benefit equally in terms of health. This success will enable the entire region to engage in long-term projects in such areas as more sustainable water use.

6. Principles

82. The following principles emerge from the initiative:

- (a) Partnerships: elaborate, well-coordinated and complementary partnerships permitted the pooling of resources for the successful implementation of the project;
- (b) Environmental sustainability: the environmental sustainability of the project flows from the adoption of a regional integrated urban-rural water supply system. In addition, over 30 outdated and poorly managed water supply plants have been shut down. These plants were previously exploiting and polluting the same deep aquifer, leading to environmental problems;
- (c) Active participation and support of the local communities: local communities were involved in the whole project, including the identification of objectives and the development of priorities;
- (d) Centrality of the role of the local authorities: this is epitomized by their initiation of the project, their financial input and granting of land-use rights for the plant. The initiative also led to the decentralization of clean water services to the local level;
- (e) Transparent and effective governance systems: the general plan was implemented step by step in consultation with the stakeholders.

7. Policies

83. The policies that can be drawn from the initiative include the following:

- (a) Establishment of an integrated water supply strategy aimed at increasing the level of water supply;
- (b) Establishment of a coordination mechanism aimed at regulating the exploitation of water in a bid to avert pollution;
- (c) Extension of the safe drinking-water supply to the whole city, including the surrounding rural areas.

8. Innovation and replicability

84. The integrated approach to the provision of water services is a very innovative aspect of the initiative.

85. In addition, the distinct benefit and concrete experience of the project for the expansion of Changshu's safe water supply has won unanimous applause from all citizens and won the recognition and full approval of the Ministry of Construction of China.

9. Success and failure factors

86. The following are the factors that led to the success of the initiative:

- (a) The central role played by the local authorities in the initiation, planning, implementation and provision of safe water to the whole population;
- (b) Elaborate, well-coordinated and complimentary partnership arrangements;

- (c) Active participation and support from the beneficiary groups and a consultative approach to decision-making and project implementation as a whole;
- (d) Elaborate financial support and commitment from the central Government and the local authorities;
- (e) The initiative's focus on environmental sustainability;
- (f) The initiative's direct focus on the real need which was felt and the root cause of ill health: polluted water sources.

10. Project financing

87. The initiative was funded by the partners. The local authorities contributed the highest percentage of the total budget, exemplified by their annual contribution of 38 per cent of the total cost of the project. The other partners, including the central Government and various private-sector organizations, financed the rest.

E. BioSand filter international technology transfer, Canada

Sector: Water
Region: North America
Source: UN-Habitat Best Practices Database
Year of submission: 2004

1. Background

88. Many diseases are caused by unsafe drinking water. The purpose of the initiative was to address this problem by broadly disseminating the BioSand filter (BSF) technology. BSF is a household water treatment device that is capable of greatly improving water quality by removing a large percentage of disease-causing microorganisms.

89. The objectives of the initiative included the following:

- (a) To use all avenues possible to bring the technology to the final user;
- (b) To develop techniques that maximized integrity of technology transfer;
- (c) To maximize the impact of use and build demand for appropriate technology.

90. The project initiator was a non-governmental organization, the Centre for Affordable Water and Sanitation Technology (CAWST), Calgary, Alberta, Canada.

2. Building partnerships

91. The initiative had elaborate public-private-community partnerships. The partners included Mount Royal College (academic and research), Petro-Canada (financial), the Massachusetts Institute of Technology (academic and research) and the University of North Carolina (academic and research).

3. Implementation process

92. CAWST and its predecessors, Davnor Water Treatment and David Manz, developed a training programme which enabled BSFs to be built with good quality control by local communities using local materials. CAWST uses an education programme that encourages users to adopt a multi-faceted approach to the prevention of waterborne diseases. It includes education on sanitation and hygiene as well as water treatment. CAWST delivered BSF training workshops which were primarily attended by international non-governmental organizations. Those organizations taught others, which in turn taught others. Some of the first problems faced were the variability in success of field projects as a result of inadequate understanding on the part of one or more organizations in the delivery chain. Mount Royal College was therefore asked to partner and develop accreditation programmes to assure a certain standard of technology transfer.

93. Concurrently, the University of North Carolina agreed to participate in the development of guidelines for BSF programme monitoring and evaluation. Increasingly, it became evident that the success of BSF implementation depended on the continuous presence of community agencies which could support the users. Consequently, development of appropriate channels to reach and support those community agencies was needed. Based on the analysis of the distribution, channels developed naturally in Haiti and the Dominican Republic, and a model was formed. This model involved local training institutions, microentrepreneurs, community agencies and community stewards. It was tested and validated against recommendations presented at the World Water Forum in March 2003.

94. In summary, the implementation strategy focused on the following fundamental principles:

- (a) Capacity-building;
- (b) Openly sharing all knowledge;
- (c) Creating communities of learning and providing collaborative working platforms;
- (d) Integrating services related to BSF training and education, consulting, networking and identifying synergistic technologies and practices;
- (e) Providing continuous services;
- (f) Emphasizing customer satisfaction as an indicator of technology success;
- (g) Representing technology and its users at international forums and conferences

95. In June and November 2003 the model was tested in countries including Haiti and the Dominican Republic to provide household water treatment technology. Seminars were held in those countries at which non-governmental organizations and government agencies learned, and discussed their vision, organizational roles and potential actions. The BioSand filter was presented among alternative available technologies. Advantages and disadvantages were discussed and options for adoption were left to the local agencies to determine. CAWST acted simply as a facilitator of the discussions and a motivator of action to encourage local agencies to take ownership of the programme. There was general consensus that household water treatment technologies in general and the BioSand filter in particular are good starting points for delivering water and sanitation services to the poor.

4. Impact

96. Over seven Haitian and Dominican agencies are participating with CAWST, the Massachusetts Institute of Technology, the University of North Carolina and Mount Royal College in Project BRAVO. Focusing on the BioSand filter as the primary enabling household water treatment technology, Project BRAVO researches best practices to build capacity to deliver the technology; promotes a delivery model by building credibility through independent assessment; validates results by answering questions and optimizes the delivery model by learning how to improve existing best practices.

97. The Calgary-based dissemination process is being refined, with local and international organizations attending Canadian training. A total of 96 organizations were trained in BSF technology from 2002 to 2004.

98. Tens of thousands of BSFs are now used in over 30 developing countries and improve the health of hundreds of thousands of people worldwide.

5. Sustainability

99. Social and cultural sustainability: the initiatives focused on building capacity in all organizations. The role of CAWST was to teach, advise, facilitate and act as a catalyst for local initiatives. Because CAWST freely shares its knowledge it is able to earn the trust of its clients. It creates extended relationships with clients, enables them to provide water and sewerage services and encourages them to do the same with their clients. It does not interfere with existing power structures in organizations. Its work strengthens the ability of government agencies and of non-governmental organizations to meet their existing responsibilities and attempts to bridge small gaps, e.g., in relation to health professionals, local trainers and national leaders promoting the official acceptance of practices implemented at the grass-roots level.

100. Financial sustainability: the initiative secures financial stability by focusing on low-cost technologies, targeting full recovery of training costs, developing programmes for assisting clients to obtain funds to pay for its services and providing education to the extent needed for effective service delivery. Specific issues are addressed on an individual consulting basis. Delivery of services to the final consumer is efficiently carried out through a network of organizations geared towards the achievement of economies of scale.

101. The initiative establishes processes and practices that provide good governance and accountability on an ongoing organizational basis rather than relying primarily on project evaluations and financial audits, which are more costly and time-consuming. It mitigates risks by enabling a multiplicity of small projects rather than few large projects.

102. Environmental sustainability: the initiative teaches people how to prevent water pollution and safeguard water resources. It promotes water conservation, offers solutions for wastewater removal and seeks technologies that minimize the use of chemicals.

103. The proper use and maintenance of filters and integration with hygiene and sanitation education has sustained the initiative in many countries. In addition, the BSF programmes and guidelines have been effective in monitoring and evaluating an increasing user demand.

6. Principles

104. The following principles can be drawn from the initiative:

(a) Participation of beneficiary groups in planning, decision-making and implementation: this was facilitated through consultative processes that enabled the communities to contribute their views on how the programme should be executed. There was a continuous flow of information from the implementers of the programme to the communities through the website and the media, which kept them informed on the progress of the programme;

(b) Partnerships: the partnership arrangements and institutional frameworks gave the project the necessary management, financial and administrative support;

(c) Environmental sustainability: the project gave training on methods of preventing water pollution and conserving water resources, and on the use of technologies that minimize the use of chemicals;

(d) Affordability.

7. Policies

105. The initiative has put in place institutional frameworks aimed at coordinating efforts between the various stakeholders involved in the project. This resulted from the realization that the success of the initiative's implementation drew from the continued presence of community agencies which could support the users.

8. Innovations and replicability

106. The main thrust of the initiative is the open sharing of knowledge and information. In this regard, CAWST has learned from many of the concepts and services offered in the information technology "open source" software industry. Trainees are provided with CDs containing manuals and information so that the information becomes widely available.

107. To encourage transferability, the initiative:

(a) Develops educational materials for specific target audiences;

(b) Supports operators and projects of any size;

(c) Creates communities of learning and provides collaborative working platforms.

108. The initiative uses a system of progressive learning that includes reading, hands-on construction, demonstration, discussion, practice and teaching others. When a person can teach another, then they truly understand.

109. The services are replicated as outlined:

(a) “Clean Water for Haiti” (CWFH) is a Canadian non-governmental organization based in Haiti, formed after its founders received BSF training. It is now a Haitian centre for BSF training. It also drills water wells and manufactures water pumps;

(b) The Conservation Foundation, a non-governmental organization in Ghana, recently formed a spin-off organization called the Centre for Water and Sanitation Development to provide training in water and sanitation. CAWST provided the Conservation Foundation with a copy of its by-laws;

(c) Clients have requested CAWST to develop curricula for “water technologists” which integrate both water and health elements, address the interdisciplinary nature of water-related matters and focus on how to build solutions;

110. CAWST focuses on water and sewerage questions at the international level, but its ideologies, practices and governance systems can be duplicated by other organizations in other sectors, such as the energy sector, or at national or regional levels in other countries;

111. We feel that, on a general scale, there are few things which should be done differently. However, each organization must adapt the CAWST practices to accommodate its own expertise and environment.

9. Success and failure factors

112. The factors that led to the success of the project included the following:

- (a) Well-coordinated and task-oriented partnerships;
- (b) Participation and consultation of the target population in the whole project process;
- (c) The project’s focus on low-cost technology.

10. Project financing

113. The total budget of the project amounted to \$310,000 over three years. CAWST provided more than 80 per cent of the budget in 2002 and then a decreasing share of the annual budget. The other key funders included EnCana Corporation and Petro-Canada. Contributions from the beneficiaries covered about 12 per cent of the budget in 2003 and 2004.

III. Sanitation

A. Gujarat sanitation programme, Pakistan

Sector: Sanitation
Region: Asia
Source: UN-Habitat Best Practices Database
Year of submission: 2004

1. Background information

114. The city of Gujarat, in Pakistan, has an area of about six square kilometres and a total population of 543,000. Data from the Tehsil Municipal Administration shows that the amount of solid waste disposed of at the dump site has increased from 100 tons in 1990 to 250 tons in 2003. This has become a menace to the environment and urban management efforts.

115. The waste disposal problem stems from many sources. Some of them are apathy and lack of public awareness, indiscriminate dumping, foul odours, deteriorating environmental quality, lack of enforcement and inefficient collection services. The sanitary and waste problems are magnified significantly in the high-density, lower income urban areas (low-cost apartments or squatter settlements).

116. The main goal of the Gujarat sanitation programme was to manage waste through the development of an indigenous low-cost waste management approach. The specific objectives of the project included the following:

- (a) To create employment for unemployed young people;
- (b) To generate income from waste;
- (c) To clean up the entire city;
- (d) To establish a self-sustainable sanitation mechanism.

117. The purpose of the programme is to develop workable processes and strategies to improve the management of waste and promote recycling practices in a way that can benefit the urban poor. The programme, it is hoped, will improve the hygiene and living conditions of the communities involved.

118. The programme was initiated by Waste Busters, a private organization.

2. Building partnerships

119. The programme was implemented through a partnership approach. The partnerships involved Tehsil municipal administration, Gujarat; Waste Busters; a private waste management contractor; Shahdaula Welfare Trust, a non-governmental organization based in Gujarat; and the communities.

3. Implementation process

120. The programme was implemented by Tehsil municipal administration and commenced in 2002 with the goal of improving urban solid waste management (SWM) through community mobilization. Later on, other community activities were initiated after the communities had been mobilized and the effectiveness of this approach demonstrated. In September 2002, the SWM programme was handed over to several community-based organizations with good track records in the transparent management of similar programmes. It was financed by service charges collected from the community and other programmes running simultaneously and independently of the main SWM programme.

121. The programme priorities were established in keeping with the needs of all the stakeholders, particularly the citizens of Gujarat, who voiced their opinions in community meetings. The project coordinators, Waste Busters, organized a roundtable for the stakeholders in waste management in March 2002. Recommendations for action were made during the workshop. The poor benefited from the public-private partnership arrangements, which had a focus on poverty reduction for the disadvantaged groups living in urban areas. The concept entailed mobilizing the community into adopting proper waste disposal practices (use of garbage bags for disposal of household waste, end of indiscriminate dumping of garbage in open areas, and individual households' payments for the services).

122. The non-governmental organization, the Shahdaula Welfare Trust, was mobilized to convince and motivate the people and their communities by sending social activists from door to door in the target areas and conveying the message to each household. The city was divided into units, each unit comprising 2,000 households. For each unit, 10 unemployed young people from that area were hired as social motivators.

123. The social motivators were given 200 households each and their job was to conduct community meetings where the project concept was discussed with the residents and their acceptance was taken down in writing through membership forms.

124. The residents were asked to pay 100 Pakistan rupees per month to the local community-based organization for waste collection services. The 100 PRs were then applied to the cost of 30 garbage bags supplied to each household, the transportation by pick-up and the salaries of the social motivators and labourers. This created a self-sustainable mechanism and employment for the social motivators. Street scavengers were hired as labourers and went from door to door collecting the garbage bags and sorting the waste into organic and non-organic categories. The scavengers not only received a salary from the waste collection fees but also earned additional income by selling recyclable waste to hawkers.

125. The process of door-to-door collection resulted in an 80 per cent reduction in the indiscriminate dumping of garbage and provided a clean and healthy living environment to the community. The waste collected in garbage bags was then transported to the waste recycling/landfill site where all the waste was segregated into organic and non-organic wastes. The organic waste was processed into compost and sold as organic soil conditioner while the inorganic waste was further sorted into paper, plastics, metals, Tetra Pak cartons, polythene and so on. These items were then sold to the appropriate recycling industries. Income

generated from sales was applied towards operating expenses and maintenance of the plant and machinery, while generating profits for the private partner, Waste Busters.

4. Impact

126. The programme has gained national recognition as a model of a self-sustainable project. As a result, the city of Gujarat is now proudly ranked as one of the cleanest cities in Pakistan, with a proper waste collection and disposal mechanism. Also, the project has resulted in the creation of over 500 jobs for the unemployed in the city. It has resulted in clean streets, and drains are not choked with plastic bags or other materials, a problem which used to cause major sewerage problems.

127. In addition, the city has a waste recycling plant which recycles organic waste into compost and provides much-needed organic matter at a very low cost to farmers.

5. Sustainability

128. The programme is self-sustainable as the income generated from service charges pays the salaries of the social motivators and other expenses. Income from sales of recycled waste is an attractive profit incentive for investment. The project has gained national recognition as a model of a self-sustainable programme.

129. In addition, the programme enjoys community support.

130. The programme is environmentally sustainable and the construction of a waste recycling plant is a clear indication of an efficient, transparent and accountable management system.

6. Principles

131. The following fundamental principles can be drawn from the initiative:

(a) Participation of the beneficiary groups in the whole project process, including planning, decision-making and implementation: this approach enhanced a sense of ownership of the initiative among the beneficiary groups;

(b) A partnership approach, backed by enabling institutional frameworks, which aided in the implementation and general management of the programme; for example, Waste Busters organized a stakeholders' workshop which made recommendations for action, while the public-private partnership arrangements targeted the poor and created employment opportunities, particularly for young people;

(c) Social equity and affirmative action: the integration of scavengers and other poor and disadvantaged groups into the project process enabled them to earn a salary essential for living in dignity; the programme targeted low-income groups and provided low-cost and affordable sanitary services;

(d) The central role of the local authorities and decentralization was illustrated by the role played by the Tehsil municipality in the whole project process and the decentralization of sanitation services to the local levels;

(e) Environmental sustainability was exemplified by sound environmental management approaches adopted in a bid to achieve a clean and sanitary environment for the residents of Gujarat;

(f) Transparent and effective governance was largely demonstrated by the financial management systems of the project.

7. Policies

132. The initiative largely aimed at providing sanitation services to the poor and the socially excluded groups. This was facilitated by the following policy arrangements:

(a) Targeting the poor and providing them with low-cost and affordable waste management and disposal services;

(b) Commercialization of waste disposal services through the introduction of user charges: the revenue was then used for the purposes of meeting project expenses, and the project was initiated and largely implemented by the private sector through a partnership approach;

- (c) Capacity-building of the municipality administration.

8. Innovations and replicability

133. The programme was designed in modules for ease of replication. In fact, the Gujarat project is a replication of the Lahore sanitation programme and the concept is now being initiated in eight of the major cities of Pakistan. The project has gained national recognition as a model of a self-sustainable programme.

9. Success and failure factors

134. The factors that led to the success of the project included:

- (a) The involvement of the community right from the inception stage of the project through to the whole project cycle. Most significantly, the establishment of the project priorities took into consideration the views and needs of the target population and all stakeholders in general through a consultative process;
- (b) The application of the principle of complete participation of all the stakeholders in the whole project process, in that each stakeholder plays an important and unique role in the project;
- (c) Well-coordinated and complementary partnership with clear and well-defined roles for each stakeholder;
- (d) Integrated approach to service provision: in addition to sanitary services, the project provided income-generating opportunities and employed a poverty alleviation approach;
- (e) The introduction of social, economic and financial incentives particularly contributed to the self-sustaining aspect of the project.

10. Project financing

135. The resources for the initial start up cost were generated by the private sector partner, which contributed 60 per cent of the financial costs. The Tehsil municipal administration provided infrastructure support such as vehicles and machinery required for the transportation of waste. A grant of \$50,000 for best practices was received by Waste Busters from the United Nations Development Programme (UNDP) under its Urban Governance Initiative. This amount was also spent on capacity-building for the Tehsil municipal administration and the initial cost of the composting plant in Gujarat. The income generated from the sale of recyclable items and compost is another source of funding. This has largely ensured the sustainability of the project.

136. The financing partnership adopted by the project was an essential tool for ensuring the financial sustainability of the project. In addition, the self-sustaining approaches embraced by the project through revenue generated from service user charges are fundamental in enhancing the sustainability of the project beyond external funding strategies.

B. Durban Metro Water Services: sewage disposal education programme, South Africa

Sector: Sanitation
Region: Africa
Source: UN-Habitat Best Practices Database
Year of submission: 2002

1. Background information

137. Durban is the main port of the Republic of South Africa. It is situated on the east coast, approximately 600 km south-east of Johannesburg. It is the commercial centre of KwaZulu Natal province. In the townships and informal settlements around Durban previous service providers neglected water and sanitation services. Consequently, these communities placed little value on the use and maintenance of sewerage systems. Abuse and misuse of the sewerage systems, and repairs and blockages, cost the Durban metropolitan government approximately 6 million rand a year. The health of Durban communities was threatened by blocked sewers that overflowed into rivers and contaminated water which was being used downstream.

138. Durban Metro Water Service's sewage disposal education programme arose out of the need to curb high levels of sewage pollution and maintenance costs incurred in the Durban metropolitan area. The programme has become a vehicle for broader social reconstruction and development. Its main objective was to create a better understanding of the workings of the sewerage system amongst communities, especially first-time users of these services.

139. The specific objectives of the programme included:

(a) Creating a better understanding of sewerage system operation amongst all communities, with a focus on first-time users of these services;

(b) Informing people that the provision of improved services needed to be accompanied by appropriate responsibilities.

140. The programme has long-term objectives that have been introduced incrementally and in phases.

141. The programme is an initiative of the local authority.

2. Building partnerships

142. A public-private partnership was formed between the Durban Metro Council, the Development Bank of Southern Africa and other sponsors in the implementation process. Beneficiaries were involved in the whole project process, including planning, decision-making and implementation. Communities were also called upon for support.

3. Implementation process

143. Durban Metro Water Services, supported by the Durban Metropolitan Council, largely implemented the project. The implementation process involved public-private partnerships which established civic responsibilities. In addition, communities were called upon to support local government and businesses in the construction and development of their living environments. Indeed, no precedent existed for an urban sanitation programme.

144. In addition, a perception study was undertaken which investigated people's knowledge, attitudes and practices. The results were used as a guide to the development of the participative learning campaign. This was targeted initially at schools and adult members of the community. Later, it was extended to corporate industry.

145. Implementation was undertaken through a number of innovative educational interventions which encouraged interactive and participative learning. These included:

(a) Educational resource materials produced in English and Zulu for schools and communities;

(b) An educational road show: Durban Metro Water Services, in collaboration with the Coca-Cola Africa Foundation, developed educational road shows which targeted communities, hostels, schools and the like on a regular basis;

(c) Education Awareness Centre: Durban Metro Water Services promotes sustained education about wastewater at the Wastewater Education Awareness Centre at the Northern Treatment Works;

(d) Street theatre performance: an innovative street theatre programme to create a better understanding of the workings of the sewerage system amongst first-time users which, within one year, had staged 550 performances in the Durban metropolitan area, reaching approximately 35,600 adults and 40,000 schoolchildren. Community participation was also enhanced through a competition run in conjunction with the street theatre with lucky draw prizes as incentives.

146. Initially, consultants helped in the development of pilot projects in the townships. Subsequently, the Education and Public Liaison Division within the Metro Wastewater Management Department was established and funded by the Metro Council. Full-time education officers ensured that the cooperation of the community was sought in the effective management of existing infrastructure. These appointments from the target communities met real needs, as many of the new and potential water and sanitation customers speak Zulu, not English. Community liaison and development facilitation was carried out through many discussions and workshops within Durban Metro Water Services and the Wastewater Management Department before any project was initiated.

4. Impact

147. The education programme has resulted in an improvement in living conditions for the poor and disadvantaged communities in the townships and informal settlements, most of whom were first-time users of water services. Monitoring of blockages in sewer pipelines and reduced levels of river water pollution, combined with the education programme's surveys and evaluation, revealed that quality of life has improved for many of the poor and disadvantaged communities. Certainly, the education programme has made a quantitative impact.

148. In Umlazi (population 262,000), for example, after a period of about one and a half to two years, blockages were reduced from approximately 1,300 per month to 300–400 per month.

149. Metro education officers met weekly with community development forum facilitators to review the education programme, outline problem areas and monitor the performance of facilitators in the field. In addition, the project has led to better coordination and integration between various actors, organizations and institutions. Indeed, rewarding public-private partnerships have precipitated buy-in attitudes from industry.

150. In addition, information and awareness initiatives are on an ongoing basis. Emphasis has been placed on community capacity-building and skills development, and the employment of women has been encouraged. By-laws have been passed and formalized in the form of a legal framework to guide pollution management.

5. Sustainability

151. The following are the major factors that contributed to the sustainability of the project:

(a) The project was well funded and enjoyed community support, as demonstrated by the strong financing partnerships adopted by the project and the meaningful involvement of the communities in the whole project process;

(b) The cost-effective use of resources was exemplified by a substantial reduction in sewage blockages throughout the Metro area by one third over a 12-month period, achieving a saving of 2 million rand per year;

(c) The use of cost-saving strategies through the adoption of education programmes reduced the blockage frequency by 50 per cent, a potential saving for the townships of 1.25 million rand per year, with the money saved ploughed back to upgrade existing services for the communities;

(d) The community empowerment and capacity-building approach was essential in instilling project ownership among the beneficiary groups: the sewage disposal education programme sought to place communities at the focus of the development processes, promote community participation, community empowerment and capacity-building without frustrating development progress.

6. Principles

152. The following principles emerged from the initiative:

(a) Participation of the beneficiary groups in the whole project process, including planning, decision-making and implementation, was reinforced by capacity-building programmes that sought to empower groups on environmental management and sanitation issues;

(b) Social equity and affirmative action was exemplified by the project's focus on women and the poor, and was strengthened by capacity-building, skills-development and employment of the aforementioned groups;

(c) Partnership building helped to strengthen institutional frameworks and facilitated information flow on the provision of sewerage services, hence enhancing access for the poor;

(d) Environmental sustainability was enabled by the use of sound environmental management approaches to the provision of sanitary services;

(e) Decentralization and the role of local authorities was demonstrated by elaborate creation of awareness of civic responsibility and the central role played by the Durban Metro Council in the whole project process, including initiation, planning and implementation.

7. Policies

153. The project was therefore largely guided by the following policies:

- (a) By-laws aimed at managing environmental pollution;
- (b) Pro-poor sanitation service provision strategies;
- (c) Provision of low-cost, affordable sanitation services.

8. Innovations and replicability

154. Durban Metro Water Services provides a model for other local governments and service providers. The Department of Water Affairs and Forestry and the Water Research Commission have come on board in an effort to make this programme nationally applicable and replicable.

155. This initiative had a number of innovative educational interventions which encouraged interactive and participative learning on the subject of sewage and storm water disposal systems. The replication of Durban's education programme is occurring on a national basis. The initiative has resulted in changes in legal framework and is engaged in a South-to-South exchange with Kenya.

156. The street theatre group was invited to perform at the World Bank Water Supply and Sanitation Forum in Washington D.C. to highlight the educational message for other practitioners. This project has been very rewarding, and the lessons learned have been extended to industry and pollution management, with emphasis on best practices, waste minimization, more efficient production, improved water quality and health in Africa.

9. Success and failure factors

157. The following factors substantially contributed to the success of the programme:

- (a) Well-coordinated and rewarding public-private partnership;
- (b) Centrality of the community in the project, with community empowerment and capacity-building aimed at effective implementation of the initiative;
- (c) An integrated approach to service provision;
- (d) Progressive and effective legal and policy environments;
- (e) The central role played by the local authorities in the whole project process, including planning, implementation and a huge financial investment.

10. Project financing

158. The Durban Metro Council has financed the bulk of the programme and invested millions of rand in educational programmes. The total cost is \$2.6 million. Vivendi Water (now part of Veolia Environnement), a private-sector company, contributed 28.8 per cent and Durban Metro Water Services funded 20.3 per cent. The Department of Water Affairs and Forestry, and the Development Bank of Southern Africa also contributed sponsorships in the form of prizes for competitions (in schools and on other occasions). These were also received from private organizations such as ABI (the soft drink division of the South African Breweries Ltd.), Defy (manufacturer of white goods), Vodacom, Nampak (a packaging company) and Ceres Fruit Juices through its Fruitree division.

159. The elaborate financing partnerships adopted by the programme are key to its sustainability. In addition, the financial commitment by the local authorities, which are the primary service providers, exemplified by the Durban Metro Council's huge financial investment, is central to the survival of the Programme.

C. Wastewater in Ouagadougou, Burkina Faso

Sector: Sanitation

Region: Africa

Source: United Nations Institute for Training and Research International Training Centre for Local Actors (UNITAR/CIFAL), Ouagadougou

1. Background information

160. The city of Ouagadougou represents more than 70 per cent of the urban population of Burkina Faso. Its population grows every year: from 8,000 in 1904 to 60,000 in 1960, 600,000 in 1985 and 1,200,000 in 2005. At the same time, the area of Ouagadougou increased from 53 km² in 1961 to 200 km² in 1992 and 302.5 km² in 2005. Among the consequences of this urban influx is the growing demand for a sewage collection system. The lack of wastewater treatment and drainage facilities attributable to poor maintenance or lack of sanitation infrastructure leads to pollution of ground and surface water resources.

161. Within the scope of the implementation of the Strategic Plan for Sanitation of the City of Ouagadougou and the Project for the Improvement of Living Conditions in Urban Areas, launched by the City of Ouagadougou and the National Office for Water and Sanitation; a programme aiming at wastewater collection and treatment was successfully launched in 2003. Its objectives were to implement a sewage collection system (sewer network) and to collect urban effluent (industrial effluent included) in from facilities such as public schools and hospitals as well as other public and private buildings. At the same time, Ouagadougou's treated water is being used for local market gardening to improve productivity. In addition, the quality of the treated water was defined in such a way as to meet the standards for wastewater use in agriculture which the World Health Organization has established.

2. Building partnerships

162. Three main donors provided the financial support: a national institution (the National Office for Water and Sanitation of Burkina Faso), an international organization (the World Bank) and a bilateral aid agency (the French Development Agency (AFD)).

163. The project involved the municipality of Ouagadougou, the National Office for Water and Sanitation, user representatives and potential users, and representatives of farmers.

3. Implementation process

164. The planned costs for the implementation of the wastewater collection and treatment programme included the building of new infrastructure (approximately 4.5 billion CFA francs) and operating costs including maintenance, energy, and administration (approximately 215 million CFA francs, or approximately \$430,000 at 2006 exchange rates).

165. Obstacles for the implementation of the project were many and various:

(a) Technical obstacles: a lack of cartographical data for the city of Ouagadougou; also, the cadastral map provided by the City was obsolete and could not be used for the implementation of a pilot phase; in addition, the levels of air and water pollution were particularly high as a result of inexistent or inappropriate sewerage infrastructure;

(b) Socio-political obstacles: decentralization legislation in Burkina Faso officially confers jurisdiction over sanitation on municipalities, but that responsibility was not in fact transferred since the management of the service was under the effective responsibility of a State agency;

(c) Economic obstacles: to finance the sewage collection system infrastructure's maintenance, it was planned to raise users' water bills slightly; this method of financing suffered from the low numbers of users who had a connection to the drinking water supply (only 48 per cent of the population) and who were able to pay any bill.

166. Before the implementation of the project, a feasibility study and an environmental impact study were conducted by the City of Ouagadougou. Both studies showed a high level of acceptance from the population and that the environmental aspects had been taken into consideration. The donors also

considered the project relevant and cost-effective. For example, the project chose a biological wastewater treatment using a lagoon system because this does not require sophisticated materials or qualified staff and maintenance costs are low.

167. The involvement of the population in the decision-making process is normal practice for any urban project in Burkina Faso. Thus, the project was developed in cooperation with various institutions:

(a) The municipality of Ouagadougou (provision of cadastral map, extension of water supply and wastewater treatment networks);

(b) National institutions such as the National Office for Water and Sanitation, user representatives (pricing, identification of needs, and extension of water supply and wastewater treatment networks); potential users were also consulted using a survey;

(c) Representatives of farmers for the implementation of a lagoon system and the land expropriation aspects.

168. Users were involved with the long term in view in order to assess their needs, evaluate the effectiveness of the project's implementation plan and create awareness and build capacity within the community. Implementation measures were also developed in close cooperation with local partners such as the local private sector. The police and fire departments were also involved in all local risk management aspects.

169. A steering committee was set up to facilitate the implementation of the project. The committee includes representatives from relevant groups, organizations and institutions within the community such as national civil servants from the National Office for Water and Sanitation, technicians and elected representatives from the municipality, police and firemen, representatives of the local private sector and the rural sector, and representatives of civil society. The committee's primary role is to provide a framework for dialogue between the partners and to anticipate potential sources of conflict such as:

(a) Pollution transfer;

(b) Pollution from the implementation of the lagoon system (air pollution);

(c) Unforeseen risk management.

170. The committee was also responsible for implementing a communication strategy to anticipate and minimize the negative effects of construction (traffic jams, air pollution and so on).

4. Impact

171. The project improved wastewater treatment and drainage facilities and reduced the pollution of ground and surface water resources for the 1.2 million residents of Ouagadougou.

5. Sustainability

172. The factors that led to project's sustainability include:

(a) The adoption of a cost-effective approach: for example, the choice of biological wastewater treatment, using lagoon systems, means low maintenance costs;

(b) Immense community support, as illustrated by community involvement in project activities right from the identification of priority areas and implementation process objectives; also, the commitment of the communities demonstrated community ownership, and the priority areas and project objectives were determined through consultation with community beneficiary groups;

(c) Strong task-oriented and complementary partnership systems, and sound financing by a variety of donors.

6. Principles

173. The following principles can be drawn from the initiative:

- (a) Meaningful participation of beneficiary groups in the whole project process, which was exemplified by the programme's endeavour to develop community-based responses with a long-term perspective; in addition, users are involved in assessing their needs, evaluating the effectiveness of the project's new implementation plan, creating awareness and building capacity within the community;
- (b) Elaborate and strong partnerships: various partners are involved in the project in differing capacities; e.g., as financers or implementers and through the provision of technical or administrative support; the implementation of the project is also enabled by effective institutional frameworks such as a steering committee that is responsible for facilitating implementation, among other things;
- (c) Environmental sustainability, epitomized by the initiative's endeavour to take environmental aspects into consideration through the choice of biological wastewater treatment using a lagoon system;
- (d) The central role played by the local authorities.

7. Policies

174. There are no clear policies that can be drawn from the initiative.

8. Innovation and replicability

175. The innovative aspects of the project included the adoption of cost-effective approach to the use of resources, exemplified by the choice of biological wastewater treatment using lagoon systems in order to keep maintenance costs low.

9. Success and failure factors

176. The following factors contributed immensely to the success of the project:

- (a) Meaningful involvement of community members in the whole project process;
- (b) Elaborate and well-coordinated partnership arrangements;
- (c) Strong financial support from partners, exemplified by the budget which was developed;
- (d) Cost-effective use of resources.

10. Project financing

177. The project received financial support from the following donors: AFD (4.6 billion CFA francs), the World Bank and the National Office for Water and Sanitation (400 million CFA francs).

178. The feeling that all stakeholders are enthusiastic about the achievements of the project has allowed a small increase in water prices and facilitated this financial partnership.

D. Cost-effective and appropriate sanitation systems, India

Sector: Sanitation

Region: Asia

Source: UN-Habitat Best Practices Database

Year of submission: Although initially submitted in 1996, this best practice has been resubmitted several times for different awards

1. Background information

179. Up to the present, the Sulabh International Social Service Organisation has constructed and converted over 700,000 hand-flush water-seal toilets in homes and nearly 3,000 public toilets, providing sanitary facilities to approximately 10 million people in India. The public latrines maintained by Sulabh, which are run on a pay-and-use basis, have vastly improved the quality of facilities available to users. Users primarily include pavement-dwellers, cycle rickshaw drivers, commuters, the floating population and those whose houses cannot accommodate individual toilets. As Sulabh has taken over these latrines from the

municipalities for a contracted period of 30 years, the municipal authorities have been relieved of the task of operating and maintaining them.

180. Sulabh's short-term goals include the provision of accessible, affordable and easily available latrines and the means to maintain them. Its long-term goal involves bringing about major changes in the attitudes and personal habits of the urban poor.

181. The objectives of the project include:

(a) Providing basic amenities to a large portion of the population which is cut off from formal municipal services;

(b) Instilling social responsibility for citywide environmental conditions through creation of awareness;

(c) Providing the opportunity for low-cost, self-help development for megacities where public agencies are financially unable to provide critical services;

(d) Providing affordable services in the most effective way.

182. The project is an initiative of a non-governmental organization.

2. Building partnerships

183. The Sulabh movement demonstrates how a partnership between a local government agency and a non-governmental organization, backed by community participation, can make a substantial impact in improving environment quality in areas inhabited by the poorest segment of society. Indeed, the initiative is a partnership between central and local government, a private-sector agency, a community-based organization and ex-scavengers.

3. Implementation process

184. For in-house toilets, the implementation process entails door-to-door campaigns by volunteers to talk to people and persuade them to convert their bucket latrines into Sulabh Shauchalayas (twin-pit, pour-flush latrines). The beneficiaries are required only to fill out forms to apply for a loan and subsidy and to authorize Sulabh to receive money and convert their dry latrines into Sulabh Shauchalayas. Sulabh therefore facilitates the acquisition of the loan as well as the completion of the project. After the conversion of dry latrines, Sulabh issues five-year guarantee cards to beneficiaries, assuring them of the prompt removal of any construction defect or the resolution of any technical problem at no cost. Sulabh has developed special infrastructure for ensuring quality construction and for providing satisfactory follow-up services.

185. For the construction and maintenance of public toilets and baths, Sulabh's strategy is to play the role of a catalyst between official agencies and the users of Sulabh complexes. The land and finances for the construction of public toilets and baths, as well as electricity and water supplies, are made available by local bodies. Sulabh undertakes the construction of these complexes and maintains them on a pay-and-use basis for 30 years.

186. In addition to the improvement of the environment, these toilet complexes have restored human dignity by providing facilities for defecation and bathing in privacy to those in need of them and eradicating social discrimination against scavengers. Some of these complexes have become social centres because of the provision of telephone services, medical care, family welfare services, clean water (for drinking) and cloakroom facilities.

187. The success of these efforts led the Government of India and state governments to initiate and implement the low-cost sanitation programme all over India with the following objectives:

(a) To convert all dry or bucket latrines in urban areas to pour-flush sanitary latrines designed by Sulabh;

(b) To provide such latrines where no latrines existed;

(c) To make more pay-and-use public toilets available;

(d) To eliminate manual scavenging: scavengers are freed from demeaning work and trained for alternative gainful employment.

4. Impact

188. Over 35,000 scavengers have been liberated from the demeaning and unhygienic task of manual scavenging and rehabilitated in other skills. About 3,400 wards and family members of these liberated scavengers have been given vocational training. Approximately 240 towns have been made scavenging-free. There has been a dramatic positive change in the physical environment of the towns where Sulabh has worked.

189. Sanitation facilities have been provided to nearly 3,000 communities and over 700,000 private toilets are used by 10 million people daily. In most cases, the technology has provided toilets to households. The dumping of fresh, pathogenic night soil has stopped and has led to improvement in the physical environment.

190. In addition, general awareness, sanitation, health, education and the community's involvement in the social infrastructural programme have instilled self-reliance and confidence in the people. Literacy among women with an education on sanitation and personal hygiene in slums and squatter settlements, a programme launched by Sulabh, has resulted in the improvement of the environment, ecology and health. These women have become the forerunners of social change by creating awareness in the community about the importance of sanitation and personal hygiene. This has brought about a positive impact on the health standards of all members of the households concerned, especially among under-privileged women and children.

5. Sustainability

191. Sulabh has developed its own methodology to ensure sustainability in the provision of sanitation facilities to the communities in urban areas. It is based on the following premises:

- (a) General awareness of self-reliance and confidence without too much dependence on the Government;
- (b) Structuring the programme so that it becomes decentralized and gradually handed over to the target groups;
- (c) Adoption of sustainable, replicable, acceptable and most appropriate cost-effective technology;
- (d) Creation of awareness about sanitation;
- (e) Involvement of the community, especially of women, at every stage of implementation;
- (f) The training, rehabilitation and removal of social discrimination against scavengers engaged in the manual handling of human excreta so that they do not become unemployed once the bucket and dry privies they clean are converted to pour-flush toilets.

192. The technology developed by Sulabh is cost-effective, sustainable, replicable and most appropriate. It can be built using indigenously available materials and is easy to maintain. It has a high potential for upgrading, i.e., it can be connected to sewers easily when they are introduced into a new area. It does not need the services of scavengers. The technology involved the development of a twin-pit pour-flush toilet which uses only two litres of water for flushing. The excreta fall into a leach pit and the two pits are used alternately. Gas and liquid is slowly dispersed into the soil through holes in the lining of the pit, and waste is rendered odourless and almost dry after a two-year rest period, so that it may later be used as manure and soil conditioner.

193. The organization works to turn the development process into a people's movement with the people themselves becoming agents of change. Sulabh's innovative approach provides sustainable environmental sanitation development to bring about lasting change in the habits and attitudes of the community. This approach has assisted in building the capacities of the communities with the objective of helping them to learn and believe in their own ability to help themselves, their communities and others.

6. Principles

194. The initiative has widely applied the following fundamental principles of partnership and community participation:

(a) Partnerships: the Sulabh movement demonstrates how a partnership between a local government agency and a non-governmental organization, backed by community participation, can be very effective;

(b) Community involvement: Sulabh's strategy is to involve the community, with a special emphasis on women; indeed, community participation has been central to Sulabh's success with its education programmes aimed at creating awareness of sanitation affects the lives of slum-dwellers, and by providing toilets to communities which have requested them, Sulabh has motivated and reinforced community-level involvement and ownership of the initiative;

(c) Affirmative action in favour of women: the initiative places special emphasis on the needs of women in the provision of services, hence enhancing the principle of social equity and affirmative action;

(d) Environmental sustainability: Sulabh's innovative approach provides sustainable environmental sanitation and advocates and enhances access to low-cost sanitation services, particularly for the poor. Notably, the low-cost sanitation advocated by Sulabh also formed part of the prestigious project for the prevention of pollution of the river Ganges undertaken by the Government of India. Because of the project's success, it is now being treated as an integral part of the National River Conservation Project. Through partnership with Sulabh, the local government has played a major role in the provision of affordable sanitation services and technical support to the initiative.

7. Policies

195. Sulabh's low-cost sanitation technology provided the poor with accessible, affordable and easily available latrines and the means to maintain them. In the long-term, this has brought about major changes in the attitudes and personal habits of the urban poor. The operation and maintenance of community toilet complexes, including bathing, laundry and toilet facilities, is on pay-and-use basis, which reflects the good commercialization of services and the private-sector involvement in the initiative.

8. Innovations and replicability

196. An important lesson that others can learn from Sulabh's initiative is that to improve the living environment and accessibility to basic services for all, appropriate technology, social marketing and delivery systems have important roles to play. However, this should be backed by strong community participation strategies along the lines developed by the organization to make delivery systems effective and sustainable. In this sense, Sulabh's initiative is more of a social innovation than a technological one.

197. Technological innovations involved the use of new twin-pit pour-flush technology. The technology developed by Sulabh is cost-effective, sustainable, replicable and most appropriate. It can be built using indigenously available materials and is easy to maintain. It has a high potential for upgrading, i.e., it can be connected to sewers easily when they are introduced into a new area. The technology has enabled households which previously possessed single-pit latrines or had no latrine at all to have access to a decent and affordable sanitation option.

198. International and bilateral agencies have advocated for the adoption of Sulabh technology and its model in developing countries. Negotiations are taking place for putting up pay-and-use complexes in Nepal. The governments of South Africa and Sri Lanka have invited experts from Sulabh to advise them on how to improve the environment and sanitation in their countries based on the Sulabh model.

199. Besides local governments, Sulabh has also been approached by railways, coalfields, port authorities, hospitals and road transport authorities, among others, to provide sanitation facilities. The low-cost sanitation advocated by Sulabh also formed part of the prestigious project for the prevention of pollution of the river Ganges undertaken by the Government of India. Noting the resounding success of this project, it is now being treated as an integral part of the National River Conservation Project.

9. Success and failure factors

200. The factors that led to the success of this initiative included the following:

- (a) Strong, innovative and task-oriented partnership;
- (b) Strong and effective community participation in the whole design and implementation processes of the project;
- (c) The use of locally available and environmentally friendly technology;
- (d) An integrated approach to service provision, exemplified by the initiative's ability to provide income-generating opportunities to the marginalized target population.

10. Project financing

201. The project received financial support from its partners and also adopted self-financing strategies through the pay-as-you-use model. However, there is no clear indication as to the amount of support received, the total budget or expenditure patterns.

IV. Waste management

A. Public-private sector coalition creates solid waste management in Jordan

Sector: Waste management
Region: Arab States
Source: UN-Habitat Best Practices Database
Year of submission: 2004

1. Background information

202. Jordan has over the years experienced low environmental awareness and scarce supply of natural resources. Since it imports paper, utilizing natural resources has been critical to its development. Prior to the Modern Recycling Company (MRC) initiative, national non-governmental organizations attempted to establish recycling programmes without the proper resources or structures to fulfil their vision. The ultimate goal of MRC is to achieve environmentally sustainable economic and social development in Jordan.

203. The specific objectives of the initiative include:

- (a) Conserving natural resources
- (b) Ensuring sustainable development and employment for women and the underprivileged;
- (c) Ensuring improved efficiency in the use and management of resources.

204. The project is an initiative of the private sector.

2. Building partnerships

205. The initiative is a partnership between MRC – a private-sector company – and a coalition of environmental recycling non-governmental and community-based organizations such as the Arab Women's Organization, the Jordan Environment Society and the Royal Society for the Conservation of Nature.

3. Implementation process

206. MRC was approached by the non-governmental organizations to take over their collection activities and create a professional waste management programme for a recycling initiative. MRC undertook a strategic appraisal of the needs and challenges facing recycling efforts in Jordan and prioritized goals. In addition, MRC undertook a nationwide awareness-raising campaign to educate the private and public sectors on the importance of solid waste management.

207. In conjunction with the non-governmental organizations that agreed to recycle waste, collection and sorting centres employing women and the underprivileged were expanded and built. Community recycling centres were established in accessible sites throughout Jordan and the public was trained on how to use them. By 1999, MRC had assumed the full financial burden for all its recycling projects. It provides the facilities necessary for the management of the coalition for the project. Its managing office staff provide administrative support and carry out research and educational campaigns. MRC also provides vehicles and meets the costs associated with collection, sorting and reselling. In addition, it provides workers to sort materials for recycling and to maintain the sites and underwrites costs associated with the educational campaign. MRC is responsible for collection of waste from these sites, transportation, sorting and reselling. In the process, it supports a separation programme by hiring disadvantaged workers and women to sort materials at special separation centres.

4. Impact

208. MRC, in collaboration with the coalition of non-governmental organizations, implemented the initiative through workshops, seminars and personal contacts. The company coordinated a nationwide awareness-raising campaign to educate people and promote recycling in the public and private sectors. As a result, approximately 540 recycling collection sites have been established throughout Jordan.

209. Using aggressive publicity and a good communication plan, MRC convinced institutions such as the Jordanian Army, all the United Nations offices, major telecommunication companies, United Nations Relief and Works Agency (UNWRA) schools, universities, banks, private schools, hotels, government ministries, private companies and embassies to recycle waste.

210. Also, MRC began a "Sorting at the Source" educational programme with its establishment of community recycling centres at main commercial centres. It set up physical locations for the centres, standardized collection bins, organized collection schedules from the various sites and taught the community how to use them.

5. Sustainability

211. One of the major goals of the recycling project was to include women, children and the underprivileged in the programmes. It targets these groups in its public awareness campaign. The company has worked with local non-governmental organizations to address gender and poverty alleviation issues. The involvement of women, children, corporations and institutions made the initiative sustainable:

212. The Arab Women's Organization provides an important forum and support in addressing gender issues. Part of the coalition's recycling programme is to conduct workshops, and to hire women and disadvantaged workers to sort recycled products. The involvement of children has been accomplished through the coalition's committed outreach programme to schools, through which it increases awareness by meeting with students and facilitating recycling by providing recycling containers.

213. The MRC public awareness campaigns seek to create systematic support for effecting behavioural change and empowering individuals, corporations, and institutions to be environmentally aware and active. The recycling programme is sensitive to cultural considerations and supports the preservation of traditional ways of life. The ability of a society to sustain and strengthen cultural values is dependent upon its ability to reduce economic dependencies on external factors, and providing employment opportunities is essential for maintaining strong family structures.

214. In addition, recycling provides a cost-effective way of conserving resources. Also, Jordan has few natural resources and is extremely dependent on its imports. By reducing this dependency on the importation of paper, Jordan can better allocate its own resources.

6. Principles

215. The following are the fundamental principles that can be drawn from the initiative:

(a) Partnership building: collaboration between MRC and the coalition of non-governmental organizations, with clearly defined and distinct, but complementary, roles and responsibilities;

(b) Active and meaningful participation of beneficiary groups: the initiative greatly involved the target beneficiaries in the implementation process, including women and children, among others;

- (c) Environmental sustainability through the maintenance of a clean environment, achieved through capacity-building and awareness creation;
- (d) Social equity and affirmative action: the initiative largely targeted women, children and other underprivileged groups, and also aimed to address gender concerns and poverty alleviation;
- (e) Financial affordability: the costs of the services were particularly low and hence, affordable for the poor, thus enhancing access to waste management services for the poor while also providing income-generating opportunities to those hired to sort recycled products;
- (f) Transparent and effective governance: this was evident in the project management approaches.

7. Policies

216. The initiative's success drew from the environmental management and recycling policies which were put in place by the Jordan Environmental Society. However, there were no clearly stipulated policies that indicated reduced bureaucratic and legal procedures in access to services.
217. The administrative support of the community and the poverty reduction strategies were important for the country, as they indicated the impact of private-sector involvement in the use of local resources.
218. The successful solid waste management system established by MRC is attributable to its private-sector management orientation.

8. Innovations and replicability

219. MRC has imparted its knowledge and experience to public and private institutions in an effort to convince them of the need for recycling and the role which they can perform in instituting recycling efforts within their organizations. For example, it developed a programme for establishing recycling centres at major shopping malls in Amman, as well as smaller collection facilities at schools and government offices.
220. In addition, MRC is in the process of developing contracts with private firms to collect their used paper products, recycle them and then resell them as consumable products.

9. Success and failure factors

221. The factors that led to the success of the initiative included:
- (a) A clearly defined and task-oriented partnership approach;
 - (b) Community participation;
 - (c) Capacity-building of the target beneficiaries to enable them acquire the management skills necessary for the initiative;
 - (d) An integrated approach to service provision.

10. Project financing

222. MRC has assumed the full financial burden for all its recycling projects. MRC received no revenue and made no profits from the clients they served, nor from the coalition.
223. During the years 1997, 1998, 1999 and 2000, the initiative had total annual budgets of \$28,000, \$39,000, \$42,000 and \$45,000. This was contributed by the partners from the private sector, the non-governmental organization sector and the central Government.
224. However, it is important for the central Government and local authorities to make political and financial commitments to such projects so that the private sector can be encouraged.

B. Green Exchange (Cambio Verde): waste in exchange for vegetables, Curitiba, Brazil

Sector: Waste Management
Region: Latin America and the Caribbean
Source: United Nations Institute for Training and Research International Training Centre for Local Actors (UNITAR/CIFAL) Curitiba
Year of submission: Not indicated

1. Background information

225. With a population of 2 million, Curitiba is one of the major urban centres of southern Brazil, which is relatively rich. The City of Curitiba initiated two related projects in environmental education: the recycling campaign called “Cambio Verde” (Green Exchange) and the citizenship education courses offered by the Open University of the Environment. Since then Curitiba has earned a reputation as the environmental capital of Brazil. Indeed, the City is recognized internationally for its sustainable urban planning, its social and environmental programmes, and its efforts to promote citizen participation in environmental initiatives. Throughout the last decade of the twentieth century, successive local governments have involved Curitiba residents in several noteworthy educational experiences, such as the water quality monitoring programme and the planting flowers and vegetables initiative.

226. By the late 1980s, the population of Curitiba was growing at a significant rate, receiving newcomers from rural areas who settled on the outskirts of the city, places usually lacking appropriate infrastructure and basic services. In many of these neighbourhoods, inadequate disposal of garbage in the slums of the city because of the lack of a garbage collection service was generating serious environmental and health problems. Garbage trucks had no access to these areas because the streets were narrow and unpaved. In order to tackle this problem, the city initiated two programmes in 1989: “Lixo Que Não É Lixo” (Waste That Is Not Waste) and “Purchase of Waste”. As part of these initiatives, the local government signed an agreement with the communities in which citizens formed associations and cooperatives and sold their separated waste to the city.

227. In 1991, the City expanded the small Waste That Is Not Waste initiative and launched an ambitious programme called Green Exchange. This programme consisted of establishing community centres located in the poorest areas where garbage trucks could pick up recycled materials. In these community centres, to inoculate with the green virus the City organizes a Green Exchange once a week: the residents can exchange recyclable garbage (cardboard boxes, scrap metal, glass and rags) for fruit and vegetables from local producers, toys, transportation tickets and educational material.

2. Building partnerships

228. The project was implemented in partnership with local authorities, residents and the Open University of the Environment.

3. Implementation process

229. “Curitiba, the City that People Love” or the “People’s City” are slogans which make each and every inhabitant a party to the cleanliness reigning in the streets. Some people even wash their waste before discarding it in separate bins!

230. The organizers of the Green Exchange programme designed several educational strategies with the objective of raising awareness about the importance of recycling. One of the most prominent of these was the implementation of media campaigns which included advertising on television and in newspapers, and educational programmes in schools. The city also created the “Family Leaf”, a theatrical group which gives presentations in parks and community neighbourhoods stressing the importance of recycling.

231. Another example of an interesting way to involve the local community: the City is extremely proud that it has 55m² of green space per inhabitant. Parks have been created from abandoned dumps and quarries. The numerous “ethnic” groups were then charged with fitting these parks out in accordance with their

nostalgia for their past: a wooden Ukrainian church, a sombre Bavarian forest where a witch tells her tales, a Japanese haven of peace in the midst of skyscrapers, an Italian path for strolling, and so on. There are also pretty artificial lakes which are used to prevent flooding.

232. Another superb place for citizens' education is the botanical garden: when children from one of the shanty towns came to wreck the plantations, they were taken on as gardeners and then as guides to show visitors around the garden. In each district, the "Faros do Saber" (libraries in the form of lighthouses) make books, videos and the internet available to the general public. There is also a tower with a watchman who ensures the safety of the neighbourhood.

233. The farmers, citizens and workers learned about environmentally sustainability practices and received support to help alleviate their socio-economic condition. Indeed, besides raising awareness about the contribution of recycling in the prevention of environmental degradation, the recycling programme of Curitiba also sought to help the poorest populations of the city improve their quality of life. The success of the programme is not only an example of social and environmental sustainability, but also a lesson in solidarity to citizens and environmental adult educators in countries around the world.

234. The private sector also has environmental goals. In the words of Jaime Lerner, founder of the Curitiba Institute of Urban Planning and Research and three-time former Mayor of Curitiba, "*If we explain things clearly to them, companies participate in the common project*". Large companies, including multinationals such as Volvo and Renault, are attracted by this "urban quality". All this makes for good taxpayers balancing out the majority of poor people. "*Even if the economic system is one of inequality, towns can be living spaces at the service of the people, and not the contrary*", explains Cassio Taniguchi, Mayor until 2004.

4. Impact

235. Key to the success of all these programmes was the conviction of successive municipal governments that without the participation of citizens the programme would not succeed. The success of these programmes is measured today by the fact that Curitiba now separates 13 per cent of its garbage. The city is ranked first among the four Brazilian cities which separate recyclable (cans, glass, metal, plastic, paper) from biodegradable waste, followed by Porto Alegre (5 per cent), Florianópolis (4 per cent) and São Paulo, the largest Brazilian city, which separates only 1 per cent of what it collects. To put these figures into an international perspective, in Curitiba about 70 per cent of the population recycles, while in New York City it is estimated that only 10 to 15 per cent of households do so.

236. In addition, residents exchange tickets for bags of surplus food which the city purchases for a small amount from farmers and then delivers to the neighbourhoods. The people receive much-needed eggs, bananas and beans, which improves their nutrition. The need for health-care visits in each of the participating communities has dropped since the programme started in 1989. Diseases rampant in other South American slums are rare in Curitiba.

237. The Curitiba method is no more and no less than using one solution to solve a number of problems: cleanliness, combating pollution and disease, healthy nutrition, civic education and sales of agricultural surpluses.

238. Seeking to support the local economy as well, in exchange for recyclable materials the City bought the food needed from farmers in the region. These materials were then transported to plants operated by members of the community with fewer job opportunities, including people with disabilities and the homeless. In the words of former Mayor Lerner, "*Local-level action can protect the environment and can also be directed towards other key issues such as education, whose main priority is to alleviate the impact of poverty*".

239. The operation costs \$40,000 a month. This is very reasonable for 65 districts, 120 tons of fresh produce and 300 tons of waste recycled and resold. Waste is also exchanged for academic materials or toys for Christmas. Mayor Lerner discovered that it was cheaper for the City to engage in this Green Exchange than to continue financing the damage caused by mountains of garbage in the streets. It was also considerably cheaper than a normal city refuse collection service.

240. Thanks to public education and support from City Hall, over 70 per cent of Curitiba's population separate paper, glass, plastic, metal and organic waste in their homes, listening for the brass bells which clang on the green recycling trucks that arrive weekly. The City-operated recycling plant is set amid pine forest a short drive from Curitiba. The machinery is made from equipment donated by businesses. A total of 100 employees – recovering alcoholics and drug addicts – do all the sorting and packing of plastics, glass and paper. The sorted recyclables are sold to industry, with 80 per cent of the income going to aid Curitiba's poor children.

241. Combining humanism and strategy, ethics and cunning in Curitiba has enabled poverty to be at least partially alleviated.

5. Sustainability

242. The sustainability of the project comes from:

- (a) Extensive involvement of communities through the establishment of community centres located in the poorest areas, where garbage trucks pick up recycled material;
- (b) Community ownership, illustrated by the slogans "Curitiba, the City that People Love" and the "People's City", which make each and every inhabitant a party to the cleanliness reigning in the streets;
- (c) Financial commitment on the part of the municipality.

6. Principles

243. The following are the principles that can be drawn from the initiative:

- (a) Community participation in the whole project process right from the planning to the implementation stage;
- (b) Partnerships involving the local authorities, the communities and the media, among others;
- (c) Environmental sustainability, illustrated by recycling aimed at preventing environmental degradation;
- (d) Active involvement of the local government in the whole project process, including funding and provision of educational services to the communities on the need to recycle waste;
- (e) Social equity: poor and marginalized people accessed income-generating activities and 80 per cent of the income from recycling is used to help Curitiba's poor children;
- (f) Affordability, demonstrated by the project's endeavour to provide low-cost waste management services to the communities.

7. Policies

244. The following are the emerging policy aspects of the project:

- (a) Pro-poor policy: the initiative essentially targeted the poorest segment of the society in an effort to both provide sanitary environmental conditions and to improve the living standards of the poor through the provision of income-generating opportunities;
- (b) Access to waste management services for the poorest communities.

8. Innovation and replicability

245. A total of 1,390 towns in Brazil have adopted the policies of Curitiba municipality. Following its training session, organized by UNITAR/CIFAL, Curitiba's example served to underline the importance of promoting awareness and facilitating the participation of the local population.

246. Curitiba, a United Nations prize-winner, the "People's City", is an international model in environmental, social and economic terms. In a country confronted with violence, blatant inequality and poverty, Curitiba shows how to escape from the chaos, reduce poverty and improve the environment.

9. Success and failure factors

247. The following are the factors that led to the success of the initiative:

- (a) Adaptation of innovative pro-poor policies that focused on poverty alleviation and finding solutions for the management of solid wastes;
- (b) Meaningful involvement of the community and utilizing set community structures while balancing different perspectives and vested interests;
- (c) The centrality of the role of the local authorities, including financing of the project and provision of public education support.

10. Project financing

248. The project was financed by its partners. In addition, the project also adopted self-financing approaches in a bid to achieve financial sustainability through the revenue that was earned from recycled wastes.

C. Waste management system in Alexandria, Egypt

Sector: Waste management
Region: Arab States
Source: Head of Corporate Partnerships with United Nations Agencies, Veolia
Year of submission: 2006

1. Background information

249. The city of Alexandria, the second biggest city in Egypt with a population of 3,750,900 in 2004, covers a surface area of 2,679 km². It is located at the north-west of the Nile delta and stretches nearly 70 km along a narrow strip of land strip the Mediterranean and Lake Mariut. It is 225 km from Cairo.

250. The Governorate of Alexandria and Veolia Environmental Services are running a delegated management contract, signed in September 2000 and launched in 2001 for a period of 15 years. The purpose of the contract is the management of the 1 million metric tons of waste generated every year by over 5 million inhabitants of the whole Governorate of Alexandria; from collection and cleaning to treatment, final recycling and agronomic amendment, the rehabilitation of two old dump sites, and the collection and treatment of medical waste. Today, there are over 4,500 employees who ensure the cleaning of the city; which involves the collection and treatment of 2,500 tons of waste every day, 3,100 tons of waste per day in summer.

251. The contract requests Veolia Environmental Services to:

- (a) Assess and identify waste deposits and organize collection channels;
- (b) Train the workforce through technical, theoretical and practical training;
- (c) Install, maintain and renew the necessary technical equipment;
- (d) Encourage the population to respect the environment and use the containers provided;
- (e) Sort, treat and recycle waste using strict quality and safety criteria.

252. The project was initiated by the Governorate of Alexandria.

2. Building partnerships

253. The waste management system in Alexandria, a public-private partnership between Veolia Environmental Services and the Governorate of Alexandria, is the first public-private partnership in the waste management sector in Egypt.

3. Implementation process

254. The project was implemented in three successive stages.

(a) Diagnosis

255. The diagnosis led to the conclusion that the previous waste management system was not efficient enough, mainly because of its:

- (d) Dependence on manual labour;
- (e) Low productivity resulting from the number of secure and high-income governmental posts;
- (f) Increasing average age of employees;
- (g) Lack of modern equipment and maintenance problems;
- (h) Poor management of the process;
- (i) Absence of waste treatment.

(b) Preparation

256. This stage was devoted to the definition of a new organizational approach to waste management:

(a) Phase 1 entailed the pursuit of legal procedures to assign a specialist or international company to implement a reliable and efficient waste management project in the Governorate of Alexandria;

(b) Phase 2 involved the preparation of an organizational structure and a specialized training programme for young employees in order to monitor the implementation of the commitments undertaken by the company responsible for solid waste management.

(c) Implementation

257. The project has been progressively implemented in the whole of the Governorate of Alexandria.

258. The actual implementation process consists of collecting household waste using thousands of new containers and 135 adapted collection trucks; mechanical street washing using four water tank trucks; manual and mechanical sweeping of streets using adapted tricycles; cleaning of squares, fountains, gardens and pedestrian tunnels; beach cleaning using eight motorized beach cleaners; transportation to intermediate waste collection stations; management of new, sanitary landfills; rehabilitation of old dumps; and management of composting facilities.

259. The Governorate of Alexandria was involved in the design of the project's strategy together with Veolia Environmental Services, which ensures the daily operation in a sustainable manner.

260. This public-private partnership is a pioneer experience in Egypt. It has been implemented in compliance with local and national regulatory frameworks and in a spirit of full cooperation. The partnership has recently been extended for the additional management of Alexandria Harbour and waste management for El Dekheila.

4. Impact

261. The international community has acknowledged improvements in the quality of environmental services in Alexandria Metropolis. The World Association of Major Metropolises, founded in 1984, recently named the winners of the top three Metropolis prizes for 2005. These prizes recognize exemplary achievements by metropolitan areas in favour of more balanced urban development. The first prize in the "environment" category was awarded to the Governorate of Alexandria for its integrated management of solid waste programme and the cleanliness of its public places.

262. The cleanliness of the city and its environment obviously brings in more investors and promotes tourism, which has a real impact on the local economy. It also favours a safer environment as well as reduced illness rates and medical expenses. A total of 150,000 tons of compost are produced and sold every year to farmers and contribute to the development of agricultural activities in the region. More composting lines have also been inaugurated in order to meet farmers' and market demands. All waste is treated.

263. Before the contract was signed, the collection service and sweeping were not regular, allowing stray animals to scatter waste. The cleaning of these insalubrious areas led to equal access to a clean urban environment for citizens.

264. Veolia Environmental Services in Alexandria has proved its ability to provide and maintain modern mechanical equipment. Infrastructure development and the rehabilitation of dumps provide a sustainable basis for the waste management system. Skill development will have long-term benefits, especially for the quality and efficiency of basic manual labour.

265. The local population has been encouraged to take care of containers and manage their utilization efficiently. Good behaviour is a necessary condition for ensuring that daily operation can be properly conducted.

266. The environmental benefits of the partnership, the first of its kind in the region, go beyond collecting rubbish and maintaining public spaces (streets, beaches, monuments and green spaces) to include setting up new, modern treatment infrastructure adapted to the local context (containers installed in streets, new transfer and composting facilities, two landfills built in accordance with international standards) and the rehabilitation of old dumps.

5. Sustainability

267. Recycling and composting are key elements of the cost-effective use of national resources. For composting, existing facilities were rehabilitated and a new plant built with a capacity of 150,000 tons of compost per year. This assisted in meeting the demand for fertilizer.

268. The project contributes to an ongoing campaign to raise environmental awareness across the region; in schools, through neighbourhood meetings and by mascots in the streets. The campaign uses the motto "Let's respect our environment for the health and future of our children". In addition, environmental awareness campaigns targeting both in-house employees and Alexandria inhabitants have been initiated in partnership with the Governorate.

269. The implementation of the system requires the community's sense of belonging. Inhabitants have to change their habits, use the containers and respect the cleaner environment in which they now live. Several incentives, including tours of the various facilities, have been conducted in order to help the population understand how the system works and its positive impact on public health and the environment. In addition, a more efficient policy regarding the use of containers has been set up in order to reduce the loss of this equipment.

270. Veolia Environmental Services has signed an agreement with the World Bank, acting on behalf of the Spanish Carbon Fund, involving the purchase of 30 per cent of the emission reduction credits generated by a landfill gas recovery project. A ceremony was held during which Veolia Environmental Services committed to retrocede 19 per cent of the value of the generated carbon credits to the Governorate of Alexandria.

6. Principles

271. The principles that can be drawn from the initiative include the following:

- (a) Gender equity and social inclusion, exemplified by the development of an efficient waste management system to benefit the whole community regardless of gender or social background;
- (b) Partnership, illustrated by the public-private partnership that has relieved the Governorate from the burden and pressures of executive work;
- (c) Participation of beneficiary groups and other stakeholders;
- (d) The central role played by the local authorities in the provision of waste management services, exemplified by initiating the project and implementing it;
- (e) Environmental sustainability, demonstrated by the focus of the project on improving the environment in order to prevent illness caused by unsanitary environments.

7. Policies

272. The following are the policies that can be drawn from the project:

- (a) Development of legal procedures to aid in assigning a specialist or international company to implement a reliable and efficient waste management project in Alexandria;
- (b) Establishment of an organizational structure for project implementation, monitoring and evaluation;
- (c) An efficient policy regarding the use of containers has been established to reduce losses of this equipment.

8. Innovation and replication

273. Veolia Environmental Services has created a training institute to supply a wide range of waste management skills to over 300 people per month. The 85-seat campus can issue official diplomas and will be opened to local associations for training on security and environmental issues.

274. In the framework of the Kyoto Protocol, Veolia Environmental Services has developed two Clean Development Mechanism (CDM) projects to reduce greenhouse gas emissions. The first project is located in Brazil and the second in Alexandria. The CDM project in Alexandria is scheduled for registration in July 2006; it involves landfill gas recovery at two landfill sites and should enable a greenhouse gas emission reduction of approximately 3.7 million metric tons of CO₂ equivalent over a 10-year period (2005–2015). As a result of these projects, Veolia Environment Services gained solid expertise in the development and certification of CDM greenhouse gas reduction projects and will be able to implement similar projects more broadly.

9. Success and failure factors

275. The following are the factors that led to the success of the initiative:

- (a) Elaborate partnership arrangements;
- (b) Meaningful participation of beneficiary groups;
- (c) Central role of the local authorities;
- (d) Development of efficient policies regarding the use of containers.

10. Project financing

276. The total investment on start-up of the project came to €50 million for a global contract worth €295 million over 15 years.

277. In addition, Veolia Environmental Services has signed an agreement with the World Bank, acting on behalf of the Spanish Carbon Fund, involving the purchase of 30 per cent of the emission reduction credits generated by two landfill gas recovery projects.

V. Health

A. Integrated model of care for HIV/AIDS people at country level, Romania

Sector: Health
Region: Europe
Source: UN-Habitat Best Practices Database
Year of submission: 2004

1. Background information

278. Romania's population is estimated at 22.3 million (2003 figures), with a GNI per capita of \$1,870 (2002). In the early 1990s, Romania was confronted with an unprecedented situation: a large number of HIV-positive children and overcrowded, poorly equipped and severely understaffed residential hospitals. Nearly 5,000 children born between 1987 and 1990 were infected with the HIV virus, primarily through blood transfusions or infection while under medical treatment.

279. Statistics show that between 1989 and 1991, many children died in hospitals and others were simply abandoned by their families. Full hospitalization was the only option as there were no day clinics, even though children would thus be unnecessarily exposed to opportunistic infections and the stress of being away from home.

280. The initiative therefore sought to integrate day clinics into the hospitals. In addition, apart from providing pure medical care, these clinics were also to provide psychological and educational services for children and families affected by HIV/AIDS.

281. The objectives of the initiative include:

- (a) Improving the care of HIV infected children by offering medical, social, psychological and educational services within "Sunflower Smile" day clinics;
- (b) Increasing access to antiretroviral therapy and monitoring the quality of care given to children living with HIV/AIDS;
- (c) Stimulating effective collaboration between professionals by facilitating experience-sharing;
- (d) Helping HIV-positive children and their families understand that they have a disease and must seek treatment;
- (e) Assisting parents and family members in understanding appropriate nourishment mechanisms for HIV-positive children.

282. The project is an initiative of the foundation the Romanian Angel Appeal (RAA).

2. Building partnerships

283. The initiative endeavoured to achieve its objectives through partnership with local and central administration. These partnerships included the Ministry of Health and Family, the Public Health Department, epidemiological centres, infectious disease hospitals, testing centres, local departments for disabled people, the National Authority for Child Protection and Adoption, the Local Department for Child Protection, local public authorities such as local city halls, local public health departments and local departments for child protection.

284. The most innovative aspect of the partnership was the signing of a partnership agreement by partners and the institutionalization of the partnership between local and central administration.

3. Implementation process

285. Project implementation started with the collection of the preliminary data: identifying the features of the target population; identifying the needs of the target population; identifying existing services and the extent to which the needs of the target population are met; contact persons, addresses and statistics. Partnership with local and central administration was a key element in the success of both data collection and further settlement of the clinics.

286. All the relevant institutions were contacted and discussions held. Data on the target population, potential partners and identification of local resources, especially premises for future day-clinic operations, were collected. The partnership agreement was executed to establish contractual terms, roles and responsibilities, and each partner's financial contribution. Other administrative arrangements, including drawing up staff structures, establishing the locations of the service, official approvals and the Ministry of Health's acknowledgement of the partnership and of the activities to be performed in the day clinics were made.

287. Each activity within the day clinics was oriented towards the real needs of the beneficiaries. The history of each registered patient was carefully monitored, medically, socially and psychologically. Social assistance involved updating the psycho-social files, developing individual family aid plans for preventing child abandonment, social counselling and support (especially for single parent families), counselling for social and school integration and management of crisis situations. The psychological assistance service includes pre- and post-test counselling, psychological evaluation for children and parents in order to apply the appropriate therapy, identification of possible psychological problems in the child, and so on.

288. The project implementation process involved the refurbishment of the buildings, fitting out the day clinics (desks, office consumables, computer, means of communication, automobile for visits in the community and the like), recruiting and training staff, preparing activity plans based on staff structure, and establishing communication mechanisms and monitoring rules.

4. Impact

289. This model of care for beneficiaries and professionals has resulted in a significantly enhanced quality of life for both infected children and affected families, higher-quality medical services, better management of cases on hospital premises, and a better response to the children's needs based on more adequate data collection.

290. The patient and family are greatly advantaged as the hospitalization period is reduced, family budgets are less strained and the child remains with the family. In addition, the risk of opportunistic infection is considerably reduced.

291. Furthermore, a higher quality of medical services provided by specialized professionals, and better social and educational assistance provided by qualified personnel with special skills in counselling and education (as a result of day-clinic activities), are all beneficial to both parents and children. The hospital is also at an advantage when patients are released after one day, as costs are reduced for beds, food, utilities and staffing. The day-clinic system also allows for better hospitalization-time management by monitoring patients within a computer database system, along with more efficient scheduling of patient's appointments.

292. Other projects coordinated by the Romanian Angel Appeal are also being run using the same infrastructure, for example, the Mobile Unit, Prevention of HIV Transmission from Mother to Child, Health Education for HIV-Positive Teenagers and Their Families, and the Project for Material Support to Families at Social Risk.

293. Trained staff in the clinics perform educational assessments and constantly record medical and psychological evaluation forms. A coherent data-collection system, based on a two-module database and an internet-based communication network, provides quantitative information on the services that improves the monitoring of outcomes and simplifies the case management of clinic services.

5. Sustainability

294. The day clinics emerged from the fact that HIV-infected people needed more than therapy and medical care. The target beneficiaries are mainly HIV-infected children living in families. The features and usefulness of this type of care are directly linked to the accessibility and large number of services provided to a beneficiary in one visit. Most of the children are from economically poor families and this one-day residential care was the most efficient way to provide complex care and respond to their needs.

295. This concept of one-day hospitalization care is widely known and applied in Western European countries ("day care", "day clinic", "hôpital de jour"). This model of care entails providing medical care in non-residential conditions, allowing the patient to stay with his or her family as much as the medical condition allows. In nine years, eight day clinics have been started in areas with high HIV incidence: Bacău, Braşov, Bucureşti, Constanţa, Craiova, Galaţi, Giurgiu and Petroşani. Gradually, the multidisciplinary services started by RAA have been taken over and integrated within the structure of the hospitals in which they are located, thereby becoming financially sustainable for the years ahead.

296. Forming multidisciplinary teams made up of doctors, nurses, social workers, and psychologists for service delivery became effective through both training and team-building. This enhanced working relationships, capacity-building and awareness creation on HIV-infection cultural beliefs and attitudes in

care delivery. This was aimed at ensuring community ownership by making sure that the skills necessary for dealing with the disease were available locally.

6. Principles

297. The following are the principles that emerged from the initiative:

(a) Participation of the beneficiary groups: the parents and relatives of the children cooperated and were helped to accept their children's condition and to seek medication for them; also, each activity within the day clinics was oriented towards the real needs of the beneficiaries;

(b) Partnership: the roles and responsibilities of the partners were clearly spelled out in the partnership agreement, which led to the institutionalization of the partnership;

(c) Affordability: the initiative provided access to affordable health services for all, regardless of their economic or social status, in an integrated approach.

7. Policies

298. The existing pragmatic and conducive policy environment incorporated the day clinics into the mainstream medical service. The activities of the day clinics were designed and oriented towards meeting the needs of the target beneficiaries. This model of care for beneficiaries and professionals has resulted in a significantly enhanced quality of life for both infected children and affected families, and higher-quality medical services.

299. The initiative devised policies oriented towards better and transparent management of cases on hospital premises and a better response to the children's needs. This has resulted in affordable health care services for the poor.

8. Innovations and replicability

300. Innovations introduced in the initiative entailed the creation of a multidisciplinary approach which combines medical services with social, psychological and educational ones: the "Sunflower Smile" day clinics. This approach revolutionized the assistance system for the HIV-positive child. There are also benefits for hospitals using the lessons learnt in this practice: costs are reduced for beds, food, utilities and staffing. The day-clinic system also allows better hospitalization time management.

301. Aspects of projects that are replicable elsewhere include the coordination of similar projects in Romania by RAA using the same infrastructure, e.g., the Mobile Unit, Prevention of HIV Transmission from Mother to Child, Health Education for HIV Positive Teenagers and Their Families, and the Project for Material Support to Families at Social Risk. A "Practical Guide for Sunflower Day Clinics" was issued at the end of 2001, and suggested that day clinics are a model of success worthy of replication in national or other settings. A Romanian and an English version of the guide are provided as resources on the RAA website.

9. Success and failure factors

302. The success of this initiative was attributable to the following factors:

- (a) A well-defined and inclusive partnership arrangement;
- (b) Institutionalization of partnership between local and central government;
- (c) Establishment of a systematic monitoring system;
- (d) Exclusive focus on addressing the needs of the target population;
- (e) Integration of day clinics into the medical service scheme.

10. Project financing

303. The initiative enjoys strong financial and technical support from the partners. During the first year of the project, 2001, RAA funded 53 per cent of the total cost of the project, \$357,153, while the other 10 partners each contributed 5.86 per cent of the total costs.

304. In 2002 and 2003, the RAA contribution dropped dramatically to 16.6 per cent (\$83,587) and 1.13 per cent (\$2,411). The funding of the other 10 partners, on the other hand, rose substantially in 2002 and 2003 from to 4 per cent to 10.98 per cent. The project costs amounted to \$501,722 in 2002 and \$213,392 in 2003. The increase in funding from the other partners assisted RAA in embarking on similar services in many cities in Romania and to consolidate its efforts.

305. The financing partnerships adopted by this initiative were key to its financial sustainability.

VI. Energy

A. Electricity to pavement dwellers in Mumbai, India

Sector: Energy

Region: Asia

Source: University College London Development Planning Unit/Society for the Promotion of Area Resource Centres Working Paper No. 97

Year of submission: 1999

1. Background information

306. An estimated 65 per cent of Mumbai is covered with slums, accommodating 62 per cent of the population. Pavement dwellers are people who have erected their homes along the pavements. Pavement dwellers are amongst the poorest income groups in urban India. In addition to the pavement-dwelling population of Mumbai, it is estimated that over half of the greater Mumbai population lives in slums where land is illegally settled and where the level of access to and provision of services is extremely low. The provision of services to the pavement dwellers of Mumbai only began as late as 1995. In regards to the provision of electricity, pavement dwellers were unable to gain access from the Bombay Electric Supply and Transport Undertaking (BEST), the company mandated with the responsibility of providing electricity. The only means of access to an electrical supply for pavement dwellers was through illegal connections via middlemen who exploited the poor. It was in the context of the need for legal, reliable and cheap electricity, coupled with a changing government stance towards the pavement dwellers of Mumbai, that in 1995 Mahila Milan (Women Together) and the National Slum Dwellers Federation (NSDF), among others, started an initiative to obtain electricity for the pavement dwellers of Byculla in central Mumbai.

307. The objectives of the project included:

(a) Securing an official, reliable, cheap and safe supply of electricity from BEST to the homes of pavement dwellers in the Byculla area of central Mumbai;

(b) Setting a precedent so that pavement dwellers throughout the city could approach BEST for electricity and lobby other service providers for amenities.

2. Building partnerships

308. This initiative was undertaken in partnership. It involved six main stakeholder groups, the pavement dwellers, the BEST, SPARC, NSDF, Mahila Milan and Sadak Chaap, a non-governmental organization for street children.

3. Implementation

309. In 1995, upon the demolition of several pavement dwellings in the Byculla area, the women of Mahila Milan held a number of meetings where the issues of electricity supply and costs were raised for the first time. Initially, these women exchanged stories of how they obtained electricity and at what price.

310. Through their meetings, the women of Mahila Milan began to realize the extent to which they were being exploited and to discuss ways in which the situation could be resolved. Faced with the conclusion that only BEST could provide them with the legal electricity supply they wanted, the women had little hope that their request would be granted and it took them over two months and a number of meetings to agree to try and obtain BEST connections.

311. The first meeting was arranged with the general manager of BEST, with representatives from SPARC and the president of NSDF explaining the position of Mumbai's pavement dwellers with regard to the 1995 Slum Act, and requesting that the pavement dwellers of Byculla be granted access to electricity. Mahila Milan, together with NSDF members and pavement dwellers, negotiated with BEST officials for the provision of legal electricity connections to pavement dwellers.

312. Maps and drawings of the pavement communities, previously made during a community survey of the area, were also shown to officials to enable them to understand the layout of the settlements. The illegal electricity connections were also shown. However, the visiting officials immediately declared that the houses could not be provided with electricity owing to the flammability of some of the materials making up the walls and ceilings of the pavement shacks.

313. During that time, much energy went into negotiations, with BEST, the pavement dwellers and their representatives all bringing their skills, information and knowledge to the process. In addition, the concerns of BEST that the pavement dwellings might be demolished and their cables lost were allayed by a government letter declaring that the pavement dwellings of Byculla would not be demolished for at least one and half years owing to provisions made under the 1995 changes in legislation.

314. For the corporation this issue was sensitive, because any supply of electricity to pavement families could be used as a precedent, leading to demands by pavement dwellers for water and sanitation. The undertaking also stipulated that the supply would be given only for as long as no demolition was planned, and also that SPARC would obtain the necessary permission. Finally, SPARC also gave an indemnity bond declaring that it had no objection to disconnecting the supply and removing the meters if the corporation raised any objections, even if there were no violations of the Electricity Act and Rules. In this way BEST became satisfied that its supply of electricity to the pavement dwellers would neither place the company in breach of its own rules, nor be seen to symbolize de facto security of land tenure for pavement dwellers.

315. Finally, the work of installing the electricity connections began, though at first BEST agreed to provide electricity to just one area, as long as certain key conditions were met. This pilot area involved the pavement shacks in the immediate vicinity of the SPARC Byculla Area Resource Centre, and Mahila Milan called its residents to a meeting where the pavement families were told what would happen and how much it would cost them. A key BEST condition was that all flammable plastic be removed from the house structures and replaced with tin, wood or concrete. This was because the implementers' safety was their primary concern, and this resulted in the installation of earth-leakage circuit breakers to prevent electric shocks or fires. Cabinets also had to be built by the residents and approved by BEST as being suitable for the installation of meters and mains wiring. In addition, the idea of communal electricity meters (with one meter per 15 households) was proposed. This represented a shift from the traditional individual household ownership of meters. Also of concern was the name in which the meters (and therefore the bills) would be registered. BEST officials felt that since Mahila Milan was not a registered organization, the name of SPARC should be used and it was resolved that all bills would be sent to SPARC, though they would be paid by the pavement dwellers.

316. As the work progressed, and the electrification widened from the initial pilot area to encompass a total of three streets in the Byculla area, the resistance of the BEST field workers slowly broke down. Contributing to this was the work undertaken by a number of young members of Sadak Chaap who were living in the SPARC Byculla Area Resource Centre as street children. These youths became involved in the project when the licensed electrician undertaking much of the external wiring required additional help. Having already proved themselves capable of fixing and changing wiring at the Resource Centre, it was resolved that the licensed electrician should provide them with training so that they could install the internal wiring in the pavement shacks to a sufficiently high standard to be approved by BEST. As such, the cost of providing the internal electricity connections has been estimated to be 40 per cent cheaper than if licensed electricians had undertaken the work, and the very act of wiring the pavement shacks provided the training experience needed by the young men. Indeed, since their work in the Byculla area, these young men have gone on to work as electricians on other SPARC projects in Mumbai and other cities in India.

4. Impact

317. With the first houses receiving BEST electricity in mid 1997, currently around 125 shacks in the Byculla area are connected, and this number continues to increase. Although the process of obtaining the electricity proved to be long and complex, the establishment of a precedent and a procedure through which

pavement dwellers can now apply for electricity should ensure that future connections may be obtained more quickly. Indeed, the Mahila Milan Electricity Committee is regularly approached by other pavement communities asking for advice on how to approach BEST. Other pavement settlements have come to know that they too can obtain electricity.

318. In addition, BEST policy has changed as a result of the initiative, recognizing the entitlement of pavement dwellers to electricity and thereby ensuring that other pavement communities will not have to enter into a drawn-out negotiation process. However, in order to receive electricity, pavement dwellers not only have to reduce the flammability of their houses, but must also approach BEST as an organized group rather than on an individual basis.

5. Sustainability

319. The issue of electricity supply to the pavement dwellers of Mumbai was raised by the residents themselves. The women of Mahila Milan held several meetings with service providers to negotiate for the legal provision of electricity to pavement dwellers. This was further prompted by the realization of the extent to which they were being exploited through illegal connections. They therefore presented a request to BEST to provide them with a legal electricity supply. These efforts have led to ownership of the initiative by the communities. Furthermore, decisions regarding electricity supply are made through consultation with communities.

320. The sustainability of the initiative was also assured through legislation in 1995. Worth noting are the concerns of BEST that the pavement dwellings might be demolished and their cables lost. These concerns were allayed by the government letter declaring that the pavement dwellings of Byculla would not be demolished for at least one and a half years owing to provisions made under the 1995 changes in legislation.

321. The involvement of the local youths in the project also reduced the cost of implementation. These youths became involved in the project when the licensed electrician undertaking much of the wiring needed additional assistance. This led to a reduction in the cost of providing internal electricity connections. The youths acquired skills through training and became electricians capable of undertaking any electrical work in the area and beyond.

322. In addition, the sustainability of the initiative is epitomized by its community financing. It is worth noting that, under the electricity initiative, most of the expenses in installing connections were borne by the pavement dwellers themselves. Also, a saving scheme was established in the area with pavement dwellers saving a certain amount per day to ensure availability of financial resources for emergency expenses.

6. Principles

323. The initiative was undertaken through partnership between various stakeholders. The roles and responsibilities were distinct but complementary. The initiative involved six key stakeholder groups. These were the pavement dwellers, BEST, SPARC, NSDF, Mahila Milan and Sadak Chaap.

324. The communities identified their own problems and set their priorities and strategies for achieving their objectives. Fundamentally, women were in the forefront in championing the campaign for the legal provision of electricity services to pavement dwellers after the realization that accessing electricity through illegal connections facilitated by middlemen made them vulnerable to exploitation. This epitomized the very essential principle of community participation and empowerment.

325. The initiative led to access to energy services at affordable prices by seeking legal connections. This move curbed the instances of exploitation of pavement dwellers by middlemen who provided illegal electricity connections at escalated costs.

326. In addition, the pressure exerted by the initiative led to substantial changes in the policies of an organization (BEST) known to be bureaucratic and corrupt. This led to a more transparent and effective provision of services.

327. The decision by BEST to provide legal electrical connections to pavement dwellers epitomized a noble move towards achieving social equity in the sense that even the poorest members of society can gain legal access to electrical services.

7. Policies

328. In 1995, there were changes in legislation aimed at prohibiting the demolition of pavement dwellings, hence allaying BEST's fears that in the event of demolition of the dwellings by the Government, their cables would be lost. This instilled confidence in the service provider to supply electricity to pavement dwellers.

329. In addition, BEST policy has changed as a result of the initiative, recognizing the entitlement of pavement dwellers to electricity and thereby ensuring that other pavement communities will not have to enter into drawn-out negotiation processes. However, in order to receive electricity, pavement dwellers not only have to reduce the flammability of their houses, but must also approach BEST as an organized group, rather than on an individual and ad hoc basis.

330. The efforts that led to the amendment of the Slum Act to allow for the establishment of a Slum Rehabilitation Authority to formulate a scheme to rehouse slum dwellers, was a significant step towards ensuring the provision of services to slum dwellers. In addition to considering the rights of slum dwellers, the Authority also ruled that pavement dwellers were also entitled to rehousing. Slum dwellers were subsequently granted the right to rehousing in free housing in the same location (subject to the land not being needed for public use), while the Authority ruled that the rehabilitation of pavement dwellers must be through their resettlement on other sites. This must be coupled with the provision of basic services. Thus, for the first time in the city's history, in 1995 some protection was given to the poorest section of its population, and to date no other state in India has such a progressive policy toward pavement dwellers.

8. Innovations and replicability

331. The supply of BEST electricity to the pavement dwellers of Byculla in 1997 set a precedent in Mumbai, demonstrating that pavement dwellers could obtain legal electricity connections and also generating the hope that they could progress to gaining access to other essential municipal services. The lessons learned during this experience are now being disseminated by SPARC, NSDF and Mahila Milan through their networks of contacts with other pavement communities, slums and non-governmental organizations, both in India and abroad. These networks are well established and are regarded by SPARC, Mahila Milan and NSDF as essential if pavement dwellers outside the Byculla area are to obtain access to electricity and other basic services. However, the factors that led to the success of the initiative in Byculla cannot be simply replicated elsewhere. The skills of the core team of Mahila Milan women and others ensured the success of negotiations with BEST, while the role played by SPARC was essential to winning the support of BEST and to resolving the technical and administrative problems which arose.

332. Nevertheless, the Byculla experience can be used as an important precedent to show other pavement communities and electricity suppliers how the Byculla pavement dwellers achieved their goal.

9. Success and failure factors

333. The success of the initiative essentially drew from the following:

(a) The determination by the pavement dwellers to obtain legal electricity connections, as exemplified by the skills that were possessed by the core team of Mahila Milan women and other actors who ensured the success of negotiations with BEST;

(b) The strong and well-coordinated partnership and networks: the roles played by various stakeholders, such as SPARC, led to the resolution of the technical and administrative problems which arose; consequently, the success of the electrification of the pavement dwellings of Byculla hinged on the particular combination of institutions, people and circumstances in Mumbai at that time;

(c) The changes in legislation through the amendment of the Slum Act to allow for the setting up of a Slum Rehabilitation Authority to formulate a scheme to rehouse slum dwellers was a significant step towards ensuring the provision of services to slum dwellers;

(d) The Government's declaration that it would not demolish Byculla pavement dwellings instilled confidence in BEST to provide electricity supply to the pavement dwellers.

334. Indeed, in assessing the impact of information, communication and the learning process on the outcome of the electricity initiative, it can be clearly seen that the way in which the stakeholders interacted and developed mutual understanding and respect was key to the success of the scheme.

10. Project financing

335. Under the electricity initiative, most of the expenses of installing connections were borne by the pavement dwellers themselves. For the building of shared meter cabinets, and purchase of cables and safe building materials, each family was asked to pay 1,000 rupees (\$24), and for the internal wiring in the house another 500 rupees (\$12) was requested by the Mahila Milan Committee. Indeed, for the internal wiring, cheaper cables could have been purchased but it was decided that, for safety reasons, the more expensive option should be bought. To pay these costs, the Mahila Milan savings and credit scheme was employed. This scheme was already well established in the area, with pavement households saving small amounts of money, ranging from 10 rupees (\$0.24) to 100 rupees (\$2.40) per day, and with loans also available to cover emergency expenses or to finance income-generation initiatives. Thus, with the prospect of receiving BEST supplies, the Mahila Milan Committee set about using its existing disciplined saving regime to put aside extra money for forthcoming connections. In addition, Mahila Milan also began to register the electrical goods possessed by each pavement household and, depending on the estimated amount of electricity that each would consume, 100 (\$2.40) to 150 (\$3.60) rupees were collected per month from each household. At the time of writing, the first electricity bill had not yet arrived, but it is expected that the cost will be considerably lower than the sum previously paid for illegal connections, and also lower than the sum currently put in each month to Mahila Milan.

VII. Public safety

A. Community watch group against domestic and gender violence, Cebu City, Philippines

Sector: Public safety
Region: Asia
Source: UN-Habitat Best Practices Database
Year of Submission: 2002

1. Background information

336. Cebu City covers an area of 329 km² and has a population of 610,417. It is the regional capital of Central Visayas and lies in the heart of the Philippine Archipelago, some 568 km south of Manila. Bantay Banay, (Family Watch Group) a family/community non-governmental organization against domestic and gender violence, was organized on 31 January 1992 in Cebu City by participants in a forum where a representative of the Lihok Pilipina Foundation stated that 6 out of 10 women are battered by their partners. The initial effort was to work with each other in order to respond to the cases of domestic violence and help minimize the reality that their homes have become the most dangerous places for many of our women and children.

337. The participants in the forum constantly met to share and refer cases, thrash out concerns, review directions and identify joint activities. Member services included temporary shelter, food, medico-legal check-ups, legal assistance and livelihood referral. The initiative offered training on gender sensitivity, legislation and legal processes, crisis intervention and mediation. In addition, it aimed at networking and advocacy with government agencies and groups for policy and resources allocation.

338. The general initiative envisaged a society that is fair, equal and violence-free for all women, children, youth and men alike. The specific objectives of the initiative include the following:

- (a) Improving the lives of women, children and families in general through direct response to cases of violence in families and communities;
- (b) Mainstreaming domestic violence policy and governance issues;

(c) Creating public awareness on gender-related issues and influencing policies and resource allocation in various spheres, such as the Government, social development and private groups.

339. The project was initiated by a community-based organization.

2. Building partnerships

340. Partners included the local authority (Cebu City Council), Bantay Banay, the United Nations Children's Fund (UNICEF), the private sector and community groups (victims and volunteers).

3. Implementation process

341. During the initial stages of the initiative, it did not have personnel equipped with the necessary skills in crisis intervention nor did it have the funds to respond to what was recognized as a complex and multidimensional issue. In a bid to acquire skills and knowledge in respect of violence against women and in the area of counselling, the organization sought support from the Women's Crisis Center in Manila for orientation in the field. Skills were ultimately shared with communities and partners in the initiative. This was done mainly through workshops. The major areas of concern and emphasis included gender violence, legislation and legal processes, among other things.

342. These efforts led to more consciousness among women about their rights. However, the major setback of this was reflected in instances where women became violent after acquiring knowledge regarding their rights. It was realized that the responsibility aspect of these rights was not adequately disseminated amongst the target population. The programme also met resistance from males, mainly due to their non-involvement. In a bid to resolve this, efforts were made to include men in the sensitivity training programme. Awareness was created among community members on ways to avert incidences of violence. In addition, tips were given on how to react in events where one was confronted with an act of violence. The victims were told to seek help in such circumstances and community members were encouraged to afford assistance to the victims.

343. A provident fund was established with the aim of providing aid to victims. Assistance included: food, legal aid and transport, among other things. Efforts were made towards ensuring that the children of victims were taken care of adequately. The most immediate types of assistance required included food, shelter and caring for victims' children. In an effort to ensure that the police, who are principally charged with providing security, appreciated the importance of stamping out gender-based violence in the community, a training programme was developed aimed at training them on gender sensitivity. As 10 teams of police stations underwent the training, it was further extended to hospital medical staff, and barangay (local government district) captains. This extension of training was because of the central role which these people play in society, particularly in relation to violent situations. More specifically, medical staff treat victims of violence, while barangay captains provide legal redress in conflict situations. Ultimately, the training programme was extended to rehabilitation centres, lawyers, court personnel and teachers, among others.

344. The Inter-agency Council met regularly to discuss cases referred to the groups. They also agreed to have a common intake form and to have a summary of cases handled for each period. Many challenges among the agencies were also discussed. Agencies were made to share their tasks and mandates, their field of intervention, their capacities and problem areas. Topics were identified and agencies that had expertise provided the input. Policy problems were also identified so that the group could undertake joint advocacy.

345. For Cebu City, this joint advocacy resulted in the creation of the Women's Commission and the adaptation of the Gender and Development Code, as well as budget allocation for gender concerns by barangay local government units. Some referral procedures were shared for training and mobilization purposes. At barangay level, community volunteers respond to cases and take care of referrals. These volunteers also mediate among parties, identify issues, needs, activities and make requests to other city agencies for input and resources.

346. At city level, the Interagency Council initiates joint policy advocacy activities. Specific referrals are made directly among the partners.

4. Impact

347. The direct impacts of this initiative are manifested in the following.

(a) Level of community involvement: in Cebu City, 50 out of 80 barangays have their own Bantay Banay volunteers who respond to cases, and refer to the barangay and other agencies. There are also sectoral groups which now refer cases of their own members – labour, media, non-governmental organizations, academic organizations, urban poor and others. There are always more cases being reported. Most significantly, the frequency with which cases of violence are being reported, particularly among women, has increased. Women’s rights as part of human rights are now also being felt. A number of community groups have become familiar with court processes and the five pillars of justice.

(b) Inter-agency collaboration: the Inter-agency Council meets regularly. These meetings are aimed at giving feedback, threshing out referral problems, summarizing the number of cases handled, agreeing on common policy advocacy and joint information activities, sharing tools and modules and continuing to learn together. Worthy of note is the fact that no other group in the Philippines has shown such an extensive example of a concrete and workable inter-agency collaboration mechanism. This collaboration is now happening in so many places and among groups which some years ago (especially during martial law) were totally opposed to each other. The police, prison representatives, non-governmental organizations, people’s organizations, courts, welfare agencies, health groups and religious groups are voluntarily making conscious efforts to deal with the issue at hand. This concrete collaboration has improved the institutional capacity of many partners.

(c) Hospitals have made rooms available for abused women and children: these include the Pink Room in Vaccinate Sotto Memorial Hospital and the Violet Ribbon in Cebu City Hospital. In addition, many municipal health doctors are also active in the Bantay Banay Council.

(d) The Department of Interior and Local Government (DILG) has been providing training funds for the sensitivity training of barangays and police in many areas. It also monitors the implementation of the gender and development budget policy by the local government units. The DILG secretary passed a memo urging local government units and regional DILG offices to create committees on decorum and investigation to implement anti-sexual-harassment policy.

(e) The Philippines National Police Women’s Desks are now familiar mechanisms in many local government units.

(f) Many courts are now becoming more familiar with the mobilization of women during trials regarding rape and other abuse towards women.

(g) The Anti-Domestic-Violence Bill, which was stalled during the Estrada impeachment trials, is now labelled as an urgent bill. Many groups from all over the country have already sent petitions for this Bill to be passed.

(h) Mainstreaming violence against women as an issue of governance: many of the barangay captains and their councils have been responding to cases with more sensitivity. A number of line agencies have provided their own funds. In Cebu City, for example, 79 out of 80 barangays have made budgetary allocations for gender concerns. The Philippines National Police has allocated funding towards training police personnel. DILG provided funds for training and undertakes monitoring in the implementation of the Gender and Development Fund. The City government has provided funds for initial organizing and for the Bantay Banay Center. It has passed a Gender and Development (GAD) Code with a promise to fund the activities proposed to implement it. It has also initiated a programme for free legal assistance to victims of abuse. In other cities, local government units have adopted the Bantay Banay as a programme, incorporated anti-violence against women in their programmes and implemented their GAD Budget. The demand for the implementation of the Gender and Development Budget has enabled many local government units to review their powers under the Local Government Code in relation to the national budget.

(i) Domestic violence and violence against women is no longer a private issue, but a public and governance issue. Bantay Banay has enabled a private issue to become a public issue which is recognized by many line agencies and has been acknowledged by many local government units in the country. Battering and child abuse is openly referred to and discussed.

5. Sustainability

348. The project derives its sustainability from its ability to mainstream issues of domestic violence within broader governance issues. In addition, it is no longer project-based as it enables groups and local government units to incorporate the issue into their own programmes, hence ensuring ownership of the endeavour by various groups and individuals.

349. The programme also enjoys strong financial support from the Government, the private sector and other agencies. Policies and institutional frameworks have been designed to support the project.

6. Principles

350. The participation of beneficiary groups and affirmative action are evident in the practice. The initiative applied the fundamental principles of partnerships. The partnerships and relevant institutions were task-oriented and well coordinated. Community participation was particularly reinforced by training programmes designed to create awareness around gender sensitivity and social equity.

351. The programme aimed to mainstream gender-based violence into effective governance. The initiative was financially viable and had central government and local government support. Safety and security services were more accessible and affordable to the victims of gender-based violence. In addition, security services were essentially decentralized as a result of the programme.

7. Policies

352. In a bid to address instances of violence, various legal, institutional and administrative frameworks were put in place to ensure that the various institutions responsible for the safety of all accessed these services. In addition, various reforms were initiated in various institutions with the aim of reducing legal and administrative barriers, as well as barriers associated with stigmatization, to access to safety services, particularly for women.

8. Innovations and replicability

353. Bantay Banay started in Cebu City. It has been replicated in over 60 cities and municipalities. The initiators have learned a lot from those who have replicated it. Brochures on the programme have been developed and information is being shared with others interested in the initiative. Training programmes are being undertaken with the objective of enabling others to learn more about the programme.

9. Success and failure factors

354. The factors that led to the success of the initiative include the following:

(a) The presence of strong, well-coordinated community-based groups: this led to continued pressure on the duty-bearers to enact and implement policies aimed at preventing gender-based violence;

(b) The community ownership aspect of the initiative: this not only contributed significantly to the success of the project, but also largely ensured its sustainability;

(c) A holistic approach to safety and security in the domestic sphere: this is exemplified by the efforts aimed not only at creating awareness on domestic violence as a vice, but also at influencing policies with the objective of ensuring that those in place enhance safety, even at local levels; also, the mainstreaming of domestic violence into governance issues was a fundamental approach that contributed to the success of the programme;

(d) A well-coordinated and task-oriented partnership approach;

(e) Supportive legal, institutional and administrative structures.

10. Project financing

355. The initiative was started without funds. In the initial stages it depended on battered credit users. In mid 1991, the initiative received 400,000 pesos from the Canadian International Development Agency's Women in Development (CIDA-WID) Programme, which was renewed for one more year. This was designed to survey, train community groups and undertake crisis intervention. In 1993, the initiative

received a multicab from the Countryside Development Fund for transportation of victims to court and for training.

356. In 1994, the Mayor of Cebu City granted funds to organize volunteers in more of the City's barangays. Funds were also allotted for the construction of the Bantay Banay Center. Between 1995 and 1997, the initiative received funding from Misereor amounting to ₱3,300,570 for the training of other partners. Between 1998 and 2000, Misereor gave additional funding of ₱4,728,000 for strengthening structures in the city and developing modules.

357. These financial arrangements worked as a result of support at local authority level. The funding was initially inadequate but was later increased.

B. Working in partnership for a safer community, Brent Council, London

Sector: Public safety

Region: Europe

Year of submission: 2002

Source: UN-Habitat Best Practices Database

1. Background information

358. Brent's crime prevention and community safety partnership brings together various public agencies to tackle crime and disorder. It recognizes that crime is so complex that no single agency can tackle it successfully alone.

359. The objectives and strategies of the initiative are encapsulated in Brent's 1999–2002 Crime and Disorder and Community Safety Partnership strategy document. The mission statement includes reference to community safety as being a basic human right and to making a safer community for everyone who lives, works, trades or travels in Brent.

360. The objectives of the initiative included:

- (a) Making Brent a safer community;
- (b) Improving people's quality of life.

361. The project is an initiative of Brent Council, a local authority.

2. Building partnerships

362. Brent Council recognizes that crime is so complex that no single agency can tackle it successfully alone. Brent Council believes that local authorities have a responsibility to citizens to make communities safer and this has led to the development of partnerships with the police, the health authority, the probation service, the fire service, non-governmental organizations and the private sector. The partnership's objective is to provide a clear strategy and action plan across agencies to reduce crime and promote a safer community. The partnership recognizes that bringing agencies together adds value and targets resources more effectively. The partnership has improved public policy by demonstrating action that works.

3. Implementation process

363. A clear written strategy for crime prevention, which was agreed upon by the various partner agencies that had different priorities and professional work cultures, was developed. In addition, clear objectives and targets were set and agreed upon.

364. The strategy was written by the Council's Head of Community Safety and agreed upon by all partner agencies after community consultation. The citywide strategy includes four approaches to tackling crime; a partnership strategy; single agency strategies; local neighbourhood strategies and community safety theme strategies (e.g., youth safety and elders' safety).

365. In addition, the initiative organized a structured framework for many community safety groups and forums throughout the borough. These forums consisted of various agency and community representatives meeting to develop action on various crime problems such as youth crime, burglary, domestic violence, racial harassment, local neighbourhood crime problems, and so on. Considerable effort was made to secure support from local politicians and other key stakeholders. Brent Council community safety team secured substantial external funds from the central Government to implement action by making professional, focused and realistic project bids. Questions on crime and community safety were added to opinion polls in Brent. Community safety repeatedly featured as the top concern for local residents. This involvement of the local people helped generate the required political support for the initiative. In addition, residents were involved in many projects with the Council and police, including neighbourhood pride clean-up campaigns, neighbourhood watch, youth action and drug prevention. An extensive crime audit was undertaken and published in 1999 and 2002 in which Brent's crime problems were identified and analysed.

366. The communities were involved in giving their views, which influenced the decisions of the crime prevention partnership. Tools used included GIS crime mapping; an innovative community CRIMEZONE website; a crime analysis methodology used by police and Council; a communications strategy with the public and professional agencies; best value performance indicators for burglary, robbery, and racial harassment; and benchmarking on crime rates with 11 other London boroughs similar to Brent.

4. Impact

367. Crime has reduced in Brent during the initiative. The 2002 Crime Audit showed that Brent had the third lowest crime rate of its 11 benchmark boroughs, the fourth lowest rate of street robbery, the third lowest rate of violent crime, and murders decreased from 20 to 6. Burglary was reduced by over 25 per cent in high-crime neighbourhoods where projects were implemented. Residents' quality of life improved. The needs of excluded and disadvantaged groups (e.g., young people and ethnic minorities) have been identified and addressed through active consultation.

368. There has been a very significant improvement in citywide coordination between partner agencies. Brent's crime prevention strategy has influenced local and regional policies, and also policies in cities in other countries. The United Kingdom Home Office wrote that Brent's voluntary crime prevention partnership was a forerunner of the 350 local authority/police statutory partnerships now provided for under the 1998 Crime and Disorder Act. The initiative has successfully influenced institutional change. Crime prevention and community safety are now clearly recognized as corporate responsibilities for all Brent Council directorates, as well as by the police and partner agencies.

369. The initiative has influenced institutional processes, as crime prevention and community safety are now firmly established as political priorities in the Brent Council Corporate Strategy Programme as key themes in regeneration and neighbourhood renewal, and in Brent's multi-agency Local Strategic Partnership. The initiative has significantly influenced the use and allocation of resources in agency budgets towards resources now being directed towards crime prevention and community safety.

5. Sustainability

370. Financial sustainability has been secured through ensuring that Brent Council provides an annual core budget specifically for community safety. In addition, all directorates include crime prevention finance in annual budgets. The police have seconded an inspector to the initiative and other agencies contribute resources in cash and kind as an integral and sustainable part of their commitment. Significant finance is now secured annually from government regeneration and crime reduction programmes. Crime prevention also has a cost-benefit aspect and is seen as a worthwhile investment.

371. In addition, the initiative ensures sustainability by securing ownership of crime prevention strategy and action from staff at all levels in partner agencies. Opportunities for staff to contribute ideas and action and regular training have contributed to ownership and sustainability. Also, the initiative actively involves the community and has developed local solutions to local neighbourhood crime problems in a bid to enhance sustainability.

372. Efforts have been targeted at gender equity (women's safety and domestic violence), equalities (racial harassment and crime against ethnic minorities), excluded young people, elders and unemployed. Brent is the most multicultural community in Europe, with over 50 per cent of its population of

252,246 being black or from ethnic minorities. Brent is recognized nationally for its respect and consideration for different cultures, behaviour patterns and heritage. Brent Council was recently nominated for a national award for race equality work, and the crime prevention initiatives were an important part of this. This included extensive multicultural community safety initiatives with Asian, Afro-Caribbean, Somali, Jewish, Irish and Eastern European communities, as well as other ethnic groups.

373. Brent's initiative also directly addresses environmental issues. Crime and fear of crime can arise from a neglected environment. Projects have therefore included sustainable action, such as removing abandoned vehicles, improving street lighting, crime prevention through environmental design, removing graffiti and neighbourhood pride clean-up campaigns.

6. Principles

374. The principles that can be drawn from the initiative include the following:

(a) Elaborate, well-coordinated and task-oriented partnerships, exemplified by the development of partnerships with the police, health authority, probation service, fire service, non-governmental organizations and private sector, aimed at providing a clear strategy and action plan across agencies to reduce crime and promote a safer community;

(b) Active and meaningful involvement of the beneficiaries in crime prevention endeavours;

(c) The centrality of the role of local authorities in crime prevention was illustrated by Brent Council's total commitment in initiating and ensuring community safety by committing financial and technical resources to the endeavour; it is also worth noting that the project was initiated by the Brent local authority and that later-developed partnerships aimed at intensifying the impact;

(d) Social equity and affirmative action was exemplified by the initiative's endeavour to ensure the safety of women and other socially excluded groups such as the elderly, children and minority groups;

(e) Environmental sustainability was demonstrated by the initiative's efforts to address quality-of-life and environmental issues directly and also by the initiation of projects for sustainable action such as removing abandoned vehicles, improving street lighting, crime prevention through environmental design, removing graffiti, and neighbourhood pride clean-up campaigns;

(f) Transparent and effective governance was illustrated by the development of a crime prevention strategy through a consultative process and the organization of a structured framework for the many community safety groups and forums throughout the borough.

7. Policies

375. The emerging policies from the initiative include the following:

(a) The central Government's budgetary allocation through an annual anti-crime budget of £250,000 and successful funding bids were made to various central government programmes for anti-racism, drugs prevention, closed-circuit television cameras (CCTV), youth crime prevention, burglary reduction, crime analysis and community empowerment projects;

(b) Reduced legal and administrative barriers to access to services, exemplified by the decentralization of crime prevention endeavours to community levels and the direct involvement of beneficiary groups in priority-setting and identification of objectives;

(c) Enhanced accessibility of security services by the poor, demonstrated by the initiative's efforts to reach the poor, minority groups and other socially excluded groups;

(d) Active private sector involvement through the provision of financial and technical support to the project.

8. Innovation and replicability

376. Brent Council's experience of leading a citywide crime prevention and community safety partnership has been shared regionally, nationally and internationally. A clear communication strategy of publicizing the initiative in local papers, television, the web and professional papers has disseminated the

practice widely. The Audit Commission is a key assessor of good practice in England and Wales and has featured Brent Council as an example of good practice on its website.

377. In addition, Brent Council's Head of Community Safety has been invited to speak at conferences and experts and practitioners' meetings in Johannesburg, Vancouver, Ottawa and European countries. Brent Council has hosted visits from senior local government officers and police from many cities abroad (including the Minister for Policing for Victoria, Australia, and senior government officers and police officials from the United States, Canada, Australia and New Zealand). Many of these practitioners have adopted elements of good practice from Brent, ranging from the emphasis on local solutions to local crime problems, community involvement, the importance of a clear written strategy and action plan, and the community CRIMEZONE website.

378. Brent, as part of an international network of good practice, is an active partner in European projects and learns considerably from other cities' experiences. Brent is currently adopting good practices learnt from the United States and Canada on promoting a greater police and community presence through police mountain-bike patrols and community police shops, as well as drawing on Dutch experience on city wardens. Brent is a true learning and sharing city.

9. Success and failure factors

379. The factors that led to the success of this initiative included the following:

- (a) The adoption of an elaborate, complementary and multi-agency partnership approach to crime prevention ensuring equal sharing of the success benefits by all the partners;
- (b) Meaningful and comprehensive consultation and proactive participation by beneficiary groups in identifying their community safety concerns and the explicit endeavour to incorporate the socially excluded and marginalized groups;
- (c) Reliance on accurate and up-to-date crime data and analysis mechanisms, and the development of a clear written strategy and action plan to prevent crime and promote community safety through a consultative process involving partners of different agencies, which enabled the measurement of objectives, accountability and sustainability;
- (d) Elaborate financial arrangement involving all the partners and the central Government through budgetary allocations and direct investment;
- (e) Commitment to learning and sharing experiences between the various partners and stakeholders.

10. Project financing

380. Political support was secured for an annual anti-crime budget of £250,000. Successful funding bids were made to various central government programmes for anti-racism, drugs prevention, CCTV, youth crime prevention, burglary reduction, crime analysis and community empowerment projects. It should be noted that Brent has secured considerable external funding from Government and the European Union. During the last four years, it obtained annual funding of between £50,000 and £450,000.

VIII. Education

A. Solidarity in Literacy Programme, Brazil

Sector: Education
Region: Latin America and the Caribbean
Source: UN-Habitat Best Practices Database
Year of submission: 2002

1. Background information

381. Brazil had a population of 170,406,000 with an urbanization rate of 81.2 per cent in 2000. According to the demographic census of the Brazilian Institute of Geography and Statistics, many municipalities have populations with illiteracy levels over 55 per cent. For this reason, the Solidarity in Literacy Programme was initiated in 1997 by the Solidarity Community Council in 38 Brazilian municipalities characterized by high illiteracy levels, particularly in the 15 and older age groups. This programme was aimed at addressing the illiteracy situation that characterized most of these municipalities.

382. The principal objectives of the Solidarity in Literacy Programme include:

- (a) Concentrating action in the regions with the highest illiteracy rates;
- (b) Prioritizing services to young people without excluding adults;
- (c) Ensuring continuity of education by both young people and adults after completing the programme.

383. The project is an initiative of a non-governmental organization.

2. Building partnerships

384. The Solidarity in Literacy Programme is based on partnerships between the federal Government, private organizations, universities, civil society and individuals.

3. Implementation process

385. This is a forum for the development of social actions based on partnerships between the federal Government, private organizations and civil society. The Programme is managed by a non-governmental organization; the Association for the Support of the Solidarity in Literacy Programme, and is coordinated by a team of around 200 consultants with its headquarters in Brasilia, the federal capital of Brazil.

386. The programme implementation process adopted the strategies outlined below:

- (a) National mobilization of the target groups with the objective of obtaining the views of the population as to the best models; this was also aimed at respecting diversity of opinion regarding concepts and models to be adopted;
- (b) The pilot description of the initial project was applied, evaluated and improved in order to ensure the achievement of the highest possible impact;
- (c) Identification of crucial partners and stakeholders in the project: the partners and stakeholders identified included the Government, private sector, universities and individuals;
- (d) Permanent evaluation, with university support, and observation of programme continuity and the future of ex-students assuring perpetual action;
- (e) Mobilization of youth literacy trainers from the municipalities in which they lived.

387. A direct project was developed with each mayor's office to enable students to continue with their education after leaving the programme. It focused on adding classrooms for youth and adult education; aiding in the construction of classrooms; and monitoring the financial flow from the National Fund for the Development of Education and the RESTART Programme in the Ministry of Education. By the end of 2001, 70 per cent of the municipalities served by the Programme had set up classes for education for young people and adults. Student enrolment numbers in these classes also increased by 114 per cent between 2000 and 2001 in the municipalities served by the Programme.

388. However, there was difficulty in identifying the illiterate in the larger context of the big cities. This occurred because people did not admit to not having had access to education. This was attributable to fear of discrimination and exclusion. A cultural project was developed to attract students with artistic and musical talents, and classrooms were established in locales where there was a search for literacy, such as neighbourhood associations, public schools, hospitals and prisons. This always occurred in partnership with neighbourhood and resident associations, non-governmental organizations, agencies and religious movements.

4. Impact

389. The Programme was widely discussed in partner universities, and this resulted in significant numbers of academic action plans towards solving the problem of illiteracy plaguing youth and adult education in Brazil. Specific subjects in the area were integrated into the curriculum. In addition, some specialization courses emerged, as did new theoretical and practical guidelines. A specific programme was created at federal level to finance services to students who had left the Solidarity in Literacy Programme to pursue formal education for young people and adults. In 2002, resources were invested in the programme through the RESTART Programme, in accordance with an agreement signed in December 2001. Resources were redistributed through the National Foundation for the Development of Education (FNDE) and 749 municipalities were served. At state level, a consciousness of the importance of combating illiteracy was created.

390. Today, seven state governments have adopted the Programme in their municipalities. In municipal administration, a greater consciousness of the importance of offering education to the local population has grown. Institutionalization of youth and adult education occurred in 71 per cent of the served municipalities from 2000 to the present.

391. The Programme has also led to an increase in schooling for the population as a whole: in particular, over 100,000 literacy trainers have qualified since its initiation. Notably, the majority have joined the formal education system. The number of children in school has grown noticeably and there has been a steady growth in the number of cooperatives.

392. The Programme currently operates in 2,010 municipalities and has also been established in seven metropolitan regions. By December 2001, 2,400,000 students had been part of the Programme and over 120,000 literacy trainers had qualified. In addition, the Programme has been active in Timor Leste since November 2000 and in Mozambique and São Tomé and Príncipe since October 2001: the impact of this Programme has indeed been felt beyond the borders of Brazil.

5. Sustainability

393. Simplicity in approach and elaborate partnership networks are the basis for the Programme's sustainability. The exchange of experience and the richness of the various methodologies implemented by the universities are also a way of guaranteeing sustainability.

394. In addition, the programme enjoys financial and technical support from the central Government, the private sector, the donor community, academic institutions and the communities. Also, it uses transparent and accountable financial management systems. Optimum utilization of the available resources was effected throughout the project.

6. Principles

395. The following are the principles that can be drawn from the initiative:

(a) Participation of the beneficiary groups: the target groups participated in the whole project process including planning, identification of priorities, development of objectives and implementation; in addition, the target groups mobilized the remaining members of the community to participate in the programme, a principle which was also illustrated by the wide use of literacy trainers and social mobilizers;

(b) Partnerships: partnerships were developed through a well-thought-out institutional structure with clear roles and responsibilities;

(c) Affordability: the Programme sought to achieve high literacy levels in the Brazilian community through the provision of low-cost, affordable education;

(d) Social equity and affirmative action were demonstrated by the Programme's focus on young people and adults.

7. Policies

396. The following are the policies that can be drawn from the initiative:

- (a) Reduced legal and administrative barriers: the Programme exemplified a departure from formal approaches to education and led to an increase in the level of enrolment in the literacy programme, particularly of the poor;
- (b) The approach fundamentally improved access to education for the poor;
- (c) The private sector has been greatly involved in the Programme, as indicated above in the section on partnership;
- (d) The State set aside financial resources aimed at financing the Programme, and a specific programme was indeed created at federal level in order to finance services to students who had left the Solidarity in Literacy Programme to pursue formal education for young people and adults; thus, in 2002, resources were invested through the RESTART Programme in accordance with an agreement signed in December 2001.

8. Innovations and replicability

397. The Programme model is simple, low-cost and easily replicable. This largely explains the reason for such fast growth in the numbers of municipalities involved, students enrolled and partnerships established. The Programme began in 38 municipalities and is today implemented in over 2,010 municipalities, approximately 45 per cent of the municipalities in Brazil. "Partnership Engineering" is the principal reason for the success of the Programme as it facilitates its replicability, transference and sustainability.

398. Interaction with the academic field has been fundamental to the success of instruction under the Programme, in the preparation of the training and qualification methods for the literacy trainers, in process evaluation and improvement, and, consequently, in replicating it. In addition to building knowledge of working in partnerships, the Programme accommodates the specific characteristics and cultures of each region. In this fashion, as much in Brazil as abroad, different projects can be developed: bilingual literacy in Portuguese and Tetum in Timor Leste, and literacy in Portuguese and the many other languages in the African countries. Thanks to partnerships with the higher learning institutions in particular, the Programme succeeded in taking its literacy model to three Portuguese-speaking countries: Timor Leste, São Tomé and Príncipe, and Mozambique. In 2002, the Programme was taken to Guinea-Bissau, Cape Verde and Angola. One point that deserves to be mentioned is that all the work executed by the higher learning institution partners is volunteer work. Many of these institutions even assume coordination of instruction for over 10 municipalities, at times in different states.

9. Success and failure factors

399. The factors that led to the success of the programme include the following:

- (a) The adoption of low-cost and simple models: the approach is simple to apply and indeed led to growth in the numbers of municipalities, students enrolled and partnerships established;
- (b) The stakeholders' total commitment to achieving a lasting solution to the illiteracy problem; this led to volunteer technical assistance from higher learning institutions, which were partners in the Programme;
- (c) The commitment of the target group towards guaranteeing continuity of education after the Solidarity in Literacy Programme;
- (d) Optimal utilization of resources.

10. Project financing

400. The initiative received financial support from the Government through the RESTART Programme. Finances were distributed via the National Foundation for the Development of Education (FNDE). The programme received funding from the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the private sector. Supplementary resources which funded the Emerging Action Project increased the number of classrooms for youth and adult education in 2000 and 2001.

401. This financial partnership, which included the central Government, the private sector and the local authorities, among other partners, was fundamental to the sustainability and success of the Programme.

IX. Transportation

A. Kuala Lumpur's Light Rail Transit (LRT) system, Malaysia

Sector:	Transportation
Region:	Asia
Source:	United Nations Institute for Training and Research International Training Centre for Local Actors (UNITAR/CIFAL), Kuala Lumpur
Date of Submission:	N/A

1. Background information

402. Malaysia is a land full of continual change and surprise. The development of its capital, Kuala Lumpur, has been adventurous, rapid and impressive. Malaysia has a population of 23 million, 50 per cent of whom live in urban areas. Malaysia has a three-tiered government: federal, state and local. Under the Constitution, land development is a State matter; however, the federal Government is empowered to enact uniform legislation on land applicable to the 11 states in Peninsular Malaysia and the Federal Territory of Kuala Lumpur. The capital city, Kuala Lumpur, sits in the centre of the Peninsula's extensive and modern transportation network and is the largest city in the country, with a population of 1.5 million drawn from all Malaysia's many ethnic groups. The nation is moving quickly from the industrial into the information age. With information communication technology as a catalyst for national development, the Government of Malaya has initiated the Multimedia Super Corridor (MSC) south of the capital. It comprises Cyberjaya, an "intelligent" city dedicated to multimedia companies; Putrajaya, the new federal administrative centre; and the Kuala Lumpur international airport at Sepang. MSC is supported by world-class physical and information infrastructure.

403. Given its low population density, remote residential areas and the Government's emphasis on promoting Proton, the national car, it is no surprise that Kuala Lumpur is one of the most car-dependent cities in the world. Public transportation in this city of nearly two million comprises only 20 per cent of total motorized travel, as compared to 62 per cent in Manila (population: 10.2 million) and 80 per cent in Hong Kong (population: 6.5 million). The end result: increased road congestion and street-level pollution.

404. The concept of automobile dependence, interpreted as a path-dependence phenomenon, informs this assessment of urban transport and structure trends in the Kuala Lumpur Metropolitan Area (KLMA). Automobile-dependent cities, where high private vehicle use is strongly entrenched, are contrasted with traffic-saturated cities, in which modest numbers of vehicles cause great problems for urban structures that are unsuited to them. Data from a recent international compilation is used to put the KLMA statistics into perspective. KLMA is found to be not yet very automobile dependent, but a number of strong trends are both encouraging and entrenching ever-higher private motor vehicle use. Agencies in KLMA are investing heavily in car-oriented mobility and building urban designs which are both hostile to non-car alternatives and yet have densities that may be incompatible with high car ownership and usage. These trends seem to run the risk of entrenching an intractable traffic crisis.

405. Congestion in cities such as Kuala Lumpur is a growing problem. However, new infrastructure for transport often gives rise to conflicts, such as how the cost of new services will be met by the public and how the demand for mobility can be reconciled with efforts to improve the social and environmental quality of life. Metropolitan development requires a mix of strategies involving better information and communication with the public, better design of projects to take social and environmental objectives into account and a more comprehensive approach to urban development.

406. To this end, the Government has taken steps to alleviate the escalating problem with the implementation of the Light Rail Transit system (LRT). The LRT system will form the central feature of an integrated transportation network, combining with feeder buses and commuter rail services to offer an efficient alternative to the current limitations of road travel.

2. Building partnerships

407. The initiative was implemented in a partnership between the Government and the private sector. A concession agreement was signed on 29th October 1996 between the Government of Malaysia and KL Monorail System SDN BHD (controlled by tycoon Vincent Tan of the diversified Berjaya Group), formerly known as KL PRT SDN BHD, to undertake the development, construction, management, operation and maintenance of this public transportation system from Jalan Tun Razak Bus Terminal to the KL Sentral transport hub and urban centre. In return, KL Monorail System SDN BHD will be allowed to retain all income collected from the provision of railway services and facilities for a period of 40 years.

3. Implementation Process

408. The total Kuala Lumpur LRT network is a multi-billion ringgit project that uses modern, electrically powered trains operating on double tracks to offer a reliable and comfortable alternative to buses, taxis and cars within Kuala Lumpur's urban area. The Kuala Lumpur LRT network is a closed system whereby a ticket is required to gain access to the platform and also to leave the station. The fare collection system uses plastic tickets with magnetically stored information. Both single and stored-value tickets are available at ticket booths at the stations. Tickets may be purchased from ticketing booths in the station concourses. Once in possession of a valid ticket, passengers may pass through an automatic barrier.

409. Route and fare maps are displayed at all stations. The stations have ticket vending machines and public telephones and are located near bus and taxi stands. For the handicapped, there are special lifts, ramps and seating spaces in the railcars, which are designed very much like metros elsewhere.

410. Trains leave approximately every three minutes during peak hours and about eight minutes apart during off-peak times. LRT is planned to be a part of Kuala Lumpur's Integrated Transit Network, of which the implementation of some elements has been delayed following the 1997 economic crisis.

411. The PUTRA-LRT network is 29 km long and comprises 24 stations. All of the first phase was built on elevated, single-track bridge sections, also used for 8.17 km of the 14.9 km second phase. The second phase features five underground stations; Masjid Jamek, Dang Wangi, Kg Baru, KLCC and Ampang Park; and one at-grade station, Sri Rampai. The 4.4 km underground section starts north of Pasar Seni station next to Central Market, follows the course of Sungai Kelang and resurfaces at the Damai portal, north of Jalan Ampang.

4. Impact

412. The Malaysian capital has a modern metro system, the Light Rail Transit system, or LRT. It connects key commercial and business districts. Although named LRT, it is a fully independent metro network.

413. There are three lines operated by different companies, STAR, PUTRA and PRT Monorail.

414. STAR (Sistem Transit Aliran Ringan SDN BHD) manages a 27-km track that comprises a north-south line and another running eastward. STAR began revenue service in 1996. The 25-station system is driver-operated and consists of the Ampang line and the Sri Petaling line. Of the 25-km route, 17.6 km are at grade, the remaining 9.6 km elevated.

415. STAR has two stations near several office towers before PWTC, a station which takes its name from the Putra World Trade Centre, where the Legend and Pan Pacific hotels are. In the south, the line connects Bukit Jalil, site of the National Sports Complex, and Seri Petaling. The eastward line goes to commercial and light industrial areas at Pudu and Chan Sow Lin.

416. PUTRA (Projek Usahasama Transit Ringan Automatik SDN BHD) runs a 29-km line that connects the city's north-eastern section to the west. The PUTRA LRT network has 24 stations (five underground, 18 elevated and one at grade) at 1.1-km intervals along its length. It was constructed in two sections, Lembah Subang to Pasar Seni/Central Market (14.1 km = 21 minutes), then Pasar Seni to Ampang Park and Terminal Putra in Gombak (14.9 km = 24 minutes). The system provides commuters with a fast and efficient route bypassing some of the most congested roads in the world. Total travel time en route is 45 minutes, at least an hour shorter than by car. When completed in 1999, the system was the longest fully automated, driverless metro system in the world. Each vehicle is powered by two linear-induction electric motors, which keeps noise levels to a minimum.

417. The PRT MONORAIL is a 1.18-billion ringgit monorail privatization project. The monorail itself is an inner-city public transit system that serves the central business, hotel and shopping district of Kuala Lumpur. The 8.6-km long, dual guideway, straddle-beam elevated monorail system begins at Pekeliling bus terminal in the north and passes through Kuala Lumpur's "Golden Triangle" before reaching KL Sentral in Brickfields. Fully elevated with 11 stations, the Kuala Lumpur monorail is capable of handling up to 20,000 passengers per hour in each direction, with as little as two minutes between trains.

418. KLIA Express and KLIA Transit are two types of express train operating from Kuala Lumpur International Airport and KL Sentral Station.

419. KLIA Express is designed with air travellers' needs in mind. The non-stop journey between KL Sentral and KL international airport takes only 28 minutes. KLIA Express departs from both terminals every 15 minutes, seven days a week. Special wheelchair seat compartments have been allocated on board for the disabled.

420. KLIA Transit is a rapid transit service designed especially for commuters and airport personnel. KLIA Transit started service in June 2002. It makes three quick intermediate stops at key townships, Bandar Tasik Selatan, Putrajaya and Cyberjaya, and Salak Tinggi. KLIA Transit departs every half hour from KL Sentral and KLIA terminals.

421. KL Sentral Station is a transportation hub for Kuala Lumpur's integrated rail transportation system. It offers transportation to all residential, commercial and industrial areas. It enables Malaysians to reach all corners of the world via the unique link between the station and the Kuala Lumpur International Airport. Four rail services – KTM Komuter, KTM Intercity, PUTRA-LRT and PRT Monorail – are serviced by Stesen Sentral Kuala Lumpur.

422. Stesen Sentral Kuala Lumpur was one of the key areas developed by Kuala Lumpur Sentral SDN BHD in the first phase of development within the Kuala Lumpur Sentral district. Other key areas developed in phase one include the Integrated Retail Centre; Plaza Sentral; Suasana Sentral; hotels; and office suites. These developments were expected to be completed by 2004. Phase two was set to commence in 2005 and be completed in 2010. This would incorporate Arena Sentral and additional office and residential lots.

423. Construction work for Stesen Sentral Kuala Lumpur was completed on schedule. The station has 28 tracks and 12 platforms, which will enable it to accommodate a projected 50 million passengers a year by 2010. Built on a 72-acre marshalling yard in Brickfields, this 713 million ringgit project and its related infrastructure have changed the landscape and lifestyle of the area. The project was developed by Kuala Lumpur Sentral SDN BHD, a consortium owned and led by the Malaysian Resources Corporation BHD (MRCB). With the completion of this station hub, Semasa Sentral SDN BHD was awarded a 15-year concession by the Government. The consortium partners KTMB (Malaysian Railway) manage Stesen Sentral Kuala Lumpur.

5. Sustainability

424. The sustainability of the project can be assessed based on the following factors:

- (a) Well-funded and strong financial base: the Government and the private sector have committed resources towards the project;
- (b) Well-coordinated partnerships between the private sector and the Government;
- (c) Efficient, accountable and transparent management systems, exemplified by the use of contracts and signing of concessions between partners;
- (d) The project has greatly enhanced access to transportation services.

6. Principles

425. The following are the principles that can be drawn from the initiative:

- (a) Partnerships: the project is a partnership between the Government and the private sector;
- (b) Social inclusion, demonstrated by the initiative's endeavour to provide special lifts, ramps and seating spaces in rail cars;

(c) Transparent and effective governance, demonstrated by the management systems adopted for the project, including the use of concessions and contracts.

7. Policies

426. The following are the policies that can be drawn from the project:

(a) Private sector involvement and commercialization of transport services: the cost of construction was privately financed through a build, own and operate concession, ensuring effective management of the project;

(b) The initiative was heavily funded by the central Government through budgetary allocations: it should be noted that when work on the project was interrupted by the economic crisis in 1998, construction resumed in July 1999 after the Government injected 300 million ringgit into the project in the form of a soft loan and, since then, construction work on the guideway columns and stations has been progressing rapidly at several locations in the city centre.

8. Innovations and replicability

427. The company employed many innovative techniques, while remaining in keeping with local tradition, achieved several firsts for construction in Malaysia. The use of glued segmental viaducts for much of the elevated section was one of the most successful aspects. These segments were erected by a 101-metre-long overhead launching gantry which operated independently of the ground and became a familiar sight when driving around Kuala Lumpur. This technique minimized disruption to traffic flow and allowed construction over mixed terrain, including existing railway lines, rivers and areas with restricted access at ground level. Another unique structure was the east-west link, which crosses a push-launched steel truss bridge with spans of 94 m and 102 m, constructed over a six-lane highway with minimal interruption to traffic flow below.

428. The system underwent a period of intense testing and trial running and a full team of staff was recruited and trained before being handed over to STAR ahead of schedule. LRT formed the main public transport link during the Commonwealth Games in 1998, carrying 70 per cent of all visitors to the stadiums, which proved to be an early test with successful results.

9. Success and failure factors

429. The following are the factors that led to the success of the project:

(a) The Government's continued commitment in funding and even implementing the project;

(b) The strong partnership between the Government and the private sector in the implementation of the initiative;

(c) The initiative's adoption of an integrated approach to transportation;

(d) The employment of many innovative techniques, while remaining in keeping with local tradition: the use of glued segmental viaducts for much of the elevated section was one of the most successful aspects, and the technique minimized disruption to traffic flow and allowed construction over mixed terrain, including existing railway lines, rivers and areas with restricted access at ground level;

(e) The degree of consultation of the potential users was not sufficient, however: the system is not used to its full capacity and traffic congestion remains.

10. Project financing

430. The LRT network was built well within the budgeted cost of 3.5 billion ringgit (\$920 million). In 1990, the companies Taylor Woodrow and Adtranz formed a consortium to promote the project. Led by Taylor Woodrow, the consortium developed the system through to an operational concept and formed the operating company STAR. In December 1992, the Government signed a 30-year franchise authorizing STAR to build, own and operate the system. The 27-km route begins with phase 1, linking the central business district with the eastern suburbs. Much of the line follows the route of abandoned State Railway corridors, rising onto an elevated viaduct as it enters the city centre. Phase 2 consists of a southern link to the Commonwealth Games Village and a northern extension of the city centre viaduct. Journey times from

the outer suburbs to the city centre take less than 20 minutes, and with no traffic, except that seen through the window.

431. The cost of construction was privately financed through a build, own and operate concession and consisted of 24 per cent equity, 60 per cent commercial loans and 16 per cent government loans. Malaysian companies represent 55 per cent of the investors, with the remainder made up of international companies, including a 30 per cent share held by the consortium.

432. Taylor Woodrow undertook all building and civil construction, including track works. Adtranz undertook all electromechanical works and the supply of rolling stock. The system design concept and route layout were devised by Taylor Woodrow during the promotional phase, and developed during the detailed design and construction period. LRT is a blend of a modern, efficient rail network with local architectural and cultural influences. Exciting station designs, a high standard of architectural finish and extensive tropical landscaping provide a striking backdrop for passengers.

433. The construction of the project was implemented under two overlapping design and construct contracts of 34 and 40 months. Over 100 major works package subcontracts were let over the course of the project. At the peak of construction, Taylor Woodrow employed over 600 workers and 180 management and administrative staff, along with a subcontracted labour force of 1,500.

B. Title: AZTech model deployment initiative for the Phoenix metropolitan area, United States of America

Sector: Transportation
Region: North America
Source: UN-Habitat Best Practices Database
Year of submission: 2002

1. Background information

434. Arizona is the fifth-fastest-growing state and industrial economy in the United States of America, serving as a major trade conduit for industry and commercial vehicle operations. A major North American Free Trade Agreement corridor passes through the Phoenix metropolitan area.

435. Arizona's population growth is three times the national average, and Maricopa County is the sixth largest county in the United States, with a landmass of 23,895 km². A total of 29 communities comprise the Phoenix metropolitan area.

436. Because of climate and economic growth, Phoenix is a major destination for visitors, which contributes to traffic congestion.

437. Each community has differing policies, goals and objectives. AZTech established the common vision and then built on it. Each community was represented, and the decision-making was consensus-based.

438. There are 13 separate transportation, transit and emergency management systems in the region. A lack of integration within these jurisdictions was resulting in an inefficient utilization of the region's transportation system. Urban sprawl, together with the resultant congestion, was not being addressed effectively.

439. The AZTech Executive Committee, comprising top transportation executives from 13 public partner agencies, set the following objectives:

- (a) Integrating the existing intelligent transportation system (ITS) into a regional system;
- (b) Establishing a regional integrated traveller information system for multimodal travellers;
- (c) Demonstrating the benefits of integrated community-based transportation systems to achieve system efficiencies;
- (d) Providing a showcase of how technology can improve overall quality of life, conserve energy and reduce pollution;

- (e) Setting a worldwide standard of excellence for the deployment of ITS in a major economy.

440. The project was initiated by the local authority.

2. Building partnerships

441. The initiative was implemented through strong partnership between various local authorities, the central Government and the private sector. The initiative involved 22 local authorities, 16 private sector organizations and the central Government. The roles of the partners were well defined and complementary. This contributed immensely to the success of the initiative.

3. Implementation process

442. Initially it was difficult for public agencies to risk funds on a new concept of transportation system operations. It was a formidable challenge to compete with projects based on traditional approach and shift from the “build” mentality. Senior transportation executives represented the 13 public-sector partner agencies on the Executive Committee. They played an important role in the commitment of resources, identifying future opportunities and potential obstacles.

443. A strategic plan was developed to provide the rapid deployment of ITS initiatives. The region’s transportation jurisdictions, public safety agencies and private companies established the AZTech programme, pooled resources, coordinated capital investments and integrated communications to implement the following priorities:

- (a) Interconnecting the transportation systems of all communities in the Phoenix metropolitan area and promoting metropolitan-area-wide mobility by emplacing instruments on many kilometres of the multijurisdictional arterial road network and on transit buses to provide current and accurate information on conditions to traffic management agencies;

- (b) Using public/private partnerships to deliver advanced intermodal traveller information services, and providing a 5-per-cent procurement advantage to minority/women/disadvantaged business (M/W/DBE) firms;

- (c) Establishing a regional incident response system on arterial networks.

444. Through AZTech, several procurement contracts are now in effect. Any jurisdiction in the region can effect procurement using these contracts. These benefits are distributed regionally through compatibility and cost efficiencies.

4. Impact

445. AZTech has delivered the transportation services and provides the technological backbone necessary for sustainable operations. The AZTech server facilitates sharing of real-time information between all 40 partners. It links the 68 km of freeway and 240 km of arterial network instrumented with detection devices, cameras and variable message signs at strategic locations and decision points. This is aimed at reducing traffic congestion. AZTech installed the GPS-based Automatic Vehicle Location (AVL) system on 96 buses. The success of this system has led the transit agency to expand it to the entire fleet of approximately 600 buses.

446. It is projected that over the next 20 years the metropolitan area population will increase by 52 per cent while employment will increase by 61 per cent. Anticipating this growth, the regional transportation plan calls for a 75 per cent increase in freeway lane kilometres, a 47 per cent increase in street miles and a doubling of bus services. Without these improvements, it is projected that average traffic speeds and the amount of travel that is congested would remain about the same as today.

447. AZTech has strengthened a number of institutional relationships, including:

- (a) Improving working relationships: determining operating practices to improve traffic signal system integration resulting in improved relationships and better communication between participants;

- (b) Capitalizing on opportunities: through the City of Phoenix franchise agreement, AZTech obtained access to the cable and connection points near the Arizona Department of Transportation and the City of Phoenix traffic centres at a much lower cost;

- (c) Saving costs: linking the Scottsdale, Phoenix and Paradise Valley traffic signal systems enabled the three cities to share the costs of a signal system upgrade;
- (d) Exchanging public resources: AZTech received a free FM subcarrier from the Mesa Community College by providing a site for its station's new transmission tower on county land;
- (e) Leveraging private investment: access to a valuable FM subcarrier elicited proposals from many private companies to provide travel information;
- (f) Sharing capabilities: AZTech assisted the Phoenix Fire Department in upgrading its emergency management system by providing technical expertise, resulting in linking this system to the AZTech server.

5. Sustainability

448. The following areas demonstrate the regional transportation agencies' commitment to providing a sustainable, cost-effective, community-based transit system:

- (a) Financial: one of the strongest benefits of integration is cost-sharing between projects and agencies. The AZTech server is an example of an investment between multiple projects. This resource-sharing has allowed economies of scale, making individual projects more affordable for participating agencies;
- (b) Social and economic: AZTech partners continue to make coordinated capital investments. The institutional ties between public agencies in the region were strengthened by integration that crosses jurisdictional and cultural boundaries and provides sustainability which meets the social and economic needs of the men and women in the regional community. Society now has better and more accessible information on travel conditions and alternatives. Enhanced operations will continue to improve travel conditions as ITS is deployed. Local communities are coordinating their resources to establish "smart corridors" that cross local boundaries. The Arizona Department of Transport maintains the public agency contracts and Maricopa County Department of Transport handles the procurement and private sector contracts because of its streamlined contracting processes, which include goals for awarding contracts to minority/women/disadvantaged (M/W/DBE) businesses;
- (c) Cultural: AZTech meets the behaviour patterns of the diverse population by providing sustainable multimodal services to the populace;
- (d) Environmental: by providing increased mobility and reducing traffic congestion, the AZTech programme has succeeded in reducing the energy and environmental costs associated with travel in the metropolitan area. The efficiencies obtained in the AZTech programme result in energy conservation by reducing harmful emissions per unit of travel and the amount of energy consumed per unit of travel. Evaluation results have reported that interjurisdictional traffic signal coordination has led to a 2 per cent reduction in fuel consumption.

6. Principles

449. The fundamental principles that can be drawn from the initiative include:

- (a) The participation of beneficiaries in project priority-setting, identification of objectives and the general project implementation process;
- (b) Very strong, well coordinated, task-oriented and complementary partnerships exemplified by the wide range of local authority, private sector and central Government partnerships that characterized the project;
- (c) The local authorities played a fundamental role in the project: they are the initiators which financed and implemented the project; also, the initiative led to the decentralization of transportation services to the local levels, hence enhancing accessibility by the majority of people;
- (d) Promotion of social equity and affirmative action was exemplified by the projects' commitment to reach disadvantaged and vulnerable groups, including women and other minority groups, by providing them with 5-per-cent procurement and contract advantage;

(e) The project aims at enhancing affordability through savings on costs and subsidizing the cost of transportation for the poor;

(f) Transparent and effective systems have been put in place aimed at addressing transportation issues in the area, as exemplified by the endeavour to integrate transportation systems and the provision of contracts through procurement processes.

7. Policies

450. Policies included:

(a) Integration policies that sought to incorporate the 13 transportation, transit and emergency management systems in the region with the aim of ensuring efficient utilization of the region's transportation system and effectively addressing urban sprawl and congestion;

(b) The central Government's financial policy through the federal grant (\$7.5 million) with a proposal that required AZTech partners to commit matching funds for the project and submit contracts prompting public agencies' leverage of funds for the project;

(c) Meaningful and committed involvement of the private sector in the project through immense financial support matching that of other partners and in the decision-making processes in project implementation;

(d) The commitment by the project implementers to reach poor and disadvantaged members of the society, including women, children and the disabled, amongst others, through the provision of a 5-per-cent procurement advantage.

8. Innovation and replicability

451. The United States Department of Transportation has established a campaign for smarter building, buying and upgrading for transportation improvements, using advanced and innovative deployment strategies. The AZTech programme has demonstrated the viability of these objectives.

452. By building on existing traveller information infrastructure, public/private partners can work together to build regional, multimodal systems capable of meeting current needs and provide the needed surface transportation capacity for the twenty-first century. AZTech has become the national and international showcase for integrated travel information improvements.

453. In addition, recognizing the need to demonstrate system benefits, the AZTech model deployment managers concentrated on establishing "smart corridors" to obtain early, provable results. Using simulation modelling and field observations, the evaluation team determined an initial 6 per cent reduction in average delay, with reductions up to 21 per cent under the modelling of other traffic signal coordination plans. This resulted in an increased awareness of the benefits of technology.

454. The AZTech model deployment contributed significantly to demonstrating the benefits of ITS integration and to raising awareness of these benefits. The key to the programme is "technology transfer" and the sharing of resources. Some examples of this are:

(a) The positioning of City of Tempe employees at the Arizona Department of Transportation facility;

(b) Establishing memorandums of understanding between the various partner communities;

(c) Sharing plans and information on road closures, detours, construction and other traffic restrictions;

(d) Providing a showcase for other states and metropolitan areas: specifically, the AZTech roadway closure and restriction system design is being shared with Nevada and Oregon, whereas Virginia is benefiting from the AZTech design for a special events system;

(e) Publishing papers and journal articles that share the AZTech experience with other interested entities.

9. Success and failure factors

455. The following are the factors that contributed immensely to the success of the initiative.

- (a) The most extensive partnership arrangement that is well-structured and backed with an extensive array of partners which provided both financial and technical commitment and support to the initiative;
- (b) The central role played by the local authorities throughout project implementation;
- (c) Transparent and effective management systems;
- (d) The establishment of enabling policy and institutional frameworks, such as the policies aimed at integrating the transportation mechanisms;
- (e) The initiative was well funded and consequently had a strong financial base.

10. Project financing

456. The initiative secured initial funding from a federal grant of \$7.5 million as a result of being selected as one of the four sites for deployment of the model. In addition, the financial arrangement for the initiative was such that the partners agreed to contribute a certain percentage of funds towards its implementation. This was as a result of the federal grant proposal, which required AZTech partners to commit matching funds and submit contracts (intergovernmental agreements) prompting public agencies to leverage \$24 million for the project. Also, the private-sector resources provided were also considered as matching funds. It is also worth noting that the local authorities provided a very high percentage of funding for the project during the initial implementation period.

C. TransMilenio Public Transportation System, Bogotá

Sector:	Transportation
Region:	Latin America and the Caribbean
Source:	Head of Corporate Partnerships with United Nations Agencies, Veolia

1. Background information

457. Through its local subsidiaries, Veolia Environment participates in the operation of TransMilenio, an innovative, appropriate infrastructure for mass transportation in Bogotá. TransMilenio is the backbone infrastructure of the public transportation service in Bogotá (population over 8 million). TransMilenio serves around a million passengers per day in 94 stations with a fleet of 838 articulated buses running on a network of 70 km (trunk-route services) and 432 km (ordinary and feeder services). It was opened to the public in November 2000. The project comprised seven phases. The ongoing phase is phase III, which began in 2006. The whole project is due to end in 2016.

458. The city is planned on a grid with numbered avenues from south to north and intersecting numbered streets going east-west. Among the city's squares is the Plaza de Bolívar, where many important government buildings and churches are located. Bogotá is connected by road to the Atlantic coast to the north and to the Pacific coast to the west, and to all other major cities in Colombia. The Pan-American Highway and the Simón Bolívar Highway both pass through the city.

459. The total population of Bogotá (2006) is 8,350,000, with an annual growth rate of 3 per cent.

460. The male to female ratio is 48 per cent to 52 per cent.

461. The concept of bus rapid transit (BRT) is a broad term given to a variety of different transportation systems which, through infrastructural and scheduling improvements, attempt to use buses to provide a service that is of a higher quality than an ordinary bus line. The goal of such systems is to at least approach the service quality of rail transit while still enjoying the cost savings of bus transit. The choice of a BRT system can be considered as a financially sustainable alternative to a very expensive underground system.

462. The overall objective of the initiative was to improve the quality of life of Bogotá's inhabitants while enhancing the city's competitiveness.

463. The specific objectives included:

(a) Rationalizing the pre-existing chaos of public transportation in Bogotá: the TransMilenio buses are diesel-powered, purchased from such manufacturers as the Brazilian company Marcopolo and German conglomerate Mercedes-Benz; they are articulated (split into two sections with an accordion-like rotating middle to allow for sharp turns) and have a capacity of 150 passengers;

(b) Reducing the average time spent daily by the population in public transportation, i.e., improving service continuity and average commercial speed;

(c) Ensuring that public transportation becomes the priority system compared to individual private car transportation.

(e) The project was initiated by the municipality of Bogotá.

2. Building partnerships

464. In January 1998, the local administration defined the future system as a fundamental element of a new mobility strategy and budgeted significant resources to finance its construction. A specialized group independent from the existing institutions was organized with the mission of coordinating the preparation process and promoting the creation of the system's nominee company. The managing company was created on the authorization of the Bogotá District Council, which allowed for the involvement of the Bogotá Capital District in its organization. The preparation of the relevant agreement took six months before it was passed, in February 1999. Based on this decision, TransMilenio S.A. was incorporated in October 1999 as a State stock company of the Bogotá Mayor's Office. The entity responsible for developing the road infrastructure is the Urban Development Institute.

465. Involvement of local transportation actors: there used to be a huge number of traditional independent transport companies in Bogotá. The participation of these existing companies was actively embraced. The new organization of the transportation system allowed almost 94 per cent of the public transportation companies to take part in the project as trunk operators in the four corporations which were chosen as concessionaires or licensees.

466. Involvement of private operators such as Veolia Transportation: seven private operators were selected to participate in a 10-year delegated management contract, with each operator running the system at its own risk;

467. Private operators: Ciudad Móvil (100 articulated buses) and Conexión Móvil (110 articulated buses), both local subsidiaries of Veolia Transportation; SI99 (160 articulated buses); SI02 (115 articulated buses); Metrobus (90 articulated buses); Exprés del Futuro (120 articulated buses); and Transmasivo (143 articulated buses).

468. Specific partnerships with bus producers have been concluded for the appropriate supply of tailor-made articulated buses (Volvo, Mercedes and Scania). Each producer is associated with local maintenance companies and coachbuilders.

469. A key feature of the TransMilenio public-private partnership is that the contract does not establish geographical monopolies; rather, it specifies that each of the seven private operators is responsible for running a certain proportion of the city's lines (a number of kilometres out of the total), in relation to the number of buses it was allocated after the call for tenders.

3. Implementation process

470. Design and planning: pre-investment studies were carried out involving prestigious national and international companies. This process took 18 months from the formulation of the terms of reference to the delivery of each component's design. An important element in this process was the gathering of information on various bus transportation systems in the course of several technical visits to Quito; Curitiba, São Paulo and Goiania in Brazil; Santiago, Mexico City and Puebla (Mexico).

471. TransMilenio is the largest social investment project that has been developed in recent years in Bogotá. It is part of one of the most modern and efficient urban bus transportation systems in the world. The investment is under \$7 million per kilometre of infrastructure, which is a cost-efficient ratio in the urban

transportation sector. The project has been designed to be implemented in seven phases, two of which had been completed as of 2006.

472. Phase 1 (1999–2001): operation of the first phase started in December 1999 and was completed in June 2001. It consisted of 42.4 km and required an investment of \$217 million. By the end of phase 1, the TransMilenio was able to serve 700,000 passengers daily.

473. Phase 2 (2001–2006): operation of the second phase is nearing completion. It consists of 108.6 km and will serve 1.2 million passengers daily. Investment in phase 2 amounted to \$1.5 billion.

474. Additional actions taken to accompany the implementation of BRT: to introduce a structural change into these transportation conditions, the local administration implemented an integral mobility strategy which included the promotion of non-motorized mobility by improving and creating public spaces, new pedestrian zones, 250 kilometres of cycle paths, 1,300 new public parks and millions of trees planted. License-plate-number-based restrictions on the use of private vehicles during peak hours were established, together with measures such as higher car-parking rates, and compulsory car-free days on certain holidays.

475. The system operates with the appropriate number of buses needed to meet the demand for transportation. It works in a harmonious way, in accordance with prior and centralized planning. The operational scheme comprises trunk-route services, including express, ordinary and feeder services. Express service buses stop only at certain stations. Ordinary services serve all the stations along the whole route. This combination allows an enhanced capacity for the system to provide better service to users, thus increasing the utilization of the fleet by attaining more daily cycles per bus.

476. TransMilenio uses a pre-paid fare method. Passengers use contactless smart cards to access the stations, where they can board buses through multiple doors. The collection system includes card production and sale, reader assembly, maintenance equipment and information processing.

477. A trust company is in charge of making the relevant payments to the system's agents. The system's nominee company is TransMilenio S.A. This entity has a sound staff structure and its function is focused on both service planning and management, and control of operation contracts. Its working and functioning processes are financed by 4 per cent of the collections obtained from trip selling and secondary activities such as advertising at stations.

478. Affordability is a central concern of TransMilenio and is achieved by making transportation accessible to low-income users, and at the same time profitable for private operators and fundable by the State.

4. Impact

479. The trunk-route system is wholly accessible for all citizens, including people with physical disabilities, elders, children and pregnant women. It has been estimated that 1 per cent of the system's users (9,500 people per day) have some kind of disability or limitation. The pre-existing chaos in the urban transportation system was a severe constraint for disadvantaged and disabled people.

480. The system is intended to cover 95 per cent of the urban area and, within a 28-year term, meet the mobility needs of most of the population. The proposed system has 388 km of trunk routes serving 5.5 million passengers per day. For this purpose, in 1999 the District secured a continuous financing process through the allotment of 50 per cent of the surcharge on fuels. During the same year, it was able to obtain a commitment of funds to the project by the national Government. In addition, subsequent administrations (2001–2003 and 2004–2007) also committed themselves to ensuring the continuity of the system.

481. Project leaders had a special focus on communicating and generating a sense of ownership amongst the population. The communications strategy included high-impact events and a civic mass-media campaign for the promotion of both the image and the use of the new system. Over 450 workshops for community and education entities were held, with the participation of 18,000 people.

482. Users were offered direct information at the stations with the support of 160 civic guides and a telephone line was dedicated to providing customer services. This line was initially free of charge, from December 2000 to January 2001, encouraging over 1 million people to get under way.

483. This set of actions allowed the harmonious implementation of the operation, with a 98 per cent satisfaction rate among users, which generated a sense of ownership.

484. The system facilitates travel to work and contributes to creating employment in marginalized urban areas. The building of the infrastructure itself provided job opportunities for many unemployed workers living in deprived areas of Bogotá.
485. The impact of TransMilenio on improving living conditions is obvious:
- (a) Quality of the environment: a decrease in air pollution and noise pollution, and millions of trees planted;
 - (b) Quality of daily life: a large reduction in the average time spent daily in transportation;
 - (c) Safety: a comparison of the accident rate in the corridors used by the transportation system before and after the implementation of the TransMilenio operation shows a reduction of up to 90 per cent; in addition, street robbery rates have decreased by 83 as a result of an increased police presence.

5. Sustainability

486. The contract management type is a performance incentive for the operator. The very high rate of occupancy of the buses has a real impact on cost-effectiveness. The training of bus drivers is of a professional quality and teaches them how to drive in such a way as to incur low diesel consumption.
487. Satisfaction rate: A strong visual identity referring to citizenship reinforces the sense of ownership among the population. TransMilenio is also a communication support programme of the City of Bogotá (for example: “Bogotá without indifference / Bogotá without hunger”). In addition, events are organized to enhance community ownership (e.g., “Moving music competition”).
488. Integration into overall urban planning specifically designed for and dedicated to the city of Bogotá took into consideration the city’s development trends and urban constraints.
489. The initiative was based on a strong local political will. The way it was implemented was inspired by other BRT systems in large developing cities, but many organizational and functional aspects have been specifically designed for Bogotá. TransMilenio is a unique kind of BRT.
490. Citizens in Bogotá are showing a positive change in attitude, reflected in spontaneous compliance with civic rules, thus generating respectful behaviour, friendly coexistence and civil commitment. A personal sense of ownership with regard to the system is particularly strong among children.
491. The “value capture” component of the project comprises the creation of TransMilenio’s infrastructure trust fund and a set of “*plusvalía* (added value) districts” around stations and terminals. When a district is established, all property prices are frozen at the current value. Any property transaction that takes place within the district is registered and the City has the right to claim 50 per cent of the difference between the final price and the initial, frozen price. The revenues are transferred to the trust fund.
492. Several studies and initiatives have been conducted to ensure high community participation.
493. The system includes a technical and independent mechanism in the contracts for periodically updating the tariffs, so that changes in the operating cost structure of the industry are incorporated within that mechanism.
494. The system’s infrastructure is being put in place using public resources. There is a coordination committee with various district entities in order to follow the progress of all the processes.
495. The system is operated by private companies run by traditional city transportation businessmen. They own the fleet of buses, which complies in respect of the specific type of vehicle, operating schedule, frequencies, routes and a minimum level of quality.
496. A third-party-income contractor manages the electronic payment locations in the stations.
497. Through its control centre, the company supervises the operations of the buses through satellite localization and voice and data communication. The control centre also monitors the number of passengers entering and leaving stations, gives information on compliance with timetables and orders operational adjustments as required.

498. The completion of the TransMilenio project required the coordination of multiple local, national and international entities from the public and private sectors and civil society. Local stakeholders took the lead in the definition and implementation of this project, which is a key factor for sustainability.

6. Principles

499. The following are the principles that can be drawn from the initiative:

(a) Gender equity and social inclusion were demonstrated by the project's endeavour to rationalize and democratize public transportation in Bogotá, with the guiding principle being access to transportation for all;

(b) The following indicate just how inclusive and equitable the mode of transportation is:

(i) By gender: men = 55 per cent, women = 45 per cent;

(ii) By age: 12–17 = 11 per cent, 18–27 = 45 per cent, 28–37 = 20 per cent, 38–47 = 13 per cent, 48–59 = 18 per cent, over 60 = 2 per cent;

(iii) By social background: low-income population = 60 per cent, average-income population = 30 per cent, medium and high income population = 10 per cent;

(iv) By occupation: employees = 66 per cent, students = 24 per cent, homemakers = 5 per cent, retired = 2 per cent, unemployed = 4 per cent, other = 17 per cent.

500. Transparent and effective governance is evident in the presence of good governance systems that are guaranteed by the diversity of public bodies involved in the decision-making process. TransMilenio S.A. is a stock-based enterprise that performs, organizes and plans the mass urban passenger public transportation service in the city of Bogotá and its immediate hinterland. The company shareholders are made up of the Fund for Education and Road Safety of the Office of the Secretary of Transit and Transportation of Bogotá (FONDATT) with 66.67 per cent of stock, the Institute for Urban Development with 33.23 per cent, the District Institute of Culture and Tourism, the Capital District and Metrovivienda, each with 0.0333 per cent of stock. All stockholders are public institutions from the district. The infrastructure of the system is being put in place using public resources. There is a coordination committee representing the different district entities in order to follow up on the progress of all.

501. Partnerships: TransMilenio is a public-private partnership project initiated by a host of local agencies and private companies. The way in which the project is organized is set forth in the table below.

Sector	Agency or company	Skills
Public	Office of the Mayor	Leadership
	TRANSMILENIO S.A.	Public company
	Institute for Urban Development	Contracting infrastructure development
	Office of the Secretary of Transit and Transportation	Reorganization of existing transit routes; enforcement; regulation; signalling
	Department of Planning	Incorporation of the bus rapid transit system into the comprehensive plan; approval of roads, public spaces and urban design
	Office of the Secretary of Finance	Budgeting and allocation of resources for infrastructure capital investments
	City Council (Local Elected Body)	Approval of plans, TRANSMILENIO S.A. creation and city budget.
Private	Trunk operation concessionaries: SI99 S.A.; Exprés del Futuro S.A.; SITM S.A.; Metrobus S.A.	Companies created out of existing transit operators for bus acquisition, drivers and maintenance personnel hiring, operation and maintenance of buses.
	Feeder bus operation contractors: SIDAUTO, CODATERMIL; URIBE-URIBE; ALCON; ALNORTE	Existing transit operators, trained to be able to operate feeder buses
	Fare collection concessionary: ANGELCOM S.A.	Responsible for the ticketing system, fare collection and financial administration, using cutting-edge technology

	Control centre provider, electronic traffic: ETRA	Contractor for the installation and customization of the largest real-time control system for buses in Latin America and Spain
	Design, construction and supervision contractors	Companies providing their knowledge and capacity to design, build and supervise system set-up in 48 months

7. Policies

502. The following are the policies that can be drawn from the initiative:

(a) Pro-poor service provision policies; exemplified by a 72 per cent utilization of the TransMilenio system by low-income citizens;

(b) Reduction in fares for daily journeys; in addition, feeder services serve peripheral passenger zones on an integrated basis in combination with the trunk-route services, allowing users to travel from their neighbourhoods to main terminal or midway stations by switching from the system's green feeder buses to its red articulated vehicles without having to pay additional fares;

(c) Reduced legal and administrative barriers to access to basic services, demonstrated by the use of a contactless smart card (MIFARE) system which makes it possible to purchase multiple trips using one card;

(d) Enhanced affordability: for example, as of November 2005 the fare was 1,200 Colombian pesos for a single trip (approximately \$0.50).

8. Innovation and replication

503. General information, key figures, case studies and specific issues from the TransMilenio project are available on the web (www.transmilenio.gov.com, www.worldbank.org). International partners in the project participate in transferring knowledge worldwide. Our experience has also been shared with the representatives of the 16 countries who visited Bogotá in November 2001 for a seminar about this project.

504. According to the World Bank, Bogotá's bus rapid transit system has brought several benefits to the city and is the initiator for the implementation of similar projects in major cities around the country.

505. International alliances have been set up to manufacture buses in Colombia. This has been a positive outcome for the domestic automotive industry.

506. Other Colombian cities (e.g., Ibagué, Bucaramanga and Pereira) and some other Latin American cities are currently preparing projects to set up bus systems, using bus ways and economic incentives for operations similar to those in Bogotá. Valencia (Venezuela), Panama City and Lima are also looking into this experience to start up projects.

9. Success and failure factors

507. The following are the factors that contributed to the success of the initiative:

(a) Successes

The use of an integrated global strategy: the BRT system, and particularly the way it runs in Bogotá, is considered by urban planners to be a shining example of how efficient, safe, and orderly public transit systems can be created without significant investment or disruption.

(b) Failures

The use of diesel buses instead of clean-burning natural gas or electric-powered light rail is best defined as an economic decision: diesel pollution has a much greater impact in a high-altitude city such as Bogotá than at sea level (Bogotá is 2,600 metres above sea level), and diesel-powered buses also produce more noise pollution than comparable natural gas-powered buses.

In addition, most users lack confidence and purchase only one or two trips at a time because of problems with the cards when the system was launched. Although the technical problems

have been resolved, there are not enough financial incentives (discounts) for multiple purchases.

(c) **Project financing**

The infrastructure of the project is provided by the public sector. The nation funded 66 per cent of the total cost of the project, and the city the remaining 34 per cent. On the other hand, the private sector is responsible for operating the system, without any public subsidy. In order to ensure the completion of the plan and provide additional financial sustainability for the expansion of the system, new resources should be found. In this way the burden on the public purse may also be alleviated.

In the city of Bogotá, a 20 per cent surcharge is collected from all gasoline sales. Of those recourses, 50 per cent are used for the construction of the infrastructure required for the operation of the TransMilenio system.

X. Social welfare

A. National Social Rehabilitation Centre (NSRC), Sofia, Bulgaria

Sector: Social welfare
Region: Transition economies
Source: UN-Habitat Best Practices Database
Year of submission: 2002

1. Background information

508. The National Social Rehabilitation Centre (NSRC) was founded in 1991. It is the first Bulgarian organization working for the welfare of disabled people, offers social services and aims to ensure better working and living conditions, and social integration.

509. Indeed, in society, disabled people are often considered as the passive recipients of care. They encounter mobility problems, the supply of technical devices is inadequate or they receive low-quality appliances. They are deprived of the opportunities other people enjoy, such as communication, cultural events, education and employment, all of which has a negative impact on their self-confidence and social skills. NSRC aspires to create conditions for the equal participation of people with disabilities in public life.

510. The initiative had the following objectives:

- (a) To improve conditions to allow disabled people to become independent;
- (b) To advocate disability-sensitive transportation systems;
- (c) To create accessible public services for disabled people through the reconstruction of old public buildings and the removal of architectural barriers around them;
- (d) To lobby for a change in public opinion and notions about disability;
- (e) To ensure the revision of legislation for disabled people.

511. This was an initiative of a non-governmental organization.

2. Partnership-building

512. The creation of the St. George Centre was the result of extensive partnership between NSRC, the Bulgarian Government, the Bulgarian Ministry of Labour and Social Policy, the Municipality of Pomorie, the European Union PHARE-LIEN Programme, the Flemish Federation for the Disabled and other non-governmental organizations.

3. Implementation process

513. NSRC started its activities by meeting the day-to-day needs of disabled people by supplying them with technical devices (wheelchairs, crutches, canes, toilet chairs and so on). The first technical appliances arrived in Bulgaria under a bilateral project with the Flemish Federation for the Disabled, Belgium and were distributed to people in need. This process became a regular programme. Under the legislation, the State reimburses part of the cost of the appliances distributed. In this way the organization gains its financial sustainability and is able to develop its programmes.

514. The next step was taking people out of their homes, allowing them to visit public places, a doctor or friends. NSRC created a specialized transport system, including five minibuses specially adapted for wheelchair users. The programme started with the financial support of the PHARE LIEN programme. It is now maintained from its own means and donations.

515. In a bid to bring services closer to disabled people, a network of bureaus for social services was created in Bulgaria. As a result of excellent cooperation with the local authorities and support from society and organizations for disabled people, the initiative established six bureaus in the biggest cities in Bulgaria. The seventh and eighth bureaus, in the towns of Stara Zagora and Shoumen, are almost completed. In addition, centres were established for children with disabilities.

516. In addition, given that adolescence is a very important stage of development, especially for disabled youngsters, the initiative aimed at improving the general psychophysical situation of the young disabled. The initiative also aimed to support the process of inculcating knowledge and social skills for a more successful inclusion of young disabled people into the workforce. This was achieved through the establishment of a centre for training and rehabilitation of young people with disabilities, the St. George Centre in the town of Pomorie.

517. The initiative developed the first successful model for adapting public buildings to create an environment to ensure accessibility to the NSRC bureaus for social services and environment.

4. Impact

518. The NSRC initiative has established conditions which favour social reform in Bulgaria. These include the following:

(a) Accessible buildings and environment: the initiative establishes conditions for changes in legislation and public opinion which enhance the process of social integration for the disabled. For example, after the St. George Centre in Pomorie was built, people progressively started thinking of disabled people and ensuring accessibility for them. The initiative has therefore encouraged people to create an adapted environment;

(b) Community social services: currently, the initiative has bureaus for social services in Sofia, Bourgas, Varna, Pomorie and Stara Zagora. Over 12,000 disabled people receive technical appliances and supporting information and services each year;

(c) A specialized transport system: 8,000 trips are made per year in which approximately 10,000 people are transported. This was most useful during the 2001 Bulgarian elections. On election day, the initiative made over 100 trips, which ensured that the disabled enjoyed their constitutional right to vote;

(d) Day-care centres for disabled children: the day centres in Sofia and Bourgas cater for 50 children daily and another 60 just for rehabilitation or consultation. The children visiting the centres show great progress in their development. Some of them now attend mainstream schools and their parents are able to go to work and to have a social life;

(e) Support to the young disabled: youngsters stay at the St. George Centre for about 30 days, attending vocational courses and receiving rehabilitation. Those who successfully pass the final examinations receive an additional qualification certificate.

5. Sustainability

519. According to its initiators, the project's sustainability is achieved through its activities, which have been planned and designed with the objective of achieving a lasting solution to the issue of accessibility for the disabled. This is exemplified by the establishment of accessible buildings and environments for those with disabilities.

520. In addition, in terms of finances, the organization has quality budgeting and well-developed investment programmes. Some of the activities of the initiative have been designed to be self-financing. This is aimed at ensuring continuity.

521. It also has well-trained and motivated personnel capable of undertaking the activities involved in the project.

522. The initiative enjoys the trust and support of the communities and the Government.

6. Principles

523. The fundamental principles that emerged from the initiative include the following:

(a) Partnership: this was exemplified by the joint implementation of the initiative by various actors, including the central government, the local authorities, non-governmental organizations, journalists and communities in general. It is worth noting that the partnerships were well coordinated and complementary;

(b) Participation of the beneficiary group (the disabled) in the whole project process: the target group was involved right from the identification of priorities and establishment of objectives to the actual implementation of the project;

(c) Social equity and affirmative action: the initiative aimed at integrating a socially excluded segment into all aspects of life and into mainstream policy and institutional processes. This was demonstrated by the lobbying for the establishment of enabling policies to ensure equal access to buildings and environments for the disabled;

(d) The local authorities played a central role in ensuring the success of the initiative by providing financial support and developing six bureaus in Bulgaria.

7. Policies

524. The initiative aimed exclusively to lobby the authorities to enact policies that take into account the interests of the disabled, particularly in regards to access to buildings and other services. This led to the development of a model which was adaptive to the special needs and circumstances of the disabled in respect of access to services.

8. Innovation and replicability

525. NSRC is the first non-governmental organization for social services in Bulgaria. The organization creates models of good practice for improving the quality of life of disabled people and their families. The initiative has trained social workers in a bid to acquire personnel capable of effectively implementing the initiative. The initiative disseminates information that is necessary for replication through the training of new specialists. The trainees then turn into trainers who in turn train others on social welfare issues. In addition, various institutions that teach social work prefer to take their students to the Sofia Centre for experience. These include the Varna and Bourgas institutions. Also, NSRC takes part in elaborate curriculum preparation in the area of social work. The initiative also organizes seminars with international participation once every year for the training of social specialists working in governmental and non-governmental structures all over Bulgaria. In addition, the initiative disseminates information through electronic media and the press for replication.

9. Success and failure factors

526. The following factors led to the success of the initiative:

(a) Well-coordinated and complementary partnerships;

- (b) The self-financing aspect of the project that ensured its sustainability;
- (c) The recognition and support from the local authorities and the central Government;
- (d) Policy reforms leading to policy frameworks that are sensitive to the needs of the disabled, particularly with regard to access to services and facilities.

10. Project financing

527. The initiative is largely financed by the central Government through the Ministry of Labour and Social Policy and the local authorities. The financing arrangement is attributable to the recognition of the initiative as a representative organization at national level. The initiative has also set up self-financing mechanisms aimed at sustaining its operations through a savings scheme for its members.
