



Best Practices Database

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Eco-city, Johannesburg

South Africa

Good Practice

New for 2002

Categories:

Production and Consumption Patterns:

- consumer awareness
- energy efficiency
- producer responsibility
- production/consumption cycles
- resource conservation
- waste reuse and recycling
- water use and consumption

Poverty Eradication:

- access to credit
- income generation
- job creation
- vocational training

Environmental Management:

- ecological sustainability
- environmental health
- environmental remediation
- environmentally sound technologies
- incentives for sound management
- monitoring and control
- pollution reduction
- resource management
- urban greening

Level of Activity: Metropolitan

Ecosystem: Arid/Semi-Arid

Summary

EcoCity has successfully solved environmental problems including poverty, poor environmental management and wasteful production and consumption methods. It tackles poverty by promoting green ways of making and saving money through growing organic food, recycling, repairing bicycles, selling green energy aids and appliances, building ecological homes and starting Eco-tourism enterprises. Eco-city has mobilised the disadvantaged and unemployed people of Ivory Park to form co-operatives to grow and buy food, recycle, repair bicycles, build homes, use and promote green energy solutions, and become Eco-tourism guides. As a result more than 300 jobs have been created. Eco-city's work is also breaking new ground in terms of promoting Eco- banking which gives poor people access to money in novel ways; for example by trading in "sweat equity", and by encouraging loans for "geological home improvements". All participants receive extensive training in their core

skills, finance and environmental awareness. Eco-city has run numerous workshops, especially on the empowerment of the unemployed, women and youth. It has produced newsletters, brochures and educational posters.

These enterprises also represent greener, cleaner production and consumption patterns in the community. It is at the forefront of innovative home designs that are cost effective and environmental friendly since the initiative teaches people how to collect rainwater, recycles all contaminated water and minimises water wastage. It uses solar energy or low-smoke biomass for energy. Ceilings and other insulation, and correct orientation of homes contribute to energy efficiency, while bicycles are used for transport purposes. Organic produce is grown by community members and sold to people. The proceeds are divided fairly among members of the growers' co-operatives.

Eco-city tackles poor environmental management by forming a public-private partnership with the city of Johannesburg and in this way mobilises the Johannesburg council to adopt ecological principles in urban design and renewal. In partnership with the local council (Johannesburg), which seconded many of its employees in the idea that the Eco-city projects should be given time, Eco-city helped produce a report on the state of the environment, carried out studies on water demand management and car pooling and assisted with the rehabilitation of river courses. Eco-city will be a significant showcase during the World Summit on Sustainable Development as one of Johannesburg's legacy projects. Eco-city is active in lobbying for green laws and policies.

Narrative

SITUATION BEFORE THE INITIATIVE BEGAN

Ivory Park informal settlement was characterised by poor living conditions and lifestyle, unemployment and unsustainable development. Sustainable practices and local planning that took environmental and social conditions into account, were not features of local government prior to the start of this programme. These features are not unique to Ivory Park. There are hundreds of such communities in the Johannesburg metropolis. Local Agenda 21 was also not being successfully implemented in these areas.

ESTABLISHMENT OF PRIORITIES

Eco-city wanted to physically demonstrate an environmentally and socially sustainable alternative development path. Since poverty was a major root cause of the problems, it had to be tackled first. Job creation through "ecological" industries such as recycling, organic farming, green energy technologies among others, were seen as an important start.

At the same time, with housing, sanitation and other services (such as energy) being required, this presented an ideal opportunity to set up human habitats that are sustainable, rather than polluting the environment and depleting resources. As a result, the urban Eco-village strategy came into place as a way of exemplifying how housing and services can be provided.

FORMULATION OF OBJECTIVES AND STRATEGIES

Vision: Midrand Eco-city is a needs-driven, people's programme, addressing poverty alleviation through local economic development.

Mission: Facing the challenges of developing world, Eco-city seeks out innovative, technically relevant, ecologically sound solutions.

Strategy: Clearly the way towards an Eco-city is not by perpetuating the current development paradigm. An Eco-city embraces integrated planning at every level looking at the social, physical, natural and economic elements that relate to any development decision that is taken. No decision is

taken without considering what impact it will have on any one of the above areas.

There are some key principles employed:

1. African renaissance - Eco-city wishes to help rebuild Africa using Africa-specific solutions, combining knowledge from the East and West with indigenous African knowledge.
2. Equity - Eco-city commits itself to environmental justice: equal access to resources and an equal bearing of environmental costs.
3. Poverty eradication - Eco-city wishes to eradicate poverty by investing in social capital: training people and giving them access to the resources and opportunities for setting up their own businesses.
4. Self-reliance: People must create their own jobs and upgrade their neighbourhoods using their own resources and initiative.
5. Improving quality of life: Basic services should be provided in such a way that they improve environmental quality in the city.
6. Enhancing natural resources: Natural resources such as rivers, soil, bio-diversity, atmosphere and so on must be improved in the creation of Eco-city.
7. Providing a future for our children: Sustainability means meeting the needs of present generations without compromising the needs of future generations.
8. People's involvement: People must be involved in every aspect of its planning and development through capacity building, awareness raising and public participation.

MOBILISATION OF RESOURCES

Financial, technical and human resources

Donor funding was raised from Danced (Danish Agency for Environment and Development), the Global Environmental Forum and other international funding agencies. Partnerships were also forged with local companies such as Eskom (the major power utility company) on specific projects such as the installation of ceilings in houses. Many of these funding agencies, grant agencies and indeed the national, provincial and local governments of South Africa have played a major role, both in terms of human resources and through financing.

Human resources were mobilised at two levels:

A) Skilled resources: skilled people in local government such as engineers, urban planning professionals and ecologists were successfully seconded to work on the project free of charge. This is now being extended through the involvement of the utilities in the city of Johannesburg.

B) Community resources: the community was comprehensively consulted and educated through workshops and meetings. Community members own the project and they run it through their own labour and efforts. The concept of "sweat equity" is regularly utilised, for example, youths trade their work for bicycles. Co-operatives have been formed to run the growing and selling of organic produce, recycle, and perform bicycle repairs and maintenance. A youth group has been mobilised to learn other skills such as running Eco-clubs, bike clubs and tour guiding. The former plays a valuable role in making the community conscious of what goes on while the latter enable youths to earn an income. Eco-city's work is breaking new ground in terms of promoting Eco-banking which gives poor people access to money in novel ways for instance by trading and encouraging loans for "green home improvements".

PROCESS

Participation: This has been the backbone of the entire Eco-city Project. The community has been consulted every step of the way, long before projects become a reality. Eco-city firmly holds the belief that people must be involved in every aspect of its planning and development. It is for this reason that capacity building and sensitising the people as well as public participation is carried out extensively in the implementation of the vision. The programme has been fully linked in with the national requirement for development planing, that ensure that local people are involved in developing their

own cities and areas.

There were also some problems encountered. Organising large groups of people always presents challenges. Obtaining consensus is one of the most pressing issues. However, we have always tried to solve and deal with our problems. For example, some members of the community rejected the idea of earth brick houses. They felt they wanted modern brick houses. Even after exhaustive workshops explaining the ecological and cost benefits of earth-brick building, it was eventually decided that the community's will must be attended to, otherwise they may not own the project. Now a new technology of using rammed earth, which is more acceptable to the community, has been adopted. Other alternatives such as the use of bricks made from a mixture of earth and cement but look like normal bricks is also promoted. The community unanimously supported all the Eco-technologies such as solar, water recycling and passive thermal design.

Tools, methods and benchmarks: The tools adopted include: participation, labour-intensive technologies, environmentally appropriate solutions and cost-effective practices (such as the notion of barter and exchange of services).

Methods: The use of co-operatives as the institutions of choice has proven to be an important factor in the success of the projects. The local people feel that they have control over their decisions and it has deepened democracy. Building, growing food, recycling and other methodologies represent a mixture of solutions.

The baseline in Ivory Park was set by a comprehensive state of environment report, SoE (1999). This documents poverty, housing, resource use, pollution and consumption patterns. Positive changes brought about by the project will be measured against this. For more information on SoE please visit our website www.ecocity.org.za.

RESULTS ACHIEVED

Some 300 previously unemployed people now have an income. Because of over 70 farmers a significant number of Ivory Park residents are able to feed themselves with inexpensive organic products (a luxury not even enjoyed by many middle class families in the rest of Johannesburg). People who previously had no transport now have bicycles; 5 youths own a bicycle shop in the area; 12 youths have a growing Eco-tourist business; over 1000 school children now understand environmental issues better; over 60 local labourers have been involved in building Eco-homes, putting in ceilings and making a bicycle track; 50 people are employed in recycling wastes and making paper products; some streets are cleaner since waste is being collected and recycled; and soon some 30 families will be able to live in beautiful, Eco-friendly homes in a safe and friendly Eco-village.

Better co-ordination and integration between various actors: Eco-city is making the local government aware of its environmental responsibilities and serving a networking role in bringing different departments together to work on Eco-city projects. This work is extending through to other municipalities.

Changes in local or regional social, economic and environmental policies: Eco-city spearheaded a "State of the Environment" report carried out by the Midrand town council in 1999. This was used to introduce environmental principles into all sectors of the government. Eco-city has assisted the Council's initiative " Water Demand Management Strategy" in areas of the Johannesburg metropolis and initiated river rehabilitation projects. The "utility Pik-it-up," is introducing community-recycling schemes into all its regions.

Midrand, with input from Eco-city, developed a comprehensive environmental management system and handed this over to the Johannesburg town Council in the hopes that it will be implemented not only in Midrand but all over the council's jurisdiction. Midrand also compiled a state of the environment report, which provided the baseline to develop the environmental management principles.

Changes to decision-making including institutionalisation of partnerships: Eco-city has formed a public-private partnership with the city of Johannesburg and in this way mobilised the Johannesburg council to adopt ecological principles in urban design and renewal. In partnership with the local council (Johannesburg), which seconded many of its employees to give time to Eco-city projects, Eco-city helped produce a state of the environment report, carried out studies on water demand management and car pooling and assisted with the rehabilitation of river courses. Eco-city will be a significant showcase during the World Summit on Sustainable Development as one of Johannesburg's legacy projects. With the public-private partnership there is a huge drive to get the environmental principles of Eco-city onto the formal planning agenda. It has worked closely with the water project of the department of Water Affairs and Forestry is investing R 1 million in rehabilitating the Kaalspruit River.

The opportunity of developing sustainable habitats for the formerly homeless has been wholeheartedly seized. The demonstration Eco-village (phase 2 under construction) showcases how people should live in a sustainable and humane way. Houses are made of alternative environmentally-friendly building materials, energy is conserved, grey water is recycled, human waste is composted via special toilets, organic produce is grown in situ and people live in a cohesive atmosphere. The demonstration urban Eco-village harvests rainwater off roofs and minimises water wastage. Appropriate energy sources are used. Solar energy is the most widely used source of energy followed by biomass (in low smoke braziers). Ceilings and other insulation and correct alignment of homes contribute to energy efficiency and bicycles as a means of transport have gained popularity.

Changes in use and allocation of human, technical and financial resources at local level: Resources are now used wisely. Johannesburg Eco-city may become a beneficiary in a national drive to make "green financing" available to low-income communities. The national department of housing has prepared a green financing study with encouragement from Eco-city.

Changes in people's attitudes and behaviour: The organic growers understand the importance of Eco-friendly agriculture and nutrition. They wouldn't farm any other way. Recyclables are now collected because people know they have a value. People understand how much fuel is saved through the installation of ceilings (by 25%) and solar water heaters (75%). They are now demanding such facilities.

SUSTAINABILITY

Integration of social, economic, environmental and cultural elements of sustainability:

Financial: use of resources and leveraging of loans including cost recovery and paying back of loans. Many of the projects have been launched in such a way that they can run without much capital injection. They are all income earning and thus can continue to run indefinitely. Organic growers sell their wares, ceiling installers sell their services, and builders sell their services. Where capital has been required, for example, in the installation of photovoltaic panels, the communities pay for their electricity and this money is put into a fund that is either used to repay the loan, or to fund another photovoltaic project.

Social and economic: gender equity, social inclusion, and economic and social mobility

Women are included as much as men in this project. Because of their willingness to work, women outnumber men as growers and builders. Young people too have also been included, especially in the bicycle and guiding projects. There are no economic barriers since people can barter or buy with their labour rather than use cash. Also, since the skills are retained in the community, more organic gardens can be established, more houses built and more energy and water conserved, and thus the project creates a ripple effect.

Cultural: Respect for culture is paramount, even highly marginalised cultures such as the San bushmen. In fact we are organising a culture fair whereby different cultures will be honoured through

exhibitions at the Uri Cultural Centre. The knowledge and innovations of Tswana and Khoi!San will be displayed as part of existing archaeological cave excavations on the site. All aspects of culture including African dance, storytelling and food will be exhibited.

Environmental: reducing dependence on non-renewable resources (air, water, land, energy and so on) and changing production and consumption patterns and technology.

Houses are made of alternative environmental-friendly building materials, energy is conserved, water is recycled, human waste is composted, organic produce is grown in situ and people live in cohesive villages. Human waste is composted and grey water is recycled for gardening. Organic waste is used in agriculture. Alternative sanitation is promoted in the urban Eco-village such as pit latrines.

LESSONS LEARNED

1. Use indigenous knowledge as much as possible. In Africa in particular, the local traditions and solutions were by and large environmental friendly. By using this knowledge in the present day, we can make much more use of our own local resources and people. This has been widely adopted in the programme and is gaining prominence.
2. Ecological solutions must take cognisance of local conditions. You cannot apply western technologies directly to the South. They need to be adapted to local needs and be tailor made for the local community. As a result of this, Eco-city has forged close partnerships with development and research agencies striving to find local solutions for local problems.
3. Poverty is deepened by modern ecological solutions that require large-scale infrastructure and the use of non-renewable resources. Ecological solutions may cost more initially, but in the end they save the end user and improve local conditions. Eco-city is working closely with the council to develop policies that address this development problem and inform the development process for the future.
4. Institutional arrangements and capacity building are an important and often forgotten aspect to the success of any programme. Focus on these aspects will enable greater long-term sustainability of the participants and greater ownership of the project. Eco-city, working with the community, has developed a co-operative movement within the area where co-operatives support each other. These co-operatives are also closely linked to provincial and national processes and indeed with international co-operative movements in Italy and Canada.
5. Volunteerism is an important ethic to encourage, as it implies greater buy-in from the community and the beneficiaries. It also reduces the risk of entitlement (feeling entitled to a high standard of living without doing anything in return) and makes the project more sustainable. Through careful design of initiatives, which focus on financial long-term sustainability, and the incentive of ownership of businesses by the local people, Eco-city has avoided the pitfalls of donor-driven programs. By linking all programmes to provincial and national initiatives, the youth, in particular, are developing an ethic of local involvement and ownership where the incentives are based on long term goals of social development and not the short term goals of personal financial enrichment. This is a particularly difficult to achieve because, the youth suffer from poverty and lack of decent education and the process is long and difficult.

Eco-city projects are meant to serve as demonstration models of sustainable lifestyles. People are encouraged to visit the projects and learn new techniques and ideas. So far, over 3,000 people have visited the programme through universities, local, provincial and national government and many organisations and governments from overseas. Many local authorities have adopted the ideas from Eco-city and are implementing them in their local areas.

Key Dates

1. 1992 - Midrand (a region of the City of Johannesburg) is affected by a chemical fire which mobilised local people in looking for solutions to such disasters
2. 1994 - Midrand EcoCity accepted by the local community as the chosen strategy for the area

3. 1998 - Danish Agency for Environment and Development (DANCED) approve a US\$ 1.1 million grant to Midrand region
4. 1999 - the Midrand EcoCity project is launched
5. 2000 - the Midrand EcoCity project is highlighted in many news releases and TV programmes
6. research articles and advocacy materials
7. 2001 - the city of Johannesburg formally adopts the programme for replication throughout the City and the programme receives prestigious local and international awards and recognition
8. 2002 - the programme is chosen as the ICLEI best practise case study for LA21 in Africa and is one of 4 key showcases for WSSD

References

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Midrand Policies, Strategies, Activities and Guidelines, Prepared by Jenny Hall and Kampsax, October 2000

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Integrated Environmental Management System: The Green City Project Midrand

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Type of Organization: Central Government

Financial Profile

Year	Total budget (US\$)	Partner A (% of budget)	Partner B (% of budget)	Partner C (% of budget)	Partner D (% of budget)	Partner E & F (% of budget)	Partner F (% of budget)

1999	410, 000	10	90	Nil	Nil	Nil	Nil
2000	420, 000	10	90	Nil	Nil	Nil	Nil
2001	475, 000	10	70	Nil	20	Nil	Nil
2002	500, 000	5	25	30	25	10	5

A = local government, City of Johannesburg,

B = International governments, Danced/DFID/USAID,

C = Private sector, WWF/ Bioregional,

D = National government, Dept Environmental Affairs/Dept Minerals Energy,

E = Grant agencies, UNDP/GEF, NGOs

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