



SECTION 3: CASE STUDIES



Cape Town Case Study 1 – Evaluation of the Environmental Education Programmes and Projects of the City’s Environmental Resource Management Department, 2009

Goal and Description of the CEPA Initiative

When this evaluation was undertaken (2009), the City of Cape Town’s Environmental Resource Management Department (ERMD) was initiating, hosting and supporting a considerable number of environmental awareness, education and training campaigns, projects and resource development initiatives with schools and other groups, as well as a smaller but growing number of staff training initiatives. Most of these activities and programmes were run in partnership with a large number of internal and external partners, in an extensive network of agencies involved in environmental education and training across Cape Town. The rationale and principles informing these City-driven activities, and the broad vision towards which they needed to work, were spelled out in an *Environmental, Education and Training Strategy*.

At the time the City had a small but growing team of environmental education and capacity building officers and managers, as well as a communications team and manager, and an overall coordinator. There was a growing amount of activity supported by growing budgets, and the City decided to commission a comprehensive evaluation, to see what all this work was achieving.

Goal of the Evaluation

The City of Cape Town was successful at mobilising funds for environmental education and training programmes and resources. The significant investment of resources and staff time was generally regarded as very positive, but the question also arose as to whether these activities were beneficial, in relation to their cost. Was it worth spending this money and time? What were these activities achieving? Do they support a local government’s service delivery role?

The goal was therefore to evaluate the impact, outcomes, efficiency and effectiveness of the City’s environmental education and training programmes in relation to the City’s related targets. Specifically, the evaluators tasked to:

- Review and revise the current targets and outcomes
- Justify if possible the funds spent on environmental education and training
- Be formative (empowering) and summative
- Consider the context and its complexities.

Evaluation Methods Used

A team of two external evaluators were appointed. They undertook a participatory evaluation, using multiple methods for data generation. These included a desk study, over 40 structured interviews and discussions with key participants, site visits and observations, and a selection of case studies. Quantitative data, where available, was synthesized into findings, but the main focus was on qualitative methods such as the case studies, which were used for probing beneath the surface and highlighting key findings.

A first draft of the evaluation report was drawn up in the form of a 'report-and-respond' instrument. This included the findings, interspersed with questions for response. This hybrid evaluation tool is a mix between a draft report and a questionnaire for generating further data. The final report included the findings, the responses received and the inputs from a concluding workshop with the department's staff.

The evaluators believed that it would most likely be too simplistic and not very helpful to ask whether or not the programme is 'effective'. Instead they probed with programme participants what works, when and where, and what doesn't work, when and where, in order to engage in deeper learning about the programme, in ways which would inform future planning and activities. In this way the process contributed to both a summative and a formative evaluation.

Indicators Used

The City's environmental education and training strategy did not have clearly stated outcomes, other than an assumption that raising behaviour would result in behaviour change. No other more tangible indicators for success were provided.

The evaluators decided to use a systems approach¹ to the evaluation. They looked for evidence of programme impact where available, and reflected on the environmental education and training programme's relevance in relation to the broader context and economy. They introduced systems-level indicators, such as whether activities were aligned with policy, whether the programme had strong partnerships, and whether it was providing enabling conditions for the seeds of awareness raising, to take root and grow into strong actions and resilience in the recipient communities.

Value of the Evaluation

This was a first comprehensive evaluation of the City of Cape Town's environmental education and training programme. It resulted in 16 recommendations, many of which were taken up by the City. Based on its systems approach, the evaluation presented the City's

¹ See the Folder on the CD with *Key Ideas Pages* for an *Overview of Complex Systems*.

environmental education and training programme as multi-layered and complex. The evaluators used an ecosystems metaphor to explore the complexity of the structural and operational dynamics of the programme in its broader social and institutional context.

To communicate the complexity in a useful way, the evaluators used the metaphor of a tree, to represent the environmental education and training programme. It thus also provided the ERMD with a new lens with which to look at its educational programme. If the ERMD's education programme was a tree, it would need strong roots and trunk (policies, alignment, partnerships) in order to be resilient and healthy. A tree does not need to grow very big and fast in order to thrive and be resilient. The many projects, resources and other activities the programme was sprouting were equated with branches and leaves. While these were a sign of growth, there might also be need at time to prune back activities that were crowding each other out. The evaluation pointed out the need for stronger roots and trunk (clearer policy, alignment of activities with policy, and greater connection between activities). The evaluation further found that the ERMD's education and training programmes linked strongly with external partners and these links were in many cases proving effective – similar to a tree providing habitats for many creatures.

The evaluators recommended that the City recognises the benefits of 'what makes the strongest tree' and that it uses facilitative indicators that reflect the mutually beneficial partnerships and the strong root and trunk system (a clear vision and effective policies).

Challenges

The key challenge faced by the evaluation team was the absence of indicators against which to assess the effectiveness of the programme. The *Environmental Education and Training Strategy* also did not have clearly stated outcomes. The evaluators pointed out that, in the absence of indicators, it is impossible to assess the effectiveness of a programme. They recommended a number of different types of indicators² that can be used in the programme, in key areas: status, facilitative and outcomes indicators, with a focus on facilitative indicators for earlier phases and outcomes indicators for later phases. An example of a facilitative indicator would be the level of integration of environmental education into the school curriculum; the associated longer-term goal might be how many schools are involved in programmes that protect biodiversity.

² See Tool 6 in the *Evaluation Design Steps* Folder on the CD.

Analysis & Key Learnings

This evaluation provided a new way of looking at the programme and at evaluation, and an explanation, perhaps, of why many evaluations of CEPA projects were difficult to undertake and of limited value. As a result, the City commissioned the production of a Toolkit which would include a wider range of indicators for evaluating CEPA projects.

The evaluation showed how a metaphor can be useful to communicate a range of concepts to users. Staff were able to see why too much growth, too fast, on weak foundations, was not ideal; that the connections they've formed with other partners were beneficial, but that they also needed stronger alignment with their policies, vision and intent, and greater attention to the most effective leverage points for change. Following the evaluation the City revised its *Environmental Education & Training Strategy* and produced two distinct strategies, focusing on City staff and a range of public groups, respectively.



Edmonton Case Study – Master Naturalists Programme

The CEPA Initiative – Goal and Description

The CEPA programme evaluated in this case study is about building capacity for the restoration, protection and monitoring of natural areas in the city of Edmonton. The programme was created in 2009 to give community members an opportunity to get involved ‘hands on’ in the stewardship of Edmonton’s natural areas and biodiversity. The City of Edmonton’s inventory of protected natural areas was growing, along with the need for active management. At the same time, resources available for management were diminishing as the City was forced to cut spending. In response to the interest of Edmontonians asking for opportunities to be involved in stewardship and learn more about local natural areas, and to the growing demand for the energy and skills of community members, the Edmonton Master Naturalist programme was created.

Specifically, the programme goals are to:

- **Increase the City’s capacity for the management of natural areas** by training interested Edmontonians and connecting them with a range of volunteer opportunities that support the City’s work in the protection, restoration and management of natural areas.
- **Build a well-connected network of conservation partners** including conservation and other community groups, landowners, the development and academic communities, and other orders of government, to foster the sharing of information and expand community capacity in support of local conservation and stewardship.
- **Support a system of shared conservation education** to increase citizens’ recognition and appreciation of the value of Edmonton’s natural areas systems and the ecological processes they support, and establish internal processes to capture and integrate the local ecological knowledge of community members.

The City of Edmonton has strived to attract programme cohorts that are diverse in their cultural backgrounds, abilities and experience, with a goal of encouraging shared learning – between instructors and participants, and amongst the participants themselves. The city is striving to build a ‘community of practice’ around natural area stewardship in Edmonton – that is, a group of people who engage in a process of collective learning through the collaborative project of natural area stewardship³. Their hope is that this community will be created, inspired and supported by the Master Naturalist Programme for years to come. In exchange for 35 hours of training, participants volunteer for 35 hours in activities that support natural areas management, restoration, protection, and education.

³ See *Approaches to CEPA and Change* in the Folder *Key Ideas Pages*, on the CD.

In the first three years of the programme, 82 graduates have initiated or supported volunteer stewardship projects at 36 project sites across the city. They have reported 817 hours of stewardship, naturalisation and invasive plant management, and 798 hours of community engagement and education. The programme has between 15-20 instructors each year.

Goal of the Evaluation

The evaluation goals were to identify, quantitatively and qualitatively, the successes of the programme after its first three years of implementation, as well as outstanding challenges and possible solutions. The evaluation was completed after the first three years of the Master Naturalists Programme.

Evaluation Methods Used

The first phase of the evaluation involved a review and analysis of volunteer hours logged (by email or fax - where and how they were spent), review of participant feedback about the programme (verbal and written feedback during course evaluation sessions), and review of the programme financials.

A further, more in-depth, evaluation of the programme was undertaken by the University of Alberta. In this phase there were three rounds of data collection:

- Pre-programme email-based survey questionnaire, including questions such as current level of nature-environmental training, motivation for participation in the programme/hoped for personal outcomes, importance of place/settings, and definition or perception of nature) (n=18).
- Focus group in the middle (Day 5) of the formal in-class training sessions, which explored the meaning of stewardship held by participants using drawing exercises and their dialogue about stewardship between each other (n=22).
- Post training and volunteer service in-depth in-person interviews. These interviews occurred 10-20 months after initiation of training. They were 1-2 hours in length (n=10). Topics explored included: Suggestions for improving the programme, identification of key structural constraints existing in the city that inhibit stewardship and suggestions for addressing these, engagement with other Master Naturalists in achieving duties/ stewardship, changes in perceptions of nature and/or stewardship, changes in motivations for remaining in the programme vs. when they first enrolled, effect of formal training vs. learning from others informally (social learning).

Indicators Used

The indicators used in the first phase of the evaluation were quantitative, i.e. numbers of:

- programme graduates

- project sites
- volunteer hours given:
 - to stewardship, naturalization and invasive plant management
 - to community education and engagement
 - to support the work of community organizations
- community stewardship groups created and/or supported through volunteer work
- new partnerships generated through the programme.

These indicators were intended to demonstrate what has been achieved through the programme in support of the three high-level goals.

The second phase of the evaluation, carried out by the University of Alberta, provided a valuable qualitative assessment of the program, using the following research questions:

- Who were the 2009 Master Naturalist participants? What characterised their education backgrounds, occupations, life stage, childhood and current interactions with nature, motivations for involvement, neighbourhood of residence, etc.
- How did the 2009 cohort of Master Naturalists trained by the City understand and engage in stewardship?
- How was nature perceived and defined by the 2009 Master Naturalists and what role did this play in their engagement in the programme?
- How successful was the programme in fostering citizen-based environmental stewardship? What outputs and outcomes were generated?
- What factors and processes affected the successful engagement of the 2009 Master Naturalists in immediate and ongoing stewardship of Edmonton's natural areas?

Value of the Evaluation

The evaluation was valuable for:

- Helping to communicate the successes of the programme
- Identification of issues and putting in place measures to address them, thus improving the programme.

Analysis and Key Learnings

The first phase of the evaluation used only quantitative indicators. These were valuable in pinpointing issues with reporting and with the range of volunteer opportunities that were available. The process of compiling and analysing the volunteer hours helped staff to understand a) where and how those hours had been spent, and b) that there was an issue with both low completion of hours and under-reporting of hours. They were able to make adjustments to the volunteer opportunities available, to how they direct volunteers to those opportunities, and to improve the reporting system.

But questions remained. There was a need to also look more deeply at the programme contexts and dynamics, such as volunteers' capacity, and the contexts in which they conduct their activities. What more might they need, besides the information shared with them during their training? What is involved in setting up and maintaining a vibrant and effective community of practice? To explore these dimensions, other indicators and methods of evaluation were required, and these were addressed in phase 2.

The City of Edmonton is mindful of the need to include a diversity of citizens in these communities of practice. In order to understand what kind of audience they have attracted to date, they needed to conduct a demographic analysis of programme participants, including information on: age of applicants /participants, number of male vs. female applicants/ participants, their cultural backgrounds, and what neighbourhoods they live in, versus where they volunteer. This put the City in a position to consider potential changes in the promotion of the programme, its structure or content, and the geographic distribution and type of volunteer opportunities, in order to better achieve the stated goals and ensure that the programme generates an engaged, appropriately-distributed and sustainable volunteer base in years to come. The University of Alberta evaluation was a valuable step in starting to answer some of these questions, as applied to the 2009 cohort. The intention is to expand this assessment to include other participants, as well as programme applicants.

In addition, in order to explore the impact of the programme on biodiversity, a further phase of evaluation could include the 'area of natural area stewarded by program participants', both per year and as an overall area. This could be calculated through a simple mapping exercise.

Thus far the evaluation has proven to be valuable in informing the continued roll out of the programme, and making adjustments to it. It was the first comprehensive evaluation of the programme, and the process offered excellent learning. Having understood the true accomplishments of the programme 'on the ground', and what the successes and challenges are, the staff were able to better assess what work is needed to improve the programme.

Nagoya Case Study – Nagoya Open University of the Environment

Goal of the CEPA Initiative

Nagoya Open University of the Environment is one of the first project activities conceived as part of the Biodiversity Local Action projects aimed to inspire the citizens of Nagoya in contributing to local biodiversity actions. The aim was to involve the entire Nagoya city and its neighbouring municipalities in the project, with a view to establishing Nagoya as an environmental capital where the entire city acts as a campus – an Open University of the Environment. A total of 173 courses per year take place annually with a total of 20,901 participants attending (Fiscal Year 2010 data).

Nagoya Open University of the Environment aims to develop human resources and interaction which will support the realisation of the vision of *Environmental Capital Nagoya* and a *Sustainable global society*, by ‘growing-up together’ through a variety of courses on the environment. In this context, ‘Nagoya’ includes any areas, individuals and companies that are involved in administration by City of Nagoya and/or this Open University framework, not just the city’s geographical territory or citizens of Nagoya only.

The specific goals, from *The 2050 Nagoya Strategy for Biodiversity* document, are as follows:

- Networking and leveraging the support of citizens for environmental activities
- Developing human resource capacity around biodiversity actions
- Accelerating citizens’ direct involvement in biodiversity parks
- Greater public awareness of the value of sustaining Nagoya’s biodiversity
- Increased interaction with public and institutional bodies
- Training and capacitation around a variety of environmental topics such as: energy problems and climate change, disaster prevention and safety in daily life, reducing carbon emissions, local food security, clothing and shelter, living in harmony with nature and biodiversity, waste management and recycling, international cooperation, environmental study and human resource development.

Courses take the form of lectures, field trips, workshops and more. In addition there are networking events for course developers and planners, as well as a number of ‘social experiments’ and networking and communication platforms, to complement the courses.

The Open University is governed by an executive committee chaired by the mayor of Nagoya. Committee members include representatives of citizens, companies, non-profit organisations (NPOs) and non-governmental organisations (NGOs), universities and local governments. Since its launch in 2005, over 750 courses have been held with nearly 100,000 participants.

Goal of Evaluation

Evaluations take place annually, on a large scale. They have a focus on evaluating the quality and success of the courses offered by different presenters, and on gathering

information about the participants in these courses, and their reasons for doing them. The aim is to improve the programme in order to realise its goals.

Method Used

Questionnaires are the main evaluation method used. Two kinds of questionnaires are used, for (a) course participants and (b) course developers and planners. The questionnaires for course participants gather information on their age and gender, their reasons for doing a course, how they got to know about the course, their satisfaction with courses, and the degree of recognition of related content. Questionnaires for course planners and developers require them to self-assess the success of the course and to measure participants' satisfaction with the course.

Indicators Used

The indicators used included the numbers of participants, the degree of recognition of content and the degree of satisfaction with a course.

Challenges

One significant challenge experienced by evaluators is the distribution of the questionnaires and obtaining the relevant statistics from the course managers and presenters. There is occasionally a lack of co-operation from the course coordinators and managers in assisting with distributing and returning the questionnaires, and in ensuring that they are correctly completed.

Value of evaluation

It is hoped that the evaluation will help to improve courses, to improve the City's understanding of the profile of course participants, and thus to improve public relations and the attraction of greater numbers of citizens to attend courses, with the ultimate aim of meeting the programme goals.

In such a large scale and long-term programme, there is considerable merit in a simple, questionnaire-based evaluation which can be semi-automated, gather large amounts of comparable data, and then compare the data across courses, participant groups, and years.

There would also be merit in supplementing such survey data with more in-depth case studies of particular courses, in order to understand their dynamics, including why the questionnaire-based evaluations are not always satisfactory. Such lessons could then be used to improve the survey methodology or processes.

In-depth case studies of particular participants groups, courses or other interventions in the Open University of the Environment could also be used to explore the relationship between attendance of courses, learning on courses and satisfaction with courses on the one hand, and the likelihood of course participants to take follow-up action, on the other hand.

São Paulo Case Study – Reintroduction of Howler Monkeys in São Paulo City

Goal and Description of the Initiative

The Atlantic rain forest remnants in and around São Paulo are under threat from urbanisation. This has negatively impacted the habitat of the *bugio* (*Alouatta clamitans*, the howler monkey). Howler monkeys live in the forest canopy, where they eat leaves, flowers, fruits and seeds. The species is endemic to the Atlantic rain forest and is endangered in the State of São Paulo. It is considered as an umbrella species that maintains the ecological balance of the forest. It is also a flagship species, that is, a charismatic species which facilitates the dissemination of conservation messages to the public.

Since 1992 there has been an increase in the number of howler monkeys injured by electrocution, road accidents, dog attacks and other causes related to urbanisation. Many injured animals from the Metropolitan Region of São Paulo are rescued, receive biological and veterinary medical care, and are then released in the wild by the Veterinary and Wild Fauna Management Technical Division of São Paulo City Hall. Laboratory tests are also carried out to diagnose diseases, because in the urban environment howler monkeys live very close to domestic animals and the human population.

In order to prepare the monkeys for release, the *Alouatta clamitans* Reintroduction Experimental Programme was created in 1996. From 1996 to 2005, 21 howler monkeys were released in six forested areas in the city of São Paulo. At that time it was not easy to observe and follow these monkeys to know if they were alive, eating and reproducing.

In 2006 a programme was approved to improve the howler monkey reintroduction in São Paulo city, with the aim of conserving both the species and its rain forest habitat. The programme has been jointly initiated by the Veterinary and Wild Fauna Management Technical Division and the Municipal Herbarium of the Municipal Secretariat for the Environment.

The programme also has CEPA components, namely information and educational activities with the goal of using the charismatic image of the howler monkey to facilitate the assimilation of knowledge about local conservation actions, to build awareness of the rehabilitation programme, and to sensitize residents to the importance of local biodiversity. Particular target groups were rural and indigenous communities (including children, teenagers and youth), landlords of the areas in which releases were taking place, and teachers in municipal school located near howler monkey habitats.

The CEPA methodology includes educational activities and publications for adults and children, lectures, public presentations, visits and teacher training. A photo novel for children, called *Howler: Nature Thanks You*, and a DVD film, *The Howler Monkey Reintroduction Project*, were produced.

In these activities more than 330 people had received information about the programme, as well as 71 education professionals from 25 schools located around the reintroduction areas.

The teachers' course had three objectives:

- Provide guidelines for educational and environmental activities with a sustainability focus in the city of São Paulo
- Articulate knowledge of the environment and the biodiversity of the municipality with the Municipal Secretary of the Environment: Curriculum Directions, across different knowledge areas of the elementary school curriculum
- Plan didactic activities taking as a reference the materials produced by the Division of Wildlife and the Curriculum Guidelines and Proposal of Learning Expectations.

The educators' courses consisted of a general introduction of the project, fieldwork, and planning of workshop projects to reach students, school teams, families and broader community.

Goal of the Evaluation and Methods Used

A monitoring programme was created using radio tracking to follow the newly released monkeys to see if they were adapting well to their natural habitat. From 2008 to 2009, 34 howler monkeys were released and monitored by radio tracking. They were divided in five groups, and in each group a female received the radio collar. The male cannot receive the collar because of the size of the hyoid bone in its neck.

The eating behaviour is observed (direct observation) and the plant fragments found in the faeces is analysed (indirect observation). The plant material is identified by the Municipal Herbarium.

The evaluation showed that 64% of the howler monkeys remained alive in the released area, 21% died, 7% went back to captivity and 7% disappeared.

How were the CEPA components evaluated? At the end of the educators' course, the teachers were invited to answer an evaluation sheet with five questions about the course:

- (1) Corresponded to my needs for continuing education?
- (2) Contributed to the construction of new knowledge?
- (3) Has practical application in my professional action?
- (4) Favours implementation of Curriculum Directions?
- (5) Reorients the construction of my plan work?

The majority (85%) of teachers strongly agreed with the themes and content developed in the course.

Participants also answered open questions and indicated the most important themes and contents for their practice. The evaluation therefore had a formative role, in that it could inform future versions of the course.

Participants committed themselves to apply the acquired knowledge and teaching materials received in the course, planning and executing the project to be developed in each school. Thus the evaluation also gave CEPA staff and managers some indication of the success of the courses.

The positive evaluation by the teachers led to the continuation of the course in 2012.

Indicators Used and Value of the Evaluation

The indicators used for the success of the adaptation of the re-introduced monkeys included the composition of their diet, as an indication of whether they were eating properly.

An indication of whether the CEPA programme was successful was teachers' commitment to use their new knowledge and the materials they received, to educate others about the programme and its objectives.

Analysis

Both indicators used are process or facilitative indicators⁴, which are helpful in shaping the further continuation of the project. Any indication here of problems, would alert practitioners and assist them in making some adjustments for a greater likelihood of success. For example, if teachers answered that the courses did not have practical application value for them in their professional practice, the course presenters would have to make changes to the programme, in order to improve the chances that teachers will actually use the course outcomes, thereby achieving the CEPA objectives and eventually, broader biodiversity goals as well.

To assess the overall impact of the programme on São Paulo's residents and its biodiversity, more indicators would have to be introduced. But what indicators?

Whereas it is difficult to monitor the physical impact of our Local Action for Biodiversity – in this case the re-introduction of primates in rain forest areas in close proximity to human settlements – it may be even more difficult to evaluate the associated CEPA activities.

While whole manuals on biodiversity indicators exist, there is much less information on how to determine whether our work with teachers, children and landlords are successful, or not. This toolkit has been designed to provide CEPA practitioners with guidelines to custom-design evaluations of CEPA activities such as the programmes undertaken in São Paulo.

⁴ See Tool 6 in *Folder 4: Evaluation Design Steps*.



Monitoring howler monkeys re-introduced in the rainforest with radio tracker, direct observation and indirect observation of plant material in faeces.



How do we monitor and evaluate CEPA activities such as this lesson with children? What tools do we have for this? What direct and indirect observations can we do here, where our subjects are human and our processes social and educational?

Cape Town Case Study 2 – Green Audit and Retrofit Project for Schools

Goal and Description of the CEPA Initiative

As noted in the first case study, the City of Cape Town initiates a wide range of environmental education and training programmes with schools. This particular programme is one of a growing number of opportunities for high schools and learners in the final years of schooling. The programme has a broad aim to raise awareness around sustainability and climate change. Specifically, it introduces school students to a toolkit through which they are meant to measure their consumption of water and electricity and production of waste and biodiversity management at the school, after which they need to identify and implement a retrofit plan to reduce the school's consumption and waste, or to improve biodiversity, thereby addressing climate change and sustainability. The programme is implemented by small groups of students (usually associated with environmental clubs) a teacher, and mentors who are appointed to support them. This was the first roll-out of the newly produced Green Audits Toolkit for schools and it took place in six schools, over a two year period. The overall programme implementation was conducted by a consulting company that developed and produced the Green Audit Toolkit in partnership with the City of Cape Town.



Goal of the Evaluation

The evaluation was conducted by a different group of consultants within the same company. Its goal was to evaluate the pilot in order to consider and inform a possible further, wider roll-out of the Green Audits Schools Programme. Specifically, it aimed to determine:

- The value in raising awareness around sustainability and climate change in the participating schools

- The value in twinning well-resourced with a under-resourced schools
- The measurable success of schools in reducing environmental impacts in their chosen audit focus area (be this Water, Waste, Energy or Biodiversity)
- The effectiveness of the methodology used by the programme team to implement the project.

Evaluation Methods Used

The 3-person evaluation team used the following methods:

- A questionnaire for students and teachers
- One-on-one interviews with teachers, school principals and other staff
- Focus group discussions with students at the participating schools
- A mini Green Audit assessment of the schools' chosen focus areas (Water, Waste, Energy or Biodiversity)
- Interviews with service providers and suppliers of products (such as worm farms or shade cloth for gardens).

Indicators Used

Technical indicators: The audit indicators for reduction in electricity and water use are not mentioned, but were presumably straight forward – except for the fact that data could not readily be collected to assess them. The indicator for food gardens established at the schools was the amount of income the school derived from them. Indicators for indigenous gardens and for reduction in waste were not reported.

CEPA indicators: There is reference to the increase in learners' awareness and knowledge, and mention is made of qualitative indicators, such as students' own assessments of what they have learnt.

Challenges

The availability of data, the absence of indicators and planning appropriately for the evaluation were all challenges in this evaluation. At the time the evaluation was conducted (towards the end of the second year), Grade 12 students who participated in the project had already finished school, and Grade 10-11 students were busy preparing for exams. Many teachers were also unavailable to participate in the evaluation.

There were further gaps in the data due to the fact that data which the consultants assumed schools would collect as part of their audits, were not in fact obtained. The evaluators also did not conduct the mini audits they intended to conduct, to see what benefits the students' projects brought the schools. Time and budget constraints were mentioned, although the

inaccessibility of the data also seemed to play a role. For example, financial managers had to be asked to prepare the information and it seemed to be ‘too much trouble’ at this stage in the programme’s lifespan, for them to prepare this.

The evaluators also note that it was “difficult” to assess changes in students’ awareness and knowledge of sustainability and climate change, presumably because no baseline studies had been conducted. They suggest that some test or other form of monitoring be done in future for this purpose.

Value of the Evaluation and Analysis

The evaluation is strong on identifying the strengths of the project, related to its potential for inspiring people and promoting environmental actions.

It also confirmed findings from evaluations previously conducted on the City of Cape Town’s projects with high schools, for example that: well organised schools in particular prefer that projects be introduced well in advance, at least a year; that projects should ideally run over longer periods; that schools need considerable outside support with environmental content and inspiration; and that students need a mix of fun, facts and meaningful ‘make-a-difference’ projects.

The evaluation identified challenges with implementing an ambitious programme of this nature, but did not provide strong recommendations on how they should be addressed. It did not build on similar evaluations that had been conducted before. Had it done so, it could have been used in a systematic evaluation of high school interventions or school projects in general. Such a systematic review of previous valuation findings would give developers of new programmes and evaluation teams a better understanding, in advance, of schools’ requirements, and how to plan for an evaluation in school contexts.

More might have been learned, if it had been possible to include the three schools (one third of those who started) that dropped out of the programme, been included in the evaluation. Learning about ‘failures’ or why certain participants were not willing or able to benefit from a CEPA initiative offered, could provide valuable insight to inform future versions of the programme.

The challenge of obtaining information on electricity and water consumption and waste, as well as biodiversity gardens, was surprising, given that the CEPA project was focused on a green audit. Questions about auditing could therefore have been useful in the evaluation. If one asked ‘double loop’ ‘why’ questions, for example, one would start considering why electricity and water meters are not readily accessible. Why have schools or society not previously considered it important to measure their consumption? The fact that we are now starting to consider it as important, is an indication of a slowly emerging shift – for which we need to cater with practical arrangements, such as more accessible water and electricity meters, and also good auditing tools. If the current ‘Green Audit toolkit’ did not prepare schools adequately to obtain the necessary data, why not? What assumptions should be revisited, before the next stage of the programme is designed?

Another useful reflection may be on why the City of Cape Town chose to focus primarily on the students to reduce consumption, given how difficult it is for them to access the necessary data. While there were significant benefits from this, another evaluation question could be what the benefits might have been if other parties at the schools (such as the financial managers, estate managers) were more centrally involved in the project.

Key Learnings

The analysis of this evaluation suggests that asking deeper ‘double loop’ questions⁵ could open up greater understanding and perhaps inform the design of future phases of a programme.

This study also demonstrates the need for careful planning of evaluation and the timing of the evaluation. The evaluators would have had an easier task, had the indicators and the data that would be needed, been identified at the time of programme design, and collected in an integrated process throughout the life of the programme. This would, for example, have alerted the programme managers and evaluators to the prohibitive difficulties of collecting auditing data.

One is reminded how important it is for CEPA practitioners to understand the context⁶ for which they design programmes, projects or resources – and, it would seem – evaluations. This is not always possible, but then particular care needs to be taken to get quite an in-depth understanding of the context in which the project and evaluation would play out, preferably before and certainly during the evaluation.

⁵ See Step 3 in FOLDER 4 *EVALUATION DESIGN STEPS*, on the CD.

⁶ See Step 4 in FOLDER 4 *EVALUATION DESIGN STEPS*, on the CD.