

Tshwane Environmental Education and Awareness Strategy



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ABBREVIATIONS

CTMM	City of Tshwane Metropolitan Municipality
EE	Environmental Education
EE & A	Environmental Education and Awareness
LEEF	Local Environmental Education Forum
CSIR	Council for Scientific and Industrial Research
UNEP	United Nations Environment Programme
WWF	Formerly known as the World Wildlife Fund, now simply the WWF
UNESCO	United Nations Educational, Scientific and Cultural Organization
SoE	State of the Environment
SoER	State of the Environment Report
TIEP	Tshwane Integrated Environmental Policy
NEMA	National Environmental Management Act
IDP	Integrated Development Plan
UNDP	United Nations Development Programme
JPOI	Johannesburg Plan of Implementation
WSSD	World Summit on Sustainable Development
SANBI	South African National Biodiversity Institute
LEFs	Local Environmental Forums
PPP	Public Private Partnership
NGO	Non-Governmental Organization
CBO	Community-Based Organization
WESSA	Wildlife and Environment Society of South Africa
NQF	National Qualifications Framework
SETA	Sector Education and Training Authority

1. INTRODUCTION

1.1 Defining Environmental Education in an international context

Over time educators' understanding of the environment has broadened and expanded from seeing environment as a physical world with nature at risk, to interacting social, economic, political and bio-physical systems. Historical and cultural processes and life experiences thus shape the environment.

Although there are many attempts to define environmental education, it is a process and does not lend itself well to a fixed definition. The IUCN (The World Conservation Union), in 1971, defined it as *the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture and his bio-physical surroundings. Environmental education also entails practice in decision making and self-formulation of a code of behaviour about issues concerning environmental quality.*

In 1991, Huckle attempted to re-shape the definition to be more reality-based with a strong emphasis on socially critical educational processes: *Education for the environment should be a shared speculation with pupils on those forms of technology and social organisation which can enable people to live in harmony with one another and with the natural world.*

The World Conservation Strategy (IUCN, UNEP, WWF, 1980) stated that "the behaviour of entire societies towards the biosphere must be transformed". Internationally, the aim in EE processes have often been stated in terms of behaviour and UNESCO sees "environmentally responsible behaviour" as the aim of the EE process.

In December 2002, resolution 57/254 on the United Nations Decade of Education for Sustainable Development (2005-2014) was adopted by the United Nations General Assembly and UNESCO was designated as lead agency for the promotion of the Decade. One of the key themes for the decade is "Environmental Conservation and Protection".

If one thus look at the present international trends, the time for the City of Tshwane to embark on an environmental strategy, is as ripe as it can be.

1.2 The Environment in Tshwane

The residents of Tshwane are fortunate to live in a city based in a naturally picturesque setting. Tshwane is still a green city, one of the few with ridges that are still intact. It is also one of the few remaining with river systems that are still connected. The city is set between a range of hills; its location determines its visual attractiveness to a large extent. The city boasts an array of well-maintained parks, tree-lined streets, attractive residential gardens and resources such as its nature reserves, a world-class zoo and a botanical garden. All of these features allow Tshwane to be seen to offer much in terms of the natural environment.

Tshwane is also fortunate to be the seat of national governmental departments, research and development organisations and a number of first-rate tertiary education institutions. Therefore, not only does Tshwane have natural resources to its advantage but also the expertise on how to manage this natural environment. However, the sustainability of the natural environment of Tshwane is threatened by a weak knowledge base and irresponsibility towards the natural environment as well as incorrect perceptions among residents, as well as the public and private sector, as far as the natural environment is concerned. Additionally, it is increasingly being acknowledged that every global citizen should be held responsible and accountable for the sustainability of his/her decisions and actions. A general lack of knowledge about the effects of certain actions and decisions on the natural environment means that people continue unabated with harmful activities.

2. WHY AN ENVIRONMENTAL EDUCATION STRATEGY FOR TSHWANE?

2.1 The Tshwane Integrated Environmental Policy

The environmental vision of the City of Tshwane Metropolitan Municipality (CTMM) is set out in the Tshwane Integrated Environmental Policy (TIEP). The TIEP has been accepted as the guideline document for integrating environmental sustainable practices into all activities, plans and programmes of local government. The ultimate goal of the TIEP is to lead the CTMM towards reaching its environmental vision and, ultimately, its broader vision of being an internationally acclaimed African capital city of excellence that empowers the community to prosper in a safe and healthy environment.

Box 1. Environmental Vision of the City of Tshwane

An internationally acclaimed African city of excellence caring for its environment, demonstrating commitment and responsibility through innovation and collaboration.

(CTMM, 2005)

It follows that an African city of excellence that cares for its environment has people that understands and care for the environment. Environmental education is one of the key ways to ensure increased knowledge and awareness of the environment among the people of Tshwane which will, expectantly, influence decision-making and actions where the environment is concerned.

The CTMM has identified 8 strategic focus areas to be addressed in fulfilling its vision, mission and value system with Strategic Focus Area 8 being “[the] caring for natural and cultural resources by preserving, utilising and enhancing them” (CTMM, 2005). For the people of Tshwane to actively participate in achieving the objectives of strategic focus area 8, increased knowledge and awareness of the environment, human- and environmental rights and sustainable development, as well as the current *status quo* in terms of natural resources within the municipal area, will be crucial.

Box 2. What is an environmental policy?

An environmental policy is a set of guidelines and principles of action for managing and protecting the environment.

(CTMM, 2005)

During the formulation of the TIEP, environmental issues to be addressed by the policy were identified and grouped together into 7 broader strategic issues. Strategic Issue 5 is ‘environmental awareness and education’ with the goal of promoting environmental education and awareness that enhances the understanding of environmental rights, responsibilities and the appreciation of the environment (CTMM, 2005). The overarching goal and objectives for environmental education and awareness in Tshwane is discussed in Section 4. The objectives for environmental education and awareness in Tshwane as stipulated in the TIEP are the guiding principles for the Tshwane Environmental Education and Awareness Strategy.

The Tshwane Environmental Strategy as set out in the TIEP (Section 6: ‘The Way Forward for the Tshwane Integrated Environmental Policy’) positions “education and awareness” across the spectrum of strategies of the TIEP as an overarching initiative that will enable the development and implementation of the strategy and its components. It can rightly be said education and awareness is the key enabling factor of the TIEP.

2.2 The Tshwane City Scorecard

The CTMM has developed a city scorecard to improve the performance measurement within the municipality, as required by the Municipal Systems Act (Act 117 of 1998) (CTMM, 2004). The city scorecard measures the performance of municipal officials against the Municipality's obligations to the community, and ensures that the organisation as a whole pursues performance excellence (CTMM, 2004).

The successful implementation of an environmental education and awareness strategy within the municipality (see Appendix A for the proposed evaluation of the success of the strategy) will definitely contribute to the achievement of the municipal priority issues as set out in the scorecard. Appendix A indicates the Municipality's priority issues as set out in the scorecard and how this strategy can contribute.

2.3 The Tshwane State of the Environment Report

The Tshwane State of the Environment Report (SoER) clearly illustrates that many threats to the natural environment of Tshwane could have been decreased dramatically through responsible, environmentally conscious behaviour by all parties in Tshwane. Section 10.2 of the SoER summarises the threats and opportunities to the environment of Tshwane. In most instances, the incorporation of sustainability principles into decision-making and behaviour could have contributed to decreased impact on the environment. The SoER emphasises the need for increasing awareness of the environmental impacts of certain behaviour in the municipality. Appendix B illustrates how environmental education and awareness can contribute to alleviating the environmental threats to the natural environment in the City of Tshwane.

Box 3. What is a State of the Environment Report?

SoE reports have traditionally been used to highlight the condition of the biophysical environment. Recent SoE reports have also included analysis of trends or changes in the environment, analysis of the causes of these changes, assessment and interpretation of the implications and impacts of these trends, and assessment of the actual and potential societal response to environmental problems. The SoE report has also come to identify the key driving forces that influence environmental change, and policies that influence environmental trends.

(Source: Pretorius, Muller and Balance, 2002)

2.4 Sustainable development, Agenda 21 and the Environment

In the first half of the twentieth century, years of industrial development and the associated environmental degradation was starting to take its toll on quality of life and resource availability. Increasingly, it was realised that there was a limit to development. However, at the end of the first half of the twentieth century a shift in thinking started to occur from “development at all costs” to development incorporating principles that would mitigate impacts on the environment. Out of this, the concept of sustainable development emerged.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987).

Table 3 illustrates the road that led to where South Africans is today in terms of integrating sustainable development into policies and plans on the local level. By law, municipal councils are required to develop Integrated Development Plans (IDPs). Section 25.1 of the Municipal Systems Act (Act No. 32 of 2000) states clearly that:

“Each municipal council must, within a prescribed period after the start of its elected term, adopt a single, inclusive and strategic plan for the development of the municipality which –

1. links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality;
2. aligns the resources and capacity of the municipality with the implementation of the plan;
3. forms the policy framework and general basis on which annual budgets must be based;
4. complies with the provisions of this Chapter [of the Act]; and
5. is compatible with national and provincial development plans and planning requirements binding on the municipality in terms of legislation.”

Table 1. The road towards integrating sustainable development at the local level.

(Adapted from Urquhart and Atkinson, 2000)

1950 – 1990	Economic era of abundance – accompanied by increasing poverty and inequality and environmental degradation. The impact of years of unlimited development is increasingly being recognised (impacts of quality of life and resource availability).
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1972	United Nations Conference on the Human Environment (Stockholm Conference). First International attempt to change the unsustainable economic growth path.
1980	World Conservation Strategy. First attempt to reconcile ecological and economic concerns and approaches.
1987	World Commission on Environment and development (Brundtland Report). Strong statement that environment and development are inseparable. ' <i>Sustainable development</i> ' becomes a key concept.
1992	United Nations Conference on Environment and Development (Rio Earth Summit). Outcome: Agenda 21, an action plan for global sustainable development. Chapter 36 is titled 'Promoting education, public awareness and training'.
1993	Warning to Humanity. 1 600 scientists warn that no more than a few decades remain to avert vast human misery and irretrievable environmental destruction.
1996	United Nations Conference for Human Settlements (Habitat II). Outcome: The Habitat Agenda, an action plan for sustainable human settlements.
1997	United Nations General Assembly Special Session (Rio+5). To review progress made since Rio.
2000	The Earth Charter. Commonly agreed principles for sustainable development to guide and judge actions of individuals, businesses and governments. South Africa's answer to Agenda 21 at the local level, Integrated Development Plans (IDPs), is required by Municipal Systems Act (Act No. 32 of 2000)
2002	World Summit on Sustainable Development in Johannesburg. Outcomes: Johannesburg Plan of Implementation and Millennium Development Goals.
2005	United Nations Decade of Education for Sustainable Development commences.

Integrated Development Planning is South Africa's answer to Agenda 21, the action plan for global sustainable development, a product of the landmark Rio Earth Summit (see Figure 1). Environmental education is a key principle of Agenda 21. Chapter 36 is devoted to 'promoting education, public awareness and training' (UNDP, 1992) and discusses three programme areas, namely reorienting education towards sustainable development, increasing public awareness and promoting training.

The CTMM IDP process is guided by the following principles:

- **Participation** – Integrated development planning is the platform for building community ownership through providing a sound base for building partnerships, fostering a shared understanding of needs and nurturing common agreement around strategic development priorities.
- **Sustainability** – Promoting the integration of environmental concerns into social and economic decision-making processes.
- **Strategic planning** – Integrated development planning serves as a management tool that enables a municipality to determine the broad strategic view of its development requirements and to address all key issues holistically.
- **Being principle led** – In terms of the Municipal Systems Act all local development strategies must be aligned with national and provincial sector plans, strategic plans and statutory guidelines.
- **Being implementation orientated** – Integrated development planning is a vehicle for fast-track delivery.
- **Integration** – This promotes the more effective and efficient use of scarce resources.
- **Transformation** – Institutional transformation is required to ensure the successful implementation of the integrated development planning process.
- **Cooperative governance** – Aligning the financial resources and human capacity of the Municipality with the implementation of strategies, projects and programmes.

(CTMM, 2002a)

2.5 The right to a safe and healthy environment

An environmental education and awareness strategy should aim to inform about the fundamental human rights enshrined in the South African constitution as far as the environment is concerned. The Bill of Rights applies to all law, and binds the legislature, the executive, the judiciary and all organs of state (South Africa, 1996).

For a person to understand his/her rights regarding the environment, at least a basic knowledge regarding environmental matters is critical. An environmental education and awareness strategy at the local government level should therefore follow a two-pronged approach: Informing and educating about general environmental matters as well as fundamental rights to a safe and healthy environment.

2.6 The legislative background to an environmental education and awareness strategy at the local government level

Table 2. The legislative background to an environmental education and awareness strategy at the local government level.

SELECTED APPLICABLE LEGISLATION			
Legislation	Overview	Relevance for CTMM	Reference (all accessed on 21/04/05)
Environment Conservation Act, Act 73 of 1989 (ECA)	Makes provision for the effective protection and controlled use of the environment and for matters incidental thereto. ECA was the first Act to introduce the requirement to undertake an Environmental Impact Assessment ("EIA").	CTMM should be guided by the provisions of this Act in conjunction with NEMA when deciding / adjudicating development in Tshwane	http://www.acts.co.za/enviro/ Environment Conservation Act, 1989
Constitution of the Republic of South Africa, Act 108 of 1996	Section 24 of the constitution indicates that everybody has a right to a healthy environment Section 152 of the constitution describes the objectives of local government, which include: <ul style="list-style-type: none"> • Ensuring the provision of services to communities in a sustainable manner; • Promotion of social and economic development; • Encouragement of communities and community organisations in the matters of local government. 	CTMM is responsible to ensure that this right is effected and afforded to all the people of Tshwane	http://www.polity.org.za/html/govdocs/constitution/saconst.html
Municipal Systems Act, Act 32 of 2000	Section 4 of this Act describes the rights and duties of municipal councils. Section 4.2, stipulating the duties of municipal councils, states (in sub-section i) that: "The council of a municipality, within the municipality's financial and administrative capacity and having regard to practical considerations, has the duty to - promote a safe and healthy environment in the municipality."	CTMM is responsible to ensure that this right is effected and afforded to all the people of Tshwane	http://www.polity.org.za/html/govdocs/legislation/2000/act32.pdf
Disaster Management (DM)	Provides for an integrated and coordinated management	CTMM is responsible for local	http://www.polity.org.za/pdf

SELECTED APPLICABLE LEGISLATION			
Legislation	Overview	Relevance for CTMM	Reference (all accessed on 21/04/05)
Act, Act 57 of 2002	policy focussing on prevention, reduction of risk of disasters, mitigation of severity of risks, emergency preparedness, effective response and post disaster recovery as well as intergovernmental structures for DM and the establishment of centres for national and provincial DM centres.	level disaster mitigation measures as if left unattended to pose threats to environmental sustainability and intactness	/DisasterManagementA57.pdf
National Environmental Management Act, Act 107 of 1998 & National Environmental Management Act, Act No 8 of 2004	Section 24E of the amended act states that every environmental authorization must as a minimum ensure, <i>inter alia</i> : - adequate provision for ongoing management and monitoring of impacts throughout the lifecycle of an activity - provision is made for transfer of rights and obligations when property is transferred	CTMM has the responsibility to ensure as a sphere of government to ensure that activities under its jurisdiction are managed and monitored accordingly	http://www.polity.org.za/pdf/NatEnvmanAmedAct8.pdf
National Environmental Management: Protected Areas Amendment Act, Act No 31 of 2004	Provides for the application of the National Environmental Management: Protected Areas Act of 2003 with regards to national parks and marine protected areas as well as provide for matters connected with these. Accords minister the power to declare an area specified in the notice as: a national park, part of a national park or assign a name to a park.	CTMM has a number of parks that could be affected by this legislation.	http://www.polity.org.za/pdf/NatEnviroManProtAreaA.pdf
National Environmental Management: Air Quality Act, Act 39 of 2004	Gives effect to section 24 of the constitution of South Africa and reforms the law regulating air quality in order to protect the environment by: - providing reasonable measures for the prevention of air	CTMM has the duty to ensure that all EIAs it authorizes fully comply with air quality and other relevant legislation to	http://www.environment.gov.za/PolLeg/Legislation/2005/Mar15/air_quality_act_2004.htm

SELECTED APPLICABLE LEGISLATION			
Legislation	Overview	Relevance for CTMM	Reference (all accessed on 21/04/05)
	pollution, ecological damage and degradation while promoting justifiable economic and social development and conservation - provides norms and standards for air quality monitoring, management and control by all spheres of government, and as such, sets standards for national, provincial and local government	bring to fruition the right to a safe and healthy environment.	
National Environmental Management: National Biodiversity Act, Act 10 of 2004	Provides a legal framework within the context of NEMA for the development of national norms and standards for biodiversity conservation and management. Facilitates the drawing up of national lists for threatened and protected species as well as the establishment of a National Biodiversity Institute. It also specifies punitive measures for those who contravene the law.	CTMM has a lot of good environmental attributes as indicated in the situational analysis. It also has a responsibility under this act to ensure that species under its jurisdiction are protected.	http://www.polity.org.za/pdf/NatEnvManBioA10.pdf
Local Government Municipal Structures Amendment Act, Act No1, of 2003	Amends the Local Government Municipal Structures Act of 1998. Regulates the effect of a change in the type of municipality on the terms of office of members of the executive committees and mayoral office and to provide for matters connected therewith.	CTM M needs to ensure all the time that the right candidates are elected for office to ensure that its vision and mission as expressed in the strategy for environmental education are carried through and brought to fruition and that they endure.	http://www.polity.org.za/pdf/LocGovMunStructAA1.pdf

SELECTED APPLICABLE LEGISLATION			
Legislation	Overview	Relevance for CTMM	Reference (all accessed on 21/04/05)
Local Government: Municipal Finance Management Act, 2003	Seeks to ensure secure sustainable management of municipal financial affairs and other institutions in the local government sphere.	This is important for the CTMM to take cognisance of as it receives substantial amounts of money both from national government and other sources such as international donors. Funding is also required to ensure successful implementation of environmental awareness programmes. Governing the use of this money with care is critical.	http://www.polity.org.za/pdf/LogGovMunFinManA56.pdf

2.6.1 United Nations Policies and Programmes

The Johannesburg Plan of Implementation

The Johannesburg Plan of Implementation (JPOI) is contained within the report of the World Summit on Sustainable Development (WSSD), which was hosted in South Africa in 2002. This plan is a map of the road forward for global sustainable development in the years after the 2002 WSSD. As a member state of the United Nations, South Africa is committed to ensure that the JPOI is reflected in our development plans and policies.

Environmental education is addressed by the JPOI in that it states that member countries should:

Develop awareness-raising programmes on the importance of sustainable production and consumption patterns, particularly among youth and the relevant segments in all countries, especially in developed countries, through, *inter alia*, education, public and consumer information, advertising.

In terms of capacity building and technological needs, the JPOI emphasises the following needs:

Capacity-building and technological needs:

- There is a need for capacity-building, particularly in the introduction, use and maintenance of technologies that fit the needs of local poor populations.
- There is a need for capacity-building and education in water management and conservation, as well as in sanitation and hygiene.
- Capacity-building in support of integration and coordination among sectors and communities is needed.
- Education, information and public awareness are essential in support of water management and conservation.

The Millennium Development Goals

In September 2000, the member states of the United Nations unanimously adopted the Millennium Declaration. The General Assembly of the United Nations recognized the Millennium Development Goals as part of the roadmap for implementing the Millennium Declaration. The target for the achievement of the Millennium Development Goals is 2015. As member state of the United Nations, South Africa therefore has made a commitment to achieve the goals set by the Millennium Declaration by this date. The CTMM, as an organ of state, is responsible for achieving these goals

at the local level. Environmental education and awareness raising will be a critical component of achieving Goal 7. In order to meet these targets and ensure effective public participation in the process, environmental awareness within Tshwane is a requirement.

3. SCOPE OF THE STRATEGY

This Strategy focuses on the bio-physical component of the sustainable development model (economic, social and bio-physical). However, the 3 components are interlinked and environmental education in terms of the natural environment will, in turn, effect the social and economic environment. Examples are the cost-saving nature of implementing energy efficient practices (such as energy saving light bulbs) releasing financial capital to be expended elsewhere as well as improved quality of life of citizens when air pollution is lessened (relief from upper-respiratory problems). Organisations and institutions that provide support in terms of environmental education and awareness may fall within the realm of cultural heritage resources, such as the Transvaal Museum and the Tswaing Crater Museum (a heritage resource). These resources need support from the CTMM to ensure sustainable education resources.

The scope of the Strategy importantly includes awareness-raising about the vast range of resources available to the residents of Tshwane as far as natural resources and educational facilities are concerned. Tshwane boasts world-class museums such as the Transvaal Museum and the Natural History Museum as well as a variety of nature reserves and other places of natural beauty and importance.

3.1 Fundamental environmental education principles

The 1977 Intergovernmental Conference on Environmental Education in Tbilisi, Georgia (then part of the former USSR) is still viewed today as the landmark conference on environmental education. At this conference, organized by the United Nations Education, Scientific, and Cultural Organization (UNESCO) in cooperation with the U.N. Environment Programme (UNEP), the Tbilisi Declaration was adopted.

The principles of environmental education, according to the Tbilisi Declaration, are:

1. Awareness and sensitivity to the environment and environmental challenges
2. Knowledge and understanding of the environment and environmental challenges
3. Attitudes of concern for the environment and motivation to improve or maintain environmental quality
4. Skills to identify and help resolve environmental challenges

5. Participation in activities that lead to the resolution of environmental challenges (UNESCO, 1978).

The scope of the Tshwane Environmental Education and Awareness Strategy should address the fundamentals of environmental education as stipulated by the Tbilisi Declaration.

3.2 Tshwane Community Environmental Education and Training Strategy Principles

During the implementation and execution of this strategy, stakeholders will strive to adhere to the following principles:

- The outcomes of successful environmental education and training efforts are dependent on effective environmental services and infrastructure.
- Role-players acknowledge the need for programmes supporting efforts to change environmental behaviour.
- The emphasis of all environmental education and training programmes should be on **skills building** and should be action-oriented. It must however recognise that skills development has a value component.
- Environmental education and training programmes should involve all sectors of the community and must empower all people to participate effectively.
- Environmental education and training programmes must acknowledge the broader context within which communities and individuals function and should therefore aim to identify factors promoting or inhibiting learning and change of environmental behaviour. It is therefore imperative to develop good environmental practice along with skills to analyse issues and develop solutions.
- Environmental Education should link the natural environment and heritage to health, socio-economic development, social justice and quality of life.
- Environmental education within Tshwane takes cognisance of the indigenous knowledge systems and social values of the community of Tshwane.

Appendix E provides a short overview of the PRECEDE/PROCEED Framework for Planning. This useful framework outlines the critical steps of programme development. Stakeholders developing programmes for environmental education may find this framework useful.

A critical step of programme development and implementation is monitoring and evaluation (M&E) of a programme. Although the Strategy will be evaluated on a macro level, the outcomes and impacts of certain programmes can only be assessed on the micro level. Outcome and impact

indicators are often of a qualitative nature. The success of an anti-littering campaign in Mamelodi, organised by the Moretele River Forum, for example, will be most visible in terms of the visual improvement of the river. This indicator is subjective and relies on qualitative information.

3.2 The target audience

In recognition of the Internal Environmental Education Strategy developed by the Environmental Resource Management Department of the CTMM to target municipal employees, the target audience of this document is the **community** of Tshwane. This strategy document is an **external strategy** for the City of Tshwane and is aimed at environmental education and awareness-raising within 3 broad target groups in Tshwane:

1. Civil Society (community-based organisations (CBOs), non-governmental organisations (NGOs) as well as the general public)
2. Business (the private sector, including industries)
3. Schools and other academic institutions.

The scope of the Environmental Awareness and Education Policy Goal stretches across the internal CTMM audience (municipal employees) as well as the external community (civil society, business and schools). This strategy is aimed specifically at addressing the **external leg** of environmental education and awareness within Tshwane.

3.3 A thematic approach

Consultation with stakeholders emphasised that a thematic approach was preferred in terms of implementing broad environmental education and awareness programmes across the board. Although it should be recognised that certain structures need to be in place for the effective implementation of a community environmental education and awareness strategy, there was consensus among stakeholders that initiatives from CTMM (such as campaigns, etc) should follow a thematic approach prescribed by specific themes, such as waste management, for certain periods. The **Tshwane State of the Environment Report (SoER)** is used, and should be used in future, as the key document for the identification of environmental themes specifically relevant to the City of Tshwane.

The 2001-2002 Gap Analysis of the Tshwane SoER summarises the threats and opportunities related to Tshwane's environment and should guide thematic approaches related to environmental education and awareness (Appendix B).

Current threats to Tshwane's environment that will form the basis of any environmental education thematic approach are related to:

- 1. Waste Management** Waste quantities generated in Tshwane are very high in comparison with cities worldwide.
- 2. Water Demand** Water demand is ever increasing in Tshwane, especially with regard to the residential sector (CTMM, 2002b). A large proportion of Tshwane's water is imported from outside the municipal boundaries; 82.3% of water for Tshwane is bought from Rand Water (CTMM, 2002b). Environmental education should focus on water saving practices.
- 3. Invasion of Alien Plant Species**
- 4. Water Pollution** The main source of water pollution in Tshwane is human activity. Water pollution is a key theme where urgent attention is needed in terms of environmental education and awareness within the community of Tshwane. The Tshwane SoER notes that "Tshwane's scarce water resources are under tremendous pressure, with water quality of streams deteriorating during its course through the Tshwane area, especially with relation to bacteriological quality" (CTMM, 2002b).
- 5. Air Quality** Civil society and business should be educated about air pollution, especially about the effects of vehicle emissions on air quality within Tshwane. Residents should be made aware of their environmental rights to a safe and healthy environment and of measures that can be taken when these rights are violated, such as neighbourhoods adjacent to industries that do not adhere to emissions standards.
- 6. Bio-diversity management** Increased awareness of the bio-diversity within Tshwane should be established with residents. Residents should be motivated to contribute to the management of bio-diversity, such as the Friends of the Groenkloof Nature Reserve whom are establishing a nature reserve adjacent to Fort Klapperkop and ensure that alien invasive plant saplings, such as black wattle saplings, are removed to ensure the creation of a nature reserve that boasts indigenous fauna and flora.

- 7. Energy Management** Sustainable utilization of energy is a key component of sustainable development for a number of reasons, one being that energy generation is not only the source of much air pollution, albeit not always where the energy is utilised, but also utilises non-renewable natural resources. The Tshwane community should be educated about energy efficient practices; the cost-saving aspects of energy efficient practices should prove to be an incentive for the Tshwane community to adopt these practices.
- 8. Population Development** Refer to TIEP Objective 3 (iii).
- 9. Environmental Health** Refer to TIEP Objective 3 (iii). Illegal electricity connections and illegal dumping as well as the pollution of watercourses pose serious health risk. The Environmental Health Department of CTMM should take a leadership role here and implement environmental health awareness sessions through the use of its Environmental Health Officers, such as the training initiatives at the Mabopane Library together with Department of Local Development.

4. AIMS OF THE STRATEGY

The principles underlined in the TIEP regarding environmental awareness and education are the principles that underlie the aims of the Tshwane Environmental Education and Awareness Strategy. Regarding environmental awareness and education, the TIEP states:

Education and public awareness is an integral part of sustainable development and an important part of a community's understanding of environmental consequences and how these relate to their actions. Lack of knowledge by community members can cause the degradation of the environment. The empowerment of local communities with regards to the environment not only enables them to understand what may be wrong and how they can rectify it, but also enables understanding and appreciation, which in turn leads to a desire to conserve and protect the surrounding environment and resources.

The aims of the Tshwane Environmental Education and Awareness Strategy are contained within the overarching goal and 5 objectives of the Environmental Awareness and Education Policy Goal of the TIEP.

4.1 Overarching goal

To promote environmental education and awareness that enhances the understanding of environmental rights, responsibilities and the appreciation of the environment.

Objective 1

To build capacity and skills that enhances environmental literacy on an ongoing basis.

Objective 2

To ensure that environmental training and education is culturally and gender sensitive and responsive to the needs of the target audience.

Objective 3

To ensure that education and training initiatives are delivered by an effective needs analysis process and that programme development takes life-long learning, adult education principles and outcomes-based education into consideration.

Objective 4

To build partnerships in environmental education between local government and existing community environmental education organisations and networks.

Objective 5

To encourage the active involvement of business and industry in environmental education and awareness programmes for employees, local communities and the broader public.

5. STRATEGY DEVELOPMENT PROCESS

The Tshwane Environmental Education and Awareness Strategy was developed in 4 phases:

1. **Literature review:** The first phase of the Strategy consisted of a review of relevant literature in terms of environmental education, in general, and in terms of the current situation in terms of environmental awareness in Tshwane (the TIEP and the SoE were consulted, for example).

2. **Key informant interviews:** The phase 1 review indicated a number of stakeholders to be interviewed as part of this second information gathering exercise. A questionnaire was developed as guideline for project members during interviews with stakeholders. CSIR project members Alet Visser, Stephanie Dippenaar and Lindiwe Mabuza thereafter conducted a number of interviews with EE stakeholders across the municipal area (the names and contact details of stakeholders appear in Appendix C). During the interview process, stakeholders had the opportunity to share the constraints they experience in terms of environmental education within Tshwane. Comments and suggestions of what an EE strategy should entail were also shared by stakeholders.
3. **Strategy Development Workshop:** A workshop was held on 24 February 2004 at the CSIR. Through focus group discussions, stakeholders had the opportunity to voice their opinions in terms of what they expected from an environmental education strategy for Tshwane. Refer to Appendix D for the attendance list of the workshop.
4. **The writing of the Strategy:** The information gathered through phases 1 to 3 was incorporated into the final strategy. Throughout the process, stakeholders had the opportunity to make recommendations either through email messages, conversations or steering committee meetings.

6. SITUATIONAL ANALYSIS

In Tshwane, there are a number of organisations, institutions and programmes that are concerned with the environment and environmental education and awareness programmes. Some of the organisations listed below are not directly involved in environmental education but are ideally situated to become involved. An example is the number of community development organisations, such as Tswaing Community Radio in Shoshanguve. Many of the initiatives and resource centres listed below are on the cutting edge in terms of providing environmental education (refer to Table 3).

6.1 What is taking place in Tshwane at the moment?

Table 3. Environmental education resources in Tshwane according to theme.

Stakeholder(s)	Waste Management	Water Resources Management	Agriculture	Population Development	Air Quality	Energy Management	Cultural and historical significance	Environmental Health	Biodiversity Management (incl. control of alien invasive plants)	Education resources (video's, DVDs, brochures, books, manuals, etc)
RESOURCE CENTRES										
Pretoria Zoo				✓			✓		✓	Wide variety of resources available, including training courses for learners, booklets aligned with curriculum, brochures, guided tours, qualified personnel. Zoo Mobile takes animals to schools, shopping centres, parties on request.
Pretoria Botanical Garden (Environmental Education Centre)	✓	✓		✓			✓		✓	Wide variety of resources available, including training courses for learners, booklets aligned with curriculum, brochures, guided tours, qualified personnel. The EE Centre at the Botanical Gardens provides excellent curriculum support to schools.
Indigenous Greening Programme (National Biodiversity Institute)	✓	✓		✓					✓	NBI personnel visit schools and provide support in establishing indigenous gardens at schools. Participative nature of programme ensures that learners are informed of the value of indigenous plants.

Stakeholder(s)	Waste Management	Water Resources Management	Agriculture	Population Development	Air Quality	Energy Management	Cultural and historical significance	Environmental Health	Biodiversity Management (incl. control of alien invasive plants)	Education resources (video's, DVDs, brochures, books, manuals, etc)
CTMM Nature Reserves				✓			✓		✓	Qualified personnel. Information resources available depend on nature reserve. Booklets and brochures distributed. Guided tours with qualified personnel recommended to community.
Tswaing Meteorite Crater (Northern Flagship Institute)				✓			✓		✓	Guided tours. Qualified personnel. Brochures.
Voortrekker Monument Heritage Site				✓			✓		✓	Guided tours. Qualified personnel. Brochures.
Enviro-Centres (Mamelodi, Inner City, Centurion)	✓	✓		✓	✓	✓		✓	✓	Variety of information resources. Qualified personnel. Video's. Booklets. Hands-on learning experience. Support to learners.
Transvaal Museum (Northern Flagship Institute)				✓			✓		✓	Variety of information resources. Qualified personnel. Guided tours. Educational programmes for learners with worksheets. DVDs, slides. Shop selling books, CDs, etc. Largest zoological library in Africa – open to the public. Brochures.
Cultural History Museum (Northern Flagship Institute)				✓			✓			Variety of information resources. Qualified personnel. Guided tours. Educational programmes for learners with worksheets. Brochures.
CURRENT SCHOOL PROGRAMMES										
Eco-Schools Programme (supported by WESSA)	✓	✓		✓	✓	✓		✓	✓	Participating schools receive a resource pack consisting of a

Stakeholder(s)	Waste Management	Water Resources Management	Agriculture	Population Development	Air Quality	Energy Management	Cultural and historical significance	Environmental Health	Biodiversity Management (incl. control of alien invasive plants)	Education resources (video's, DVDs, brochures, books, manuals, etc)
										curriculum guideline and action plan guideline for 6 different themes as well as a "special days" calendar (indicating World Environment Day, etc). Schools also receive African Wildlife and EnviroKids magazines (every 3 months).
Balebogeng Primary	✓	✓		✓	✓	✓		✓		Sustainable practices are implemented with the support from the Environmental Health Department of CTMM. These include a solar water heater system, use of heat reflecting paint and waste recycling.
Banareng Primary, Atteridgeville	✓	✓	✓	✓				✓		Personnel at schools inform children about sustainable practices. Library. Information Centre (computers, etc).
Enviro Clubs (supported by WESSA)	✓	✓	✓	✓	✓	✓		✓	✓	Participating schools receive an Enviro Clubs Action Kit. African Wildlife and EnviroKids Magazines subscription included in registration fee.
Youth Clubs in Mamelodi	✓	✓	✓	✓	✓	✓		✓	✓	Supported by Department of Education. Spreads environmental messages through drama competitions. Contact Christa van Schalkwyk for further information: (012) 341 6362.

Stakeholder(s)	Waste Management	Water Resources Management	Agriculture	Population Development	Air Quality	Energy Management	Cultural and historical significance	Environmental Health	Biodiversity Management (incl. control of alien invasive plants)	Education resources (video's, DVDs, brochures, books, manuals, etc)
Department of Education	✓	✓	✓	✓	✓	✓	✓	✓	✓	The Department of Education works in partnership with other stakeholders, such as DWAF, to organise educational programmes around environmental themes (Water Week programmes). Qualified personnel. Access to a variety of resources.
DWAF 20/20 Vision for Water Programme	✓	✓		✓				✓	✓	Qualified personnel. Access to a wide variety of resources.
NON-PROFIT ORGANIZATIONS										
"Friends Groups"	✓	✓		✓				✓	✓	Mainly human resources in the form of passionate community members.
Local Environmental Forums (LEFs)	✓	✓	✓	✓	✓	✓	✓	✓	✓	Mainly human resources in the form of passionate community members. Contact the Environmental Health section of CTMM for further information.
Moretele River Forum (Mamelodi)	✓	✓		✓				✓		Mainly human resources in the form of passionate community members. Contact Mamelodi Enviro Centre (Irvin Molepo) for further information.
Mamelodi Beautification Project	✓			✓				✓	✓	Mainly human resources in the form of passionate community members. Contact Mamelodi Enviro Centre (Irvin Molepo) for further information.

Stakeholder(s)	Waste Management	Water Resources Management	Agriculture	Population Development	Air Quality	Energy Management	Cultural and historical significance	Environmental Health	Biodiversity Management (incl. control of alien invasive plants)	Education resources (video's, DVDs, brochures, books, manuals, etc)
Earthlife Zero Waste Programme	✓			✓				✓		Qualified personnel. Access to a wide variety of resources. New in Tshwane – seeking a partnership with CTMM.
Food and Trees for Africa			✓	✓					✓	Qualified personnel. Training is provided to communities. Booklets are sold to community members for R10.
The Treehugger Foundation, Centurion.	✓	✓	✓	✓	✓	✓	✓	✓	✓	Group of concerned residents. Fairly new. Access to number of information resources in the form of articles, books, etc. Hosts a very informative website at www.treehuggeronline.com . The Treehugger Foundation is willing to participate with stakeholders to increase environmental awareness in Tshwane.
Environment Awake				✓					✓	Environmental beautification and maintenance of open spaces.
Tswaing Crater Forum				✓			✓		✓	Group of concerned residents.
Jacob Development Enterprises	✓	✓	✓	✓	✓	✓	✓	✓	✓	General environmental management issues.
Eko-Care Trust	✓			✓				✓		Non-profit organisation concerned with pollution abatement and control.
Ikhambi Project Group, Shoshanguve				✓					✓	Environmental beautification and maintenance of open spaces.
Gauteng Water Care Club, Atteridgeville		✓		✓				✓		Water conservation programmes.

Stakeholder(s)	Waste Management	Water Resources Management	Agriculture	Population Development	Air Quality	Energy Management	Cultural and historical significance	Environmental Health	Biodiversity Management (incl. control of alien invasive plants)	Education resources (video's, DVDs, brochures, books, manuals, etc)
Southern Cross Heritage Tourism Development Trust				✓			✓			Promoting tourism based on natural and cultural resources in South Africa.
National Association for Clean Air, Wonderboom.				✓	✓					Non-profit organisation concerned about air quality.
New Eersterus Phepafatso, Hammanskraal	✓			✓				✓		Non-profit organisation concerned about pollution abatement and control.

7. CONSTRAINTS TO ENVIRONMENTAL EDUCATION AND AWARENESS IN TSHWANE

Interviews with stakeholders identified a number of constraints to environmental education in Tshwane. The attitude and behaviour of residents towards the environment were mentioned by a large proportion of stakeholders. Attitudes and behaviour are often embedded in poverty which goes hand in hand with urbanization, unemployment and population growth. The basic principles of Maslow's hierarchy of needs are applicable here: Only if basic needs are met (food, shelter, water) can attention be given to issues that go beyond daily survival. In the implementation of environmental education programmes, a holistic approach should be followed, emphasising that a healthy environment forms part of basic needs.

Outlined below are the basic constraints to the implementation of environmental education policies and programmes in Tshwane:

7.1 Attitude and behaviour

- The careless attitude of citizens within the Tshwane Metropolitan area towards environmental issues.
- Individuals do not view the environment as a personal responsibility. A strategy that could bring about the idea of 'a particular area is mine and I must take responsibility for that' could be of benefit ("Adopt-a-Spot").
- The public tends to get involved only temporarily; plans and programmes are not sustainable.
- There is no direct benefit for people to get involved.
- Resistance to change within the private sector. People are set in their ways and there seems to be lack of willingness to transform to environmentally friendly policies and behaviour.
- A lack of understanding of the environment within the private sector. Companies often presume that they are on track in terms of sustainable development but lack the knowledge to make that judgement.
- The perception exist that it is poor people who pollute and litter. In reality, the life styles of people in the higher socio-economic classes are often the reason for over-exploitation of resources, and thus pollution (high energy consumption, for example).
- The different needs of communities within Tshwane in terms of environmental education. One community may need education in terms of water pollution ("do not dump in the

stream") while others' needs may be related more to water conservation ("use water sparingly").

- Residents are of the opinion that services, such as electricity, should be free. This results in a culture of non-payment and illegal electricity connections which can be life-threatening.
- Adult literacy is a constraint in terms of the distribution of environmental education information. Illiterate individuals cannot be reached through media such as newspapers and printed brochures.

7.2 The Formal Curriculum

- All the stakeholders in the educational sector were adamant that environmental education is not addressed adequately in the formal curriculum. Although the curriculum does address environmental education, in reality it is often not addressed in the classroom.
- Teachers are not motivated to integrate environmental education into learning outcomes.
- The municipality does not support environmental education in schools.
- Eco-schools need more support to maintain their green flags.
- Teachers lack knowledge in terms of the integration of environmental education in the broader curriculum.

7.3 Lack of resources

- Funding for projects, programmes and transport to environmental education facilities.
- The municipality does not have the financial resources to distribute important environmental reports to residents.
- There is a lack of capacity, in terms of manpower, to run programmes.
- Access to the internet and computer facilities.

7.4 Programmes and Current Initiatives

- Recycling does not pay. Mondi apparently plans to reduce payment for waste paper by 50%. Only larger companies and institutions, such as schools, will be able to benefit from it.
- Previously successful programmes such as the EASY Schools Project and the 'Keep Pretoria Clean' initiative were not sustainable.
- Nature conservation areas are not optimally utilized for environmental education.

7.5 Governance

- Environmental education should be complemented by effective and enforced regulations. Inadequate enforcement of regulations creates the perception that the environment is not a priority issue for the CTMM and other levels of government.
- There is need for an "environmental hotline" or complaints centre where residents can voice their complaints about violations of environmental regulations.
- Inadequate "buy-in" from politicians and CTMM officials ensures that environmental education is not a priority issue in the CTMM.
- Endorsement of environmental education by the municipality is not visible.
- Coordination of networking activities between stakeholders is insufficient.
- Decisions taken in meetings are not put into action. Many meetings are held but little action is taken.
- People are not aware of the environmental goals of the CTMM.
- CTMM does not lead by example.
- Environmental plans are not always accessible to the public. Progress is not publicized to the public in a sufficient way.
- Integration between stakeholders and the Department of Education is insufficient.
- Communication between various levels of government, and various government departments, regarding environmental education is insufficient.
- Ward councillors do not inform the municipality of residents' needs.
- The marketing, communication and tourism departments of CTMM should be utilized more effectively for environmental education.
- It is difficult to translate the State of the Environment document to the public in common language.
- Environmental education programmes are not sustainable due to high staff-turnover at CTMM. Leadership of programmes are constantly changing.

8. STRENGTHS AS IDENTIFIED WITHIN THE TSHWANE METROPOLITAN AREA BY STAKEHOLDERS

- Tshwane is an attractive city with green corridors, ample vegetation, open spaces, a beautiful setting and interlinked water courses.
- Sufficient expertise is available in the field of environmental education.
- Environmental education is already represented in the formal school curriculum; it should just be approached in the correct way.
- The Eco-Schools Programme.

- Partnerships already exist between some private sector stakeholders and environmental groups.
- The Pretoria Zoo is well utilized.
- The city has a friendly population to the benefit of tourism.
- Environmental policies are in place and should be implemented.
- Various resources are available and most already play a role in environmental education. Opportunity exists to build on and further expand current initiatives.

9. FUNDING MECHANISMS

9.1 ROLE OF PARTNERSHIPS IN ENVIRONMENTAL MANAGEMENT

9.1.1 Engaging Business in Environmental Management

For decades, companies in South Africa have been involved in making monetary donations to social causes, such as education, health and welfare, among others. Since 1994, many companies have increasingly pledged their support in the form of Corporate Social Investment (CSI) programmes and initiatives. As part of this, companies have supported various focal areas, including, but not limited to:

- Education;
- Social Development;
- Job creation;
- Housing;
- Health and Welfare;
- Skills development;
- Environment;
- Arts; and
- Sports development.

The private sector should be involved in local government initiatives, especially those addressing sustainable development, such as environmental education programmes. Public Private Partnerships are a requirement according to the Johannesburg Plan of Implementation. Government alone cannot solve all problems relating to environmental management and development. The business sector on the other hand can contribute to sustainable economic development in the following ways:

- Provision of financial support for some of the local government's programmes;

- Production of required goods;
- Delivery of quality services;
- Creation of jobs, long term investments, human resource development; and
- Contribution to tax revenue through the payment for municipal services.

The increasing manifestation of environmental problems such as climate change, deforestation, poverty, impacts of HIV/AIDS, suggests that business needs to be actively involved in environmental management programmes.

The business sector needs to be encouraged at local authority level to participate in environmental management issues. It is noted by Trialogue (2003) that only 4% of CSI spending in South Africa has gone to the environmental sector. This amounts to about R90 million per annum. Total CSI expenditure in 2003 is estimated at R2.3 billion.

This clearly indicates that there is potential for companies to be more involved in, and to spend more on, environmental education and awareness programmes. Already, some companies are supporting these programmes. They include Sasol, Shell South Africa, Eskom, SAB and many others. Some of the programmes already being supported include urban greening, pollution control and waste management, biodiversity and environmental education and awareness training.

The City of Tshwane should initiate the process of engaging the business sector by initiating contact with relevant CSI managers in companies and conducting briefing sessions either via workshops or approaching companies individually. Through this process the City of Tshwane can learn about companies' CSI focal areas and realize how they can tap into CSI funds. This process may also encourage companies not already involved in this process to be proactive and consider participating.

Effective sustainable development strategies amass the aspirations and capacities of various stakeholders, such as government, civil society, and the private sector. This facilitates the creation of a future vision for the CTMM. It is critical to integrate different approaches and provide a framework for making informed choices where integration cannot be achieved.

10. STRATEGIC APPROACH

10.1 Overarching action plan

Targets	Justification	Actions	Role-players	Indicators
The Tshwane Environmental Education and Awareness Strategy is adaptive and evolves according to the city's needs.	The needs of the community will change over time as awareness is raised and other environmental issues come to the front.	Organise a review of the Tshwane EE&A Strategy by an appropriate stakeholder every 5 years.	<ul style="list-style-type: none"> • Municipality • External R&D organisation. 	<ul style="list-style-type: none"> • Review of strategy conducted by appropriate R&D organisation every 5 years. • Recommendations of review worked into strategy.
A structure is established within CTMM that coordinates environmental education initiatives of CTMM departments and responds to the needs of role-players in Tshwane.	At present, a number of EE initiatives are implemented within Tshwane (CTMM and externally). However, there is little coordination between the various efforts and duplication takes place. Role-players do not know who to contact when in need of support.	The Environmental Resource Management Department should set up an EE office within the municipality from where all EE initiatives are coordinated and integrated. Additional human- and financial resources will be a prerequisite. Currently, human resources at all levels are overstretched in terms of duties.	<ul style="list-style-type: none"> • The Environmental Resource Management Department within CTMM. • Wider CTMM. 	A functional EE desk is established within CTMM.
Public private partnership (PPP) between CTMM and the local private sector established for EE&A	Corporate responsibility of sustainable development is one of the key commitments and targets in the Johannesburg Plan of Implementation (JPOI).	<ul style="list-style-type: none"> • Liaise with Gauteng North Chamber of Commerce in terms of the establishment of such a forum. • Host a formal launch of the PPP with adequate media coverage where commitment from public sector for EE is confirmed. • Align PPP with waste management strategy. • Ensure quarterly meetings between the 	<ul style="list-style-type: none"> • CTMM • Private Sector Stakeholders 	<ul style="list-style-type: none"> • A PPP for EE is established in Tshwane • Support for EE programmes from the private sector is confirmed in 5-year review.

Targets	Justification	Actions	Role-players	Indicators
		EE desk and private sector partners to inform partners of EE needs. <ul style="list-style-type: none"> • Ensure adequate communication between CTMM and private sector partners through regular e-mail correspondence. 		
Public private partnership agreement with media organisations in Tshwane is established.	Role-players in Tshwane view lacking communication channels as a very real constraint to EE in Tshwane. Advertisements in newspapers and on radio are extremely expensive and not affordable to most role-players. Corporate responsibility of sustainable development is one of the key commitments and targets in the Johannesburg Plan of Implementation (JPOI).	Establish a CTMM-Media Public Private Partnership to ensure that organizations that promote EE in Tshwane have access to efficient communication channels. See Actions for PPP above.	<ul style="list-style-type: none"> • CTMM • Media Partners 	<ul style="list-style-type: none"> • A CTMM-Media Public Private Partnership for EE in Tshwane is established and functional. • Support for EE programmes from the media is confirmed in 5-year review.
An internet database is developed that is user-friendly and addresses the information needs of the various target groups in Tshwane. Database should contain general environmental information, names and contact information on role-players in Tshwane, dates of events, etc.	The current internet database, a LEEF initiative, is not utilised to its full potential and should be made more user-friendly.	EE desk within CTMM coordinates the establishment of a Tshwane EE Internet Database and updates regularly with relevant information.	<ul style="list-style-type: none"> • CTMM 	A Tshwane EE Internet Database is operational and updated on a weekly basis.

Targets	Justification	Actions	Role-players	Indicators
The Tshwane community (civil society, business and schools) is aware of the Tshwane EE Internet Database.	Stakeholders often have information needs regarding initiatives within the City as well as general environmental information (learners in particular). Such a database will provide in the EE needs of the Tshwane community.	The Tshwane EE Website is advertised in community newspapers, local radio stations, at schools and in envelope with municipal bills. Make use of the media partners as per the EE public private partnerships within Tshwane.	<ul style="list-style-type: none"> • CTMM • Media partners 	Number of "hits" per week on the Tshwane EE webpage.
The current LEEF structure is strengthened and communication is improved.	Stakeholders report that LEEF is not utilised to its full potential, mainly due to communication problems.	<ul style="list-style-type: none"> • Review the current LEEF structure. • Annual review of LEEF activities to be undertaken and reported to Council (as part of the larger 5-year review of the EE Strategy). • CTMM ensures that LEEF members are informed of activities. • LEEF members should be required to attend a minimum amount of meetings per year. If members fail to do this, a new member must be nominated. 	<ul style="list-style-type: none"> • CTMM • LEEF members 	<ul style="list-style-type: none"> • Annual review of LEEF activities conducted and reported to Council (can be integrated with larger 5-year review of EE Strategy). • Minimum attendance requirement established and monitored at every meeting. • Action is taken in terms of non-attendees (removal from LEEF forum). • The majority of LEEF members are of the opinion that they are well-informed in terms of the activities of LEEF.

Targets	Justification	Actions	Role-players	Indicators
Communities are encouraged to establish local environmental forums for the promotion of environmental management; forums to serve as liaison structure between the community and the EE desk at CTMM.	Due to the size of the Tshwane area, the CTMM is not aware of all of the EE needs of communities and can therefore not respond effectively to these needs.	Utilise media partners to spread the message of local environmental forums. Representatives of all departments to encourage local environmental forums (such as Environmental Health Officers). Utilise facilities such as clinics to promote the establishment of local environmental forums.	All role-players.	The number of active local environmental forums established in the Tshwane area yearly.
CTMM provides support to local environmental forums.	Local environmental forums report a lack of enthusiasm within the forum due to insufficient support from CTMM. Bureaucracy within CTMM is a constraint to the activities of LEFs (flow of financial support, etc)	The EE desk at CTMM should be aware of the activities of LEFs and mobilise support for activities from the side of CTMM. Coordination of processes within CTMM is crucial for effective support.	<ul style="list-style-type: none"> • LEFs • CTMM 	LEFs report increasing satisfaction with support provided by CTMM.
EE&A Campaigns and Roadshows are organised and hosted across the municipal area.	Campaigns and road shows are mechanisms of distributing information to the community in an interactive and participatory manner. Role-players in Mamelodi tell that such campaigns are often very effective in raising awareness.	The Tshwane EE Desk should coordinate efforts with other role-players (such as DWAF, the Zoo, the GDE) to organise campaigns which links up with specific themes (such as Water Week) or themes specified by the LEEF Forum. Prizes to be sponsored by private sector partners.	<ul style="list-style-type: none"> • Tshwane EE Desk • CTMM • EE Stakeholders • Private Sector Partners. • LEFs 	<ul style="list-style-type: none"> • Number of campaigns hosted in Tshwane on an annual basis. • Representative spatial distribution of campaigns hosted.

Targets	Justification	Actions	Role-players	Indicators
Sustainability of CBOs is improved through capacity building and interaction between CBOs and NGOs.	Many CBOs are not sustainable due to insufficient knowledge of management and financial management principles. CBOs are in competition without being aware of it due to a duplication of efforts. CBOs in competition for funding.	Establish a sub-forum to the LEEF specifically for CBOs and NGOs where information on current activities is disseminated. Tshwane EE Desk to potentially manage funds for donors to ensure fair distribution of funds. Core CBO members should attend SETA-accredited training in terms of financial management and basic management skills.	<ul style="list-style-type: none"> • CBOs • NGOs • CTMM (Tshwane EE Desk) 	<ul style="list-style-type: none"> • A CBO/NGO LEEF sub-committee is established that meets on a 6-monthly basis. • Number of CBO members that attend training in terms of financial management and basic management skills on an annual basis.
NGO and CBO stakeholders involved in environmental education have access to appropriate training courses.	Environmental education initiatives in Tshwane should be of an acceptable quality and the CTMM should ensure that stakeholders involved in environmental education have adequate skills for environmental education (including business skills).	<ul style="list-style-type: none"> • Liaise with the Wildlife and Environment Society of South Africa (WESSA) regarding the SETA accredited learnership for environmental education. • Liaise with the relevant SETA in terms of business skills training for CBOs and NGOs. • Ensure that the learnership is available within Tshwane. • Liaise with the relevant Sectoral Training Authority (SETA) to ensure that training is funded through the SETA programmes. 	<ul style="list-style-type: none"> • CTMM • WESSA • SETA 	<ul style="list-style-type: none"> • The SETA accredited learnership courses for environmental education is presented in Tshwane. • The SETA accredited learnership courses for business skills training is available in Tshwane. • Number of individuals from NGOs and CBOs that undergo training on a yearly basis.
Access to EE centres (such as nature reserves) is improved through initiatives that address	All stakeholders agree that resources within Tshwane are not the problem in terms of EE but rather access to	<ul style="list-style-type: none"> • Obtain funding through the Tshwane EE Public Private Partnership on an annual basis for 	<ul style="list-style-type: none"> • CTMM (Tshwane EE Desk) • Private Partners • Schools. 	<ul style="list-style-type: none"> • Percentage of learners per school in Tshwane that has visited at least one EE centre per year. • Increase in number of visitors to

Targets	Justification	Actions	Role-players	Indicators
transportation problems.	these resources. Advantaged communities and schools utilise facilities on a more regular basis than disadvantaged communities and schools.	transport to EE centres as well as discounts at these centres. <ul style="list-style-type: none"> • Arrange programmes to ensure that all schools in Tshwane visit at least one EE centre per year (Tshwane EE Desk) 		EE centres per year.
Community members are aware of what Tshwane has to offer in terms of environmental resources (such as nature reserves)	Many residents are not aware of the resources that Tshwane has to offer (for example, rhino and buffalo at Rietvlei Dam; a meteorite crater at Tswaing).	<ul style="list-style-type: none"> • Utilise services of media partners to promote all resources within Tshwane (not only municipal nature reserves). • Provide information on Tshwane EE Website. 	<ul style="list-style-type: none"> • CTMM • Media partners 	<ul style="list-style-type: none"> • Number of articles, reports and advertisements on EE resources in the local media on an annual basis. • Increase in visitor numbers reported at EE centres.
Communities receiving water metres are empowered through workshops offered in conjunction with the instalment of water metres.	Communities do not take ownership of these services as they are not adequately informed about the need for water metres, how to operate the metres, etc. This is an ideal opportunity to inform about water conservation.	Ensure community awareness workshop in conjunction with the launch of water metres in an area.	<ul style="list-style-type: none"> • CTMM • Consultants (that install water metres) • LEFs 	<ul style="list-style-type: none"> • Number of workshops held in conjunction with the instalment of water metres in an area.
The Tshwane community is informed about environmental rights.	Residents of Tshwane are generally not aware of their environmental rights and of the fact that they are allowed to complain when these rights are violated.	Establish 'environmental rights' as a key environmental education theme for awareness weeks, campaigns, etc.	<ul style="list-style-type: none"> • CTMM • Media Partners • Schools • Other private sector partners. 	Number of awareness raising initiatives (newspaper articles, campaigns, etc) addressing environmental rights annually.

Targets	Justification	Actions	Role-players	Indicators
Indicators are established to test the improvement in levels of awareness and changing perceptions.	There are no adequate means of testing the improvement in levels of awareness and whether perceptions have changed. These trends are difficult to measure due to their qualitative nature.	Explore, as part of the State of the Environment Reporting process, possible indicators to measure awareness levels in Tshwane on an annual basis.	<ul style="list-style-type: none"> • CTMM (State of the Environment Responsible person) • Consultants (for State of the Environment report) 	Indicators on levels of awareness and changing perceptions included in the State of the Environment report of Tshwane.
The Tshwane EE&A Strategy remains culturally relevant.	Stakeholders report that community members tend to rather listen to someone from their own culture.	Develop culturally relevant messages to be disseminated through municipality. Harness the support from respected figures in the community to spread environmental messages (for example, a Mamelodi Sundowns- and/or Blue Bulls player spreading the message "littering does not create jobs" in the local media).	<ul style="list-style-type: none"> • CTMM • All stakeholders 	Cultural relevance of programmes confirmed in 5-year EE review.

10.2 Action plan for business sector

Targets	Justification	Actions	Role-players	Indicators
Companies are encouraged to have EE programmes as part of company policy	<ul style="list-style-type: none"> • Makes good business sense • Promotes good environmental practice • Knowledge can be transferred to employee's homes • Resulting in sustainable communities • Knowledge can lead to changed attitudes, new values and skills 	<ul style="list-style-type: none"> • Provide training workshops, seminars and conferences to 'sell' / get 'buy-in' for objectives of the CTMM's strategy 	CTMM's officials and other stakeholders e.g. SANBI, Chamber of Commerce, Labour Unions (sectoral labour unions)	<ul style="list-style-type: none"> • Number of EE training interventions in companies • Number of training workshops, seminars and conferences hosted on an annual basis to 'sell' / get 'buy-in' for objectives of the CTMM's strategy.
Companies are encouraged to celebrate environmental days	<ul style="list-style-type: none"> • Raises awareness on important environment issues 	<ul style="list-style-type: none"> • Ongoing notification (e-mail correspondence, media partners) • Activities based on themes • Incentives: Rewards / Awards 	Company and other stakeholders	Number of activities corresponding to environment days
Companies are encouraged to have coordinators of EE activities	<ul style="list-style-type: none"> • To ensure sustainability of EE within companies 	<ul style="list-style-type: none"> • Tshwane EE PPP is utilised to encourage coordinators of EE activities in companies. 	Company and other stakeholders	Designation of EE responsibility within company

10.3 Action plan for schools in Tshwane

Targets	Justification	Actions	Role-players	Indicators
Cooperation, coordination and communication are encouraged between different EE institutions.	To oversee that funds are used positive and channelled in the correct direction so as to avoid duplication. To ascertain that educators follow the correct direction though the education department so that schools can see the relevance of EE to the formal curriculum	Develop a subcommittee for educational institutions within LEEF	CTMM – all sections that have to do with EE Department of Education Other departments in the provincial government that have a component of EE Tertiary institutions	Reports of subcommittee to LEEF at LEEF meetings.
		Sharing information		Number of communication letters, articles, brochures, meetings
		Supporting schools with programmes such as Eco Schools, and support new schools to become Eco-schools		<ul style="list-style-type: none"> Performance of existing Eco-Schools. Number of new Eco-schools or involvement of schools in EE projects
		Mobilize students from tertiary level to assist with capacity		Number of new students involved in school projects, or in a supporting EE capacity working with the municipality
A EE programme for nursery schools is encouraged	At present EE only starts at Grade R. A very susceptible period, between 3 and 5, of a child's life is without any formal form of EE.	Create and support characters, like the Zibbi character or Mulberry Bear.	<ul style="list-style-type: none"> CTMM Nursery schools Private sectors for possible sponsorships Tertiary institutions Drama/Art groups 	Number of nursery schools visited.
		Develop an action plan for nursery schools		Publication of action plan for nursery schools.

Communication between the CTMM and schools, as well as communication with people involved in EE, is improved.	At present the public is not aware of what the CTMM is doing in terms of EE. Educators are not aware of material available from the CTMM.	Take stock of all available material that can be used for EE.	<ul style="list-style-type: none"> • CTMM • Possible sponsors • The Media • Private • Stakeholders involved with EE 	<ul style="list-style-type: none"> • A list of available EE material is presented to the education subcommittee of LEEF. • Number of promotional materials developed. • Number of publications or advertisements released.
		Develop new promotional material		
Support is provided to schools in terms of transport to educational facilities, such as the museums or the zoo.	Many schools do not have the means to provide their own transport and thus cannot attend EE facilities.	Take stock of the transport system of the CTMM. If busses are available, develop a program by which poorer schools get support in terms of transport.	<ul style="list-style-type: none"> • CTMM • Possible sponsors • Department of Education 	Number of schools provided of transport for EE purposes.
The provision of basic facilities at schools is investigated.	Some schools lack basic facilities, for ex. Winterveld which hampers not only the performance of learners but also environmental education initiatives.	Investigate the lack of basic facilities in schools. Coordinate with relevant departments and provide basic facilities to schools	<ul style="list-style-type: none"> • CTMM • Department of Education 	Annual increase in the number of schools with adequate basic facilities.

11. MONITORING AND EVALUATION OF THE STRATEGY

In order to ensure that this Strategy is aligned effectively with the TIEP and meets the objectives as stipulated in the TIEP, monitoring and evaluation of the implementation of the Strategy will not only make use of the output indicators as specified in the Strategic Approach (see Section 9). Indicators have been developed that are aligned with the issues listed under every objective of the Environmental Awareness and Education Policy Goal of the TIEP. Monitoring and evaluating against these indicators will confirm whether this Strategy is effectively contributing to the TIEP objectives.

Programmes for environmental education should include a monitoring and evaluation (M&E) component. It is difficult to evaluate changes in attitude and changes in behaviour on a wider scale (across the whole municipality, for example). On the grassroots level, however, changes in attitude and behaviour can be measured more effectively. Programme managers should especially take into consideration the outcome and impact indicators of a programme. These indicators are often more qualitative. For example: An indicator of the success of an anti-littering campaign might be an improvement in the overall appearance of a certain area. Clearly, this is a subjective rating and will differ from person to person.

The success of the Strategy in addressing the objectives of the TIEP can be measured as follows:

Objective 1

To build capacity and skills that enhances environmental literacy on an ongoing basis.

Issue	Indicator
i) Develop and implement an environmental education strategy for all political decision-makers, officials and communities in Tshwane to support the objectives of the TIEP	An environmental education strategy is developed that targets political decision-makers, officials and communities in Tshwane.
ii) Educate councillors to understand the links between the delivery of basic services and environmental resources, thereby improving their ability to make informed decisions on environmental matters	1. Number of councillors that have attended an accredited course on basic services and environmental resources. 2. Number of councillors that demonstrate awareness of the links between basic services and environmental resources 3. Demonstrated improved decision-making amongst

Issue	Indicator
	councillors regarding environmental issues.
iii) Undertaking appropriate high-quality training and awareness interventions for municipal staff to enable them to integrate environmental considerations into decision-making and to display effective duty of care	<ol style="list-style-type: none"> 1. Number of municipal staff members that have attended an accredited course on basic services and environmental resources. 2. Number of municipal staff members that demonstrate awareness of the links between basic services and environmental resources 3. Demonstrated improved decision-making amongst municipal staff members regarding environmental issues.
iv) Provide formal training and skills development , where necessary, in the CTMM to empower officials to undertake new environmental management functions	<ol style="list-style-type: none"> 1. Number of officials that had been identified for training and skills development that completed the prescribed training and/or skills development course. 2. Demonstrated ability of officials to undertake new environmental management functions (through performance reviews)
v) Monitor levels of environmental education and awareness through effective evaluation programmes	<ol style="list-style-type: none"> 1. Continuous increased levels of environmental literacy and awareness amongst municipal residents as determined by surveys conducted on a regular basis (evaluation of trends) 2. Demonstrated decrease in levels of consumption and/or waste generation and/or pollution before and after awareness raising programmes
vi) Promote awareness of the legal requirements in terms of the environment and activities that are undertaken, and regarding the environmental rights of communities and individuals	<ol style="list-style-type: none"> 1. Increased number of persons aware of the requirements of environmental legislation and the environmental rights of communities and individuals.
vii) Promote the education of traditional healers regarding sustainable harvesting and cultivation practices of medicinal herbs	<ol style="list-style-type: none"> 1. Number of traditional healers that attended training on the sustainable harvesting and cultivation practices of medicinal herbs 2. A demonstrated increase in sustainable harvesting and cultivation practices of medicinal herbs among traditional healers within the municipal boundaries.
viii) Educate communities and industries regarding the economic value of natural resources and urban systems, and on their role in ensuring sustained service delivery, the provision of basic needs and economic	<ol style="list-style-type: none"> 1. Increased number of environmental education and awareness raising materials (measured on a yearly basis) distributed to communities and industries via various forms of media (newspaper articles, radio advertisements, newsletters, etc)

Issue	Indicator
opportunities.	2. Decreased occurrence of non-payment for service delivery across the municipal area, measured on a yearly basis 3. Demonstrated decrease in levels of consumption and/or waste generation and/or pollution before and after awareness raising programmes
ix) Promote continued education initiatives in order to work towards a sustainable balance between population and available resources.	1. Number of births in municipal area per year

Objective 2

To ensure that environmental training and education is culturally and gender sensitive and responsive to the needs of the target audience.

Issue	Indicator
i) Identify groups that require environmental education (e.g. authorities, the youth, the broader public, industry, ward committees, etc.) and develop appropriate environmental education programmes for them	1. Groups that require environmental education in Tshwane are identified. 2. SETA accredited environmental programmes are developed for each target group.
ii) Ensure that appropriate education tools, media and programmes are used in the implementation of educational programmes, taking the target audience into consideration.	1. Appropriate education tools, media and programmes are selected and developed for each target group. 2. A measurable increase in awareness occurs in communities after the implementation of education programmes which rely on the use of the education tools and media selected for each target group.
iii) Ensure that the developed environmental education programmes encourage critical thinking, address values and commitments and enhance the ability to act with understanding (i.e. influence behaviour).	1. Through peer reviews every 5 years, it is confirmed that environmental education programmes demonstrate encouragement of critical thinking, address values and commitments and enhance the ability to act with understanding (i.e. influence behaviour) 2. State of the Environment Reporting in Tshwane reveals a decrease in environmental impacts related to human activities (e.g. decreased pollution of water courses, a decrease in illegal dumping).

Objective 3

To ensure that education and training initiatives are delivered by an effective needs analysis process and that programme development takes life-long learning, adult education principles and outcomes-based education into consideration.

Issues	Indicators
i) Align training with National Qualification Framework (NQF) where feasible.	<ol style="list-style-type: none"> 1. All training courses are accredited by the relevant SETA. 2. The 5-year review of the Strategy confirms that training is aligned with the National Qualification Framework (NQF) where feasible.
ii) Encourage the development of environmental policies and implement environmental education in all learning programmes in Tshwane (such as school and higher education curricula) in cooperation with the Department of Education and higher education organisations and in line with national initiatives.	<ol style="list-style-type: none"> 1. The Department of Education reports satisfactory cooperation with CTMM and acknowledges positive support from CTMM in integrating environmental education in learning programmes in Tshwane. 2. An educational sub-committee is established for LEEF with representatives from the Department of Education and higher education organisations to promote the integration of environmental education in all curricula. 3. The 5-year review of the Tshwane Environmental Education and Awareness Strategy reveals that learning programmes in schools and higher education curricula reflect the principles of environmental education. 4. The number of training programmes hosted annually in Tshwane with the cooperation of the Department of Education to inform educators of ways to integrate environmental education into the school curricula.
iii) Include issues surrounding population development and environmental health in broader environmental education programmes.	<ol style="list-style-type: none"> 1. LEEF projects and programmes illustrate issues surrounding population development and environmental health. 2. LEEF leadership actively promotes issues surrounding population development and environmental health to members. 3. Training programmes provided to individuals, such as the current hawker informal trader education initiatives of Departments of Local Economic

Issues	Indicators
	<p>Development and Environmental Health in Mabopane, include aspects of population development and environmental health.</p> <p>4. The 5-year review of the Strategy confirms that training provided to stakeholders of non-profit organisations (SETA learnerships) addresses population development and environmental health.</p> <p>5. School curricula in Tshwane reflect issues of population development and environmental health.</p>
iv) Integrate environmental education into existing municipal education programmes, where appropriate.	1. Municipal education programmes reflect environmental education as a core learning outcome.

Objective 4

To build partnerships in environmental education between local government and existing community environmental education organisations and networks.

Issues	Indicators
i) Develop and implement a capacity-building programme regarding environmental education for the CTMM.	<p>1. A SETA accredited capacity-building programme for environmental education is developed and implemented.</p> <p>2. Number of non-profit organisation stakeholders that participate in the training programme on an annual basis.</p>
ii) Investigate sources for finance and funding and environmental education and awareness initiatives.	<p>1. A Public Private Partnership Initiative is established in order to secure finance and funding.</p> <p>2. The Environmental Health Desk of CTMM has investigated other sources of funding, such as overseas development assistance (ODA).</p>
iii) Coordinate, continue and enhance existing education initiatives and programmes in Tshwane (covering issues such as health, the environment, water, sanitation and waste).	1. The Tshwane Education and Awareness Strategy is implemented.
iv) Continue being involved in the Local Environmental Education Forum to enhance activities in Tshwane related to environmental education and awareness.	<p>1. The LEEF meets on a regular basis and is well-attended by members.</p> <p>2. Number of LEEF programmes initiated.</p>

Issues	Indicators
v) Develop new and strengthening existing relationships between the various spheres of government to promote environmental education and coordination of environmental education efforts.	<ol style="list-style-type: none"> 1. The appropriate government departments form part of the LEEF Forum 2. A LEEF sub-committee for education is established. 3. CTMM support and takes part in national government initiatives, such as Water Week and Environment Week.
vi) Coordinate with non-governmental organisations to promote public education initiatives.	<ol style="list-style-type: none"> 1. Non-governmental organisations actively take part in LEEF. 2. CTMM supports initiatives from non-governmental organisations. 3. An EE Internet database and EE Desk at CTMM are established to serve as resources centres and a communication channel between NGOs and CTMM.
vii) Create links with other environmental education organisations and programmes.	<ol style="list-style-type: none"> 1. Other environmental education organisations and programmes actively take part in LEEF. 2. CTMM supports initiatives from other environmental education organisations and programmes 3. An EE Internet database and EE Desk at CTMM are established to serve as resources centres and a communication channel between other environmental education organisations and programmes and CTMM.
viii) Cooperate with civil society organisations in the expansion of existing environmental education programmes to educate broader communities and industry regarding the environment and the need to lead sustainable lifestyles in support of Local Agenda 21.	<ol style="list-style-type: none"> 1. Civil society organisations actively take part in LEEF. 2. CTMM supports initiatives from other civil society organisations. 3. An EE Internet database and EE Desk at CTMM are established to serve as resources centres and a communication channel between civil society organisations and programmes and CTMM. 4. Number of members of civil society organisations that undergo training through the SETA-accredited EE training course.

Objective 5

Encourage the active involvement of business and industry in environmental education and awareness programmes for employees, local communities and the broader public.

Issues	Indicators
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Issues	Indicators
i) Develop joint environmental education and awareness programmes in cooperation with business, industry, community organisations and non-governmental organisations.	<ol style="list-style-type: none"> 1. Public Private Partnership established for Tshwane. 2. Number of programmes developed and implemented by the Public private Partnership.
ii) Promote the development of environmental capacity building for employees by business and industry.	<ol style="list-style-type: none"> 1. Development of environmental capacity building for employees by business and industry is promoted through the PPP. 2. Number of environmental capacity building programmes reported by members of the PPP.
iii) Promote entrepreneurship in terms of environmental education and awareness programmes and providing support for these initiatives.	<ol style="list-style-type: none"> 1. The LEEF encourage the integration of entrepreneurship with current environmental education and awareness programmes. 2. Support for entrepreneurship encouragement is harnessed through the PPP and the LEEF.
iv) Encourage larger businesses and industries to assist in environmental management and education.	<ol style="list-style-type: none"> 1. The PPP is utilised as forum through which to harness assistance from larger businesses and education.

12. CRITICAL SUCCESS FACTORS FOR STRATEGY IMPLEMENTATION

The following factors are crucial for the successful execution of the strategy:

- Adequate allocation of resources;
- Adequate skills of strategy implementers;
- Adequate programmes and resource material;
- Effective analysis and interpretation of training and education needs of the target audience into appropriate education and training programmes;
- Sustainability of programmes;
- Effective monitoring and evaluation of strategy and of individual programmes;
- The ability of the CTMM to correctly interpret the needs of stakeholders and to provide effective information and support;
- The ability of the CTMM to build and maintain effective partnerships with stakeholders;
- The presence of adequate supporting environmental and basic services;
- Effective integration and coordination of environmental education and training activities; and
- Acknowledgement of strategy stakeholders that desired behaviour change is not singularly related to increased awareness and knowledge amongst recipients of environmental education and training programmes.

13. ORGANISATIONAL STRUCTURE REQUIRED FOR STRATEGY IMPLEMENTATION

13.1 A centralised, coordinating body within the CTMM

It is advised that a centralised coordinating body within the CTMM be appointed to provide the following functions:

- Consultation services to business, community, NGO's and municipal departments;
- Quality control;
- Capacity building of trainers and facilitators;
- The creation and maintenance of a centralised database or directory of environmental education organisations;
- The management of a centralised resource centre*;
- Outcome assessment/ evaluation of programmes;
- Establishment and maintenance of a management information system;
- Promotion of coordination and integration amongst role players by the facilitation of focus on theme master plans;

- Liaison and communication services and the promotion of networking through the coordination of LEEF;
- Facilitation of programme development;
- Strategy review; and
- Support for environmental education initiatives.

(A Resource Centre in this context signifies a place where community members, NGO's, CBO's, schools and nurseries schools can obtain resources for their training and awareness efforts. These resources can include pamphlets, posters, information booklets, training manuals and other training material. The Resource Centre will also supply decentralised community centres, such as the Walter Sisulu Enviro Centre, with material in order to make this service more accessible to communities).*

It is advised that this function be allocated to the Environmental Resource Management Section since this section is already responsible for the coordination of the environmental agenda within the CTMM. However, it is recommended that additional capacity be built and that the existing vacancy for environmental promotion at the section be filled.

13.2 Existing environmental education initiatives within Tshwane

Individual departments of the CTMM are currently functioning around a thematic approach, with the following departments actively involved in environmental education and training:

- Water and Sanitation (water and sanitation related issues);
- Environmental Health (Bontle ke Botho, pollution and energy conservation/ air quality);
- Nature Conservation and Resorts (nature conservation);
- Waste Management Services (littering and dumping);
- Integrated Community Development (food gardens); and
- Environmental Resource Management (environmental management).

It is advised that departments continue with education and training initiatives around their respective themes taking into consideration the broader context of environmental management. Departments should continue to provide funding for education and training programmes as well as implementing environmental management systems.

13.3 Support to environmental education initiatives from CTMM

The activities of community organisations, business and the Department of Education in all wards will be strengthened by the CTMM.

14. STRATEGY SUPPORTIVE POLICIES AND PROCEDURES

The following will have to be developed in order within the CTMM to fully deploy the strategy implementation plan:

- The operation of LEEF;
- Quality guidelines and procedures;
- Integration and coordination;
- Effective community liaison;
- Inclusion of Environmental Education in the budgeting process;
- Operation of the envisaged Resource Centre;
- Evaluation and assessment of programmes; and
- Management information and reporting.

The development of these supportive policies and procedures will be facilitated by the Environmental Resource Management Section of the CTMM.

15. CONCLUSION

The CTMM envisions the Tshwane of the future as “an internationally acclaimed African city of excellence caring for its environment” (CTMM, 2005). If this vision is to become a reality, all role-players within Tshwane, whether directly involved in the environmental sector or not, will have to contribute their part in ensuring a safe and healthy environment. Too often the environment is still considered the realm and responsibility of “environmentalists”. The CTMM will not realise its vision if the community of Tshwane does not realise that every individual should take responsibility for the environment. The challenge of the Tshwane Environmental Education and Awareness Strategy is to create this awareness within all sectors of the Tshwane community while broadening knowledge of environmental matters.

May this Strategy be a step towards “a city of excellence caring for its environment”.

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