

## Making every drop count

*An intelligent combination of water saving behaviour and water saving technologies has the potential to drastically reduce an event's water consumption and in the process, its negative effects on the environment as well as its water bill.*



## 4.6 Water Conservation and Management

*Event organisers have the responsibility of implementing water conservation and water demand management methods as South Africa is a semi-arid country that is continually under threat of drought and water restrictions.*

As with energy, a balance between supply and demand has almost been reached in the country's nineteen water management areas, placing the environmental reserve under severe pressure. Building venues such as stadia that have major water requirements (the turf, ablution facilities and general maintenance) and supplying catering facilities (food and beverages) to thousands of visitors that attend a major event has the potential to tip the balance, particularly where drought conditions exist. The objectives of event water conservation and management must be as follows:

- To ensure that water is used efficiently and at a practical minimum;
- To promote water saving behaviour and diversify the water mix; and
- To keep drainage water free from harmful/poisonous substances.

As with energy, the responsibility for water technology lies with the venue management and not the event organiser. Venue managers should be encouraged to implement water saving technologies.

### 4.6.1 Ensuring that water is used efficiently and at a practical minimum

It is important to start with a water audit and identify where water is used so that one can determine where water can be saved. Water audits typically comprise three sections – a survey of water distribution systems, a survey of water use and patterns of use, and a survey of effluent discharges. Water audits apply to permanent venues with plumbing, but could also be done at temporary venues where water is required and can be measured.

A water audit typically reveals problems such as broken valves; leaks; excessive use; unauthorised use; clean water discharged into effluent water; surface water unnecessarily discharged into effluent water; and discharge of harmful substances into water sources. By conducting a water audit and performing ongoing maintenance, venues can reduce their water consumption, which in the end is to their own financial benefit as much as it is to the environment.

A water management plan should include measures for the reduction of water consumption in the main areas of water consumption: irrigation, ablution, catering, cleaning of venues and accommodation facilities, air-conditioning, and landscaping. All these areas can become more water efficient by way of water saving behaviour and water saving technologies.

### Intervention: Water saving technologies

Water saving technologies and appliances can further reduce water consumption at a venue, such as:

- Waterless urinals;
- Tap aerators, flow restrictors and low-flow showerheads (more relevant to tourism businesses), which use up to 60% less water than their conventional counterparts; and
- Drip irrigation and timed sprinklers for landscaping.

A few of the large stadia in South Africa have included rain water harvesting into their design and construction, which is then used for irrigation. This is also a practical solution for convention centres with large roof surfaces and can be used for flushing toilets.

### Water Audits – Taking the first step

1. A survey of water distribution systems
2. A survey of water use and patterns of use
3. A survey of effluent discharges.



#### 4.6.2 Water saving behaviour and diversifying the water mix

Diversifying the water mix refers to getting water from alternative sources, such as rainwater harvesting or use of borehole water or other non-potable water. Some golf courses, for example, use water reclaimed from sewerage plants, which is very effective as it is rich in nutrients and because they tend to use large amounts of borehole water, which could have a negative impact on ground water levels.

##### Intervention: A mix of solutions

The following interventions will assist in achieving the objective of using less water and making greater use of alternative water sources:

- Create awareness amongst staff, participants and the public regarding water conservation and efficiency. Signage can be used at events and its surrounds to make all parties concerned more aware of the importance of all green practices, including water conservation;
- Install a water consumption meter to display water consumption figures in open view for staff and participants to see;
- Select water wise plants for landscaping – these plants are generally indigenous to the area and require less watering;
- Use of non-potable water for irrigation purposes;
- Rain harvesting - collected run-off can be used for landscaping or treated and used for washing or toilets; and
- Establish partnerships with local conservation organisations to contribute to the preservation of rivers, wetlands and coastal regions that happen to be in or near the event location.

#### 4.6.3 Preventing and remedying pollution

Event organisers have the responsibility of making sure they do not contribute to the decline of fresh water quality by releasing contaminants into the sewer system, drainage system or directly into natural water sources such as rivers, wetlands or the ocean.

Part of preventing water pollution is educating staff and participants (especially kitchen and cleaning staff) about what can and cannot be poured down the drain. Pollution can be reduced or avoided by implementing green procurement strategies and buying environmentally friendly cleaning agents (washing up liquid, toilet cleaners, etc.).

***“Per capita availability of freshwater is declining globally, and contaminated water remains the greatest single environmental cause of human sickness and death.”***

UNEP, 2007

In summary, as a water-stressed country, large events should not place any undue stress on scarce water resources. At the very heart of the matter is design of venues, including systems that allow the use of return flows and rainwater harvesting; maximised use of water-saving devices and operational plans that allow for water use auditing; regular maintenance; and safe disposal of liquid waste.



Water saving poster in Knysna...



A field of daisies in Nababeep, Namaqualand....



Flower seller with sustainably harvested flowers, Plettenberg Bay....

## 4.7 Protecting and Enhancing Biodiversity

**Event organisers have a responsibility to both protect and enhance the country's biodiversity through the design, construction and maintenance of venues and through their procurement choices.**

Closely related to biodiversity are ecosystems which thrive when characterised by biological diversity and the ability to produce ecosystems goods and services which are provided to society for our wellbeing. These include food, clean water, carbon storage and climate regulation, disease management, spiritual fulfilment and aesthetic enjoyment. The combination of the ecosystems, biodiversity and ecosystems and services comprise natural capital which underpins economies, societies and individual wellbeing.

Whilst South Africa is considered one of the most biologically diverse countries in the world, the National Spatial Biodiversity Assessment, undertaken in 2004, established that both the country's ecosystems and biological diversity are under severe threat as a result widespread environmental neglect and mismanagement, intensified by the effects of climate change. It is thus a national imperative for all role-players, sectors and industries to take stock of how their activities impact on South Africa's biodiversity and individuals ecosystems and mitigate accordingly. Event organisers are not exempt from this duty and a major incentive is to preserve the ecosystems on which this industry relies for its existence. This may seem self-evident but because of the lack of market value attributed to these services, ecosystem goods and services are generally unappreciated. Event greening also has the ability to conserve and enhance biodiversity.

The objectives for biodiversity in relation to event greening are as follows:

- To conserve and protect the existing habitats that surround an event location as well as the species that inhabit them;
- To enhance the biodiversity in and around the event location; and

To promote the procurement of natural products that are derived from biological resources in a sustainable way.

### 4.7.1 Protecting the habitats at and surrounding an event location

In the past, event organisers have mistaken protecting existing habitats with creating new habitats. Existing habitats house ecosystems that are the end result of endless years of evolution and change. Existing habitats need to be sustained and enhanced, not replaced.

With the erection of a new venue, it is important to establish and reduce any negative effects on the environment. Landscaping around the venue can enhance local biodiversity, if done correctly. The ideal approach is to incorporate the outside elements into the building through visual and practical links.

#### Intervention: Green venue design

The venue design should be aimed at protecting the local biodiversity and methods for doing that include the following:

- Incorporate existing flora and fauna into landscaping projects. For example, use existing ponds and wetlands as water features instead of installing human-made versions;
- Ensure that new species introduced for landscaping purposes are indigenous, endemic and preferably water wise (in South Africa, these often go hand-in-hand);
- Avoid providing lights in areas inhabited by nocturnal species;
- Recreate natural conditions for species that have been incorporated into landscaping. For example, give plants only as much water as they would receive in nature;
- Reduce noise to a minimum – loud noises are likely to scare off birds and other species or adversely affecting entire ecosystems; and
- Limit access to environmentally sensitive areas that could be negatively affected by participants.

### 4.7.2 Enhancing biodiversity in and around a venue

In addition to conserving what was already in existence, event organisers have the responsibility of improving and rehabilitating existing habitats and even creating new habitats (without upsetting the balance of existing ecosystems and not as a substitute for conservation). Event organisers incur this responsibility because they benefit directly from area in which their events are held and those events can have far reaching environmental effects.

#### Interventions: Enhancing biodiversity

- Establishing new urban parks and or extending existing urban parks;
- Restoring and rehabilitating habitats degraded in a venue's development and the events it hosts;
- Creating or extending viable habitats for local threatened species instead of a random, uninformed collection of vegetation;
- Funding research into the understanding and conservation of local habitats and ecosystems.

### 4.7.3 Promoting procurement of natural products that are derived from biological resources in a sustainable way

An objective of the framework is to promote the procurement of natural products that are derived from biological resources in a sustainable way with no negative impact on the country's biodiversity.

The NBSAP's Strategic Objective 4 promotes the sustainable use of biological resources and equitable sharing of the benefits and the NBF promotes the development of the natural products, which includes the facilitation of certification, growing domestic demand through increased awareness and strengthening natural product enterprises and supply chain management.

Awareness initiatives such as South African Sustainable Seafood Initiative (SASSI) provide information about the conservation status of different fish species, supports procurement choices that support biodiversity conservation. Certification such as the Forestry Stewardship Council (FSC) enables the procurement of sustainably grown and harvested timber.

Protecting and enhancing biodiversity in relation to events requires sensitivity in relation to the location of venues and their design. Biodiversity can also be protected through sustainable procurement choices in relation to consumables and this is supported by legitimate accreditation and certification schemes and sound marketing.



Protecting and enhancing biodiversity in relation to events requires sensitivity in relation to the location of venues and their design.



### Biodiversity & 2010 FIFA World Cup™

*In the development of the various stadia, biodiversity enhancement was featured and contributed to the biodiversity value and aesthetic appeal of the stadia and their surrounds. The Green Point Stadium, for example, established the Green Point adjacent to the stadium using indigenous, drought-resistant plants resulting in 20% reduction in the watering requirements of the park.*

## 4.8 Responsible Tourism

*The hosting of events can become greener through the greening of the hospitality sector as tourism provides the supporting infrastructure required for the hosting of successful events. It is a reciprocal relationship as major events also attract tourism to the country.*

The World Tourism Organisation (WTO) defines tourists as people who are "travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited". Therefore event participants are undoubtedly tourists and in their combined numbers contribute significantly to South Africa's economy. They also, merely by way of their sheer numbers, consume the most energy, use the most water and produce the most waste at the events they attend.

As discussed in Chapter 3, South Africa has committed itself to responsible tourism. Responsible tourism and sustainable tourism have the same goal, that of sustainable development. The pillars of responsible tourism are therefore the same as those of sustainable tourism – environmental integrity, social justice and maximising local economic benefits. The major difference between the two is that, in responsible tourism, individuals, organisations and businesses are expected to take responsibility for their actions and the impacts of their actions. The emphasis on responsibility in responsible tourism is a commitment by tourism role-players to put into practice sustainability principles.

The objectives of responsible tourism are:

- To reduce tourism-related emissions;
- To promote responsible tourism and establish a uniform green rating system; and
- To green all South African tourism businesses and organisations.

### 4.8.1 Reduce tourism-related emissions

In Section 1.3 on energy efficiency, emissions and climate change, tourism related emissions were identified as one of three main sources of carbon emissions.

Events are responsible for large amounts of carbon emissions and heavy energy usage because they attract large volumes of people, both participants and staff. The tourism industry is said to be responsible for 5% of the world's total CO<sub>2</sub> emissions according to the United Nations World Tourism Organisation (WTO).

Provision for carbon emissions reductions is through the draft National Minimum Standard for Responsible Tourism ("responsible tourism standard"), which is aimed at tourism organisations and businesses, as well the agencies that run sustainability certification programmes for them. The standard describes the role of tourism organisations with regard to carbon emissions as being required to "implement and manage actions to reduce greenhouse gas emissions and other contributors to climate change associated with its operations".

In respect of energy consumption, the responsible tourism standard states that 'The (tourism) organisation shall measure energy consumption, indicating all energy sources as percentage of overall consumption, and adopt measures to decrease overall consumption.'

The hosting of events can become **greener** through the greening of the **hospitality sector** as tourism provides the **supporting infrastructure** required for the hosting of **successful events**.

