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The WRC operates in terms of the Water Research Act (Act 34 of 1971) and its mandate is to support water research and development as well as the building of a sustainable water research capacity in South Africa.

Water use in the tourism sector

Travel and tourism is one of the world's largest economic sectors, creating sustainable jobs, driving exports and supporting the sustainable livelihoods of many individuals and households across the world. Travel and tourism is a labour intensive industry, making a significant contribution to the employment sector of South Africa, with the sector directly supporting 726 500 jobs (4.5% of total employment) in 2017. The tourism sector is a highly responsive and flexible industry, adapting to demand, activities and markets, as well as economic, social, ecological and technological changes and challenges. However, water security and restrictions, due to drought, pose a distinct challenge to travel and tourism. Research has shown that it is difficult to quantify and link the impact of environmental challenges directly to travel and tourism fluctuations such as decreased visitation, cancellations of hotel stays or a reduction in booked holidays.

Background



The issue of water use by the tourism sector has been gaining attention in recent years, brought to prominence by the UN World Tourism Day held on the 27 September 2013, with the theme 'Tourism and Water'. Until recently, research and management efforts have concentrated more directly on tourist facilities such as hotels, golf courses and swimming pools, which directly use large amounts of water. Less attention has been paid to the indirect use of water through related tourist activities, such as agriculture and food production, construction and fuels. Tourism

directly accounts for approximately 1% of global water consumption, however indirectly, construction accounts for 17% of global water consumption, 2% of irrigation water has been allocated to generating biofuels, and a tourist may consume up to 5 000 litres of water per day through food consumption.

Water consumption in the tourism industry

Water consumption and use in the tourism sector is typically defined as consumptive use (direct or indirect) and non-consumptive use. The focus on water consumption and the available data tends to measure direct use, with limited information on the indirect use and non-consumptive use of water. Non-consumptive water use tends to be more dependent on quality of the resource and, to some extent, quantity as in white-water rafting. However, consumptive use requires both the supply and quality of water to be of an appropriate standard.

Based on the number of nights sold per accommodation type, hotels still consume the largest volume of water followed by accommodation categorised as 'other', followed by guesthouses, and campsites. The total volume of water across all accommodation types for 2006 was 2 300 million litres, rising to 4 312 million litres in 2017 and forecast to be 4 991 million litres in 2022.

In 2017, hotels used 3 490 million litres, other accommodation used 532 million litres, guesthouses used 229 million litres and caravan parks used 62 million litres. Average domestic water use in South Africa is around 237 litres per person per day, 64 litres per person per day more than the world average of 173 litres per person per day.

Overall, the tourism sector in South Africa is a large water user relative to domestic use, consuming almost double the current water use for domestic water. As a result, there are definite options for addressing water use in this sector and reducing tourism water demand. These results are not dissimilar to international findings that indicate that tourists tend use more water when travelling than they reasonably would while at home.

Water and tourism are closely linked. In water scarce regions responsible tourism underpinned by water conservation and demand management principles is imperative for the long-term of both the industry and the renewable resource. The risks and opportunities for water use in the tourism sector include:

- Opportunities for economic growth and job creation,
- Risks to long-term sustainable water security and tourist visitor growth.

Tourism's impact on freshwater availability and quality is dependent on a wide range of factors, such as the relative abundance and quality of water in the respective tourism region, current and anticipated future water abstraction rates, the share of non-consumptive versus

consumptive uses, the seasonal and spatial character of water abstraction, competing uses, and the treatment of sewage and wastewater. The fact that many of these issues are interrelated necessitates careful analysis of potential measures to manage freshwater resources: there may be 'win-win' solutions, or trade-offs may be required between different factors.

Conclusion and recommendations

Currently, water use per tourist is estimated at 300 litres per person/per day. During times of extreme stress this may be reduced to 50 litres per person/per day, but this quantity would negate the sense of 'luxury' in tourism over the long-term. Using innovative technologies in the sector, water use could potentially be reduced to about 128 litres per person/per day which would ultimately ensure better water security in the country.

In order to ensure growth in the sector underpinned by the security of supply of supporting natural resources, a better understanding of the demand for water in the sector is required, as well as an understanding of critical use factors and areas where water use can be curtailed or managed strategically. Water use for tourism remains complex and broad. The nature of tourism, the nature of activities undertaken and the expectation of tourists all affect the water use patterns of tourists. These patterns remain variegated and uneven across tourist destinations and tourist types.

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