

1

Introducing the Okavango Delta

The Delta of the Okavango River means different things to different people: a wonderland to some, a wetland or wildlife paradise to others, and for many it provides for wealth and welfare.



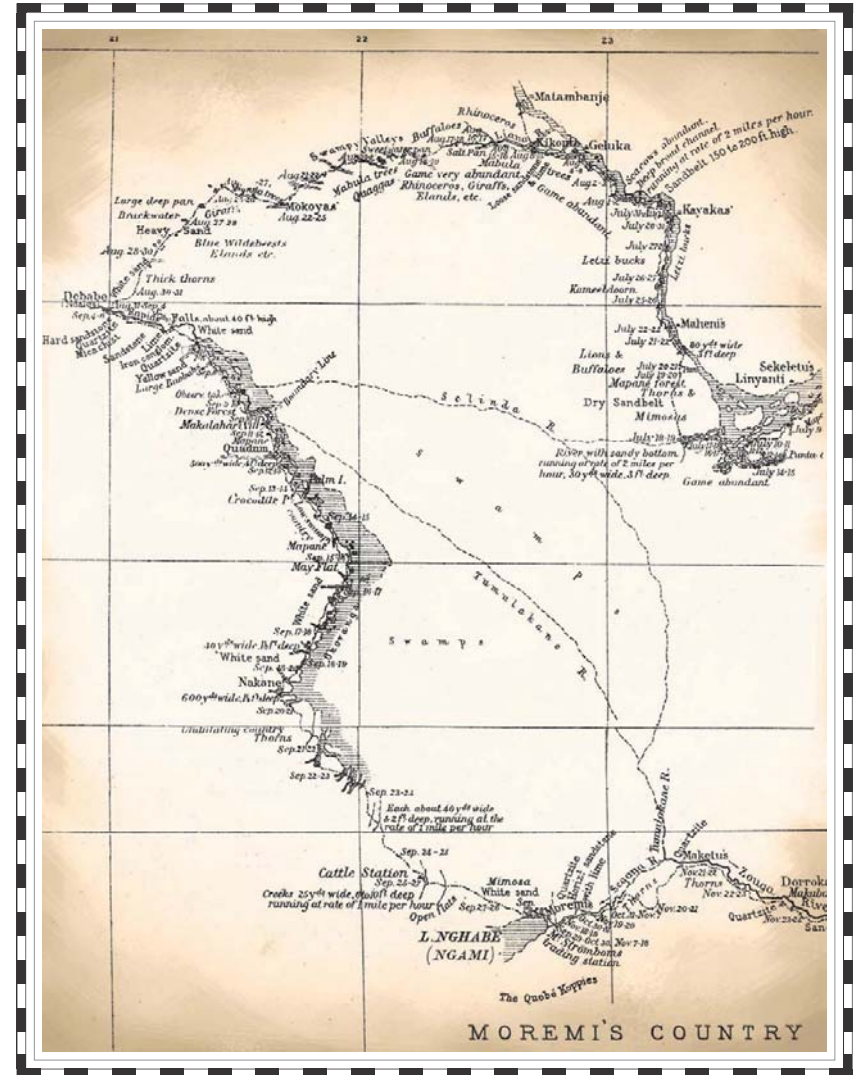
Few natural places in the world offer so many goods, assets and services in combination with such aesthetic appeal. And all of this happens in an incongruous setting lying in the centre of a flat, semi-arid landscape of sand that stretches almost three thousand kilometres from north to south, and over one thousand kilometres from west to east. Much of it is called the Kalahari Desert, and for its setting the Delta has been aptly named the jewel of the Kalahari, which is the title of another book that portrays the beauty and intricacy of the Delta.¹

Several other books, and many magazine articles and documentary films have been devoted to its magic, their pages and footage filled with striking images of spectacular animals, plants and scenes. These images on film and paper have carried the fame of this natural asset out into the world. Each year, the Delta attracts tens of thousands of tourists from many countries on several continents.



Figure 1 | David Livingstone and his co-explorers, William Cotton Oswell and Mungo Murray, were probably the first westerners to record their visits to the Okavango-Ngamiland region when they reached Lake Ngami in 1849.² Their 'discovery' was immediately followed by visits by many other explorers, hunters and traders, including those by Charles John Andersson and Thomas Baines. The earliest maps only documented features on the edges of the Delta, such as the Boteti and Thamalakane Rivers, Thaoge Channel and Khwebe Hills, and the Linyanti and Zambezi Rivers to the north. Although Livingstone had been told by local people that the country was 'full of rivers', it took explorers and cartographers several decades to comprehend the details of what lay inside the Delta. The map shown here was published in 1897 after a journey of exploration by Aurel Schultz and August Hammer. Theirs was the first map to show the Okavango River (given as Okovanga), and they inferred the rough courses of rivers through the Delta, naming them the Selinda and Tumulakane.

While its margins became known to many visitors, the nature and extent of the Delta largely remained a mystery until 1905. This is when the explorer Siegfried Passarge published his *Das Okavango-sumpfland und seine Bewohner* (The Okavango swamps and its inhabitants). The book included the first map showing the approximate shape of the Delta and its network of waterways.



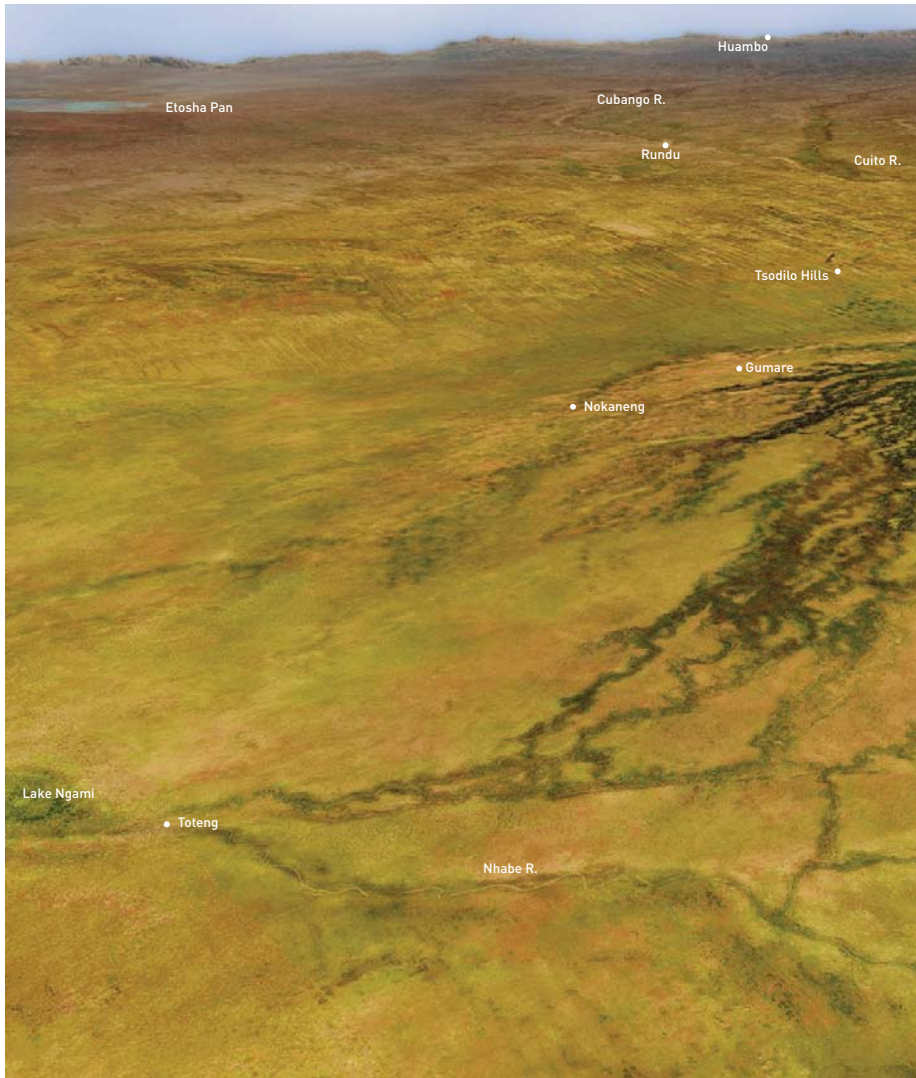
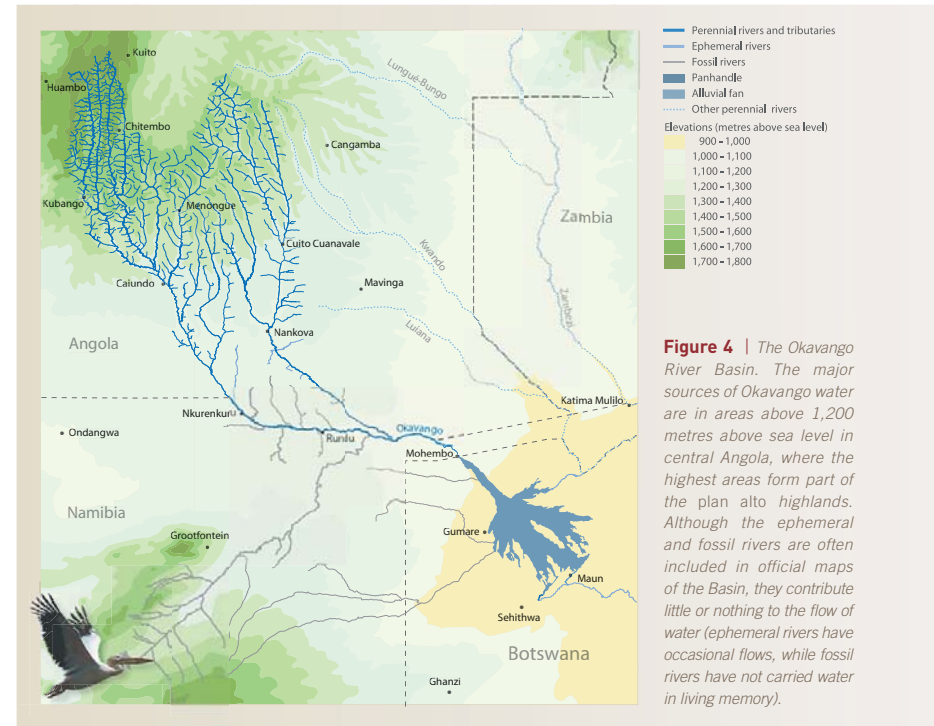
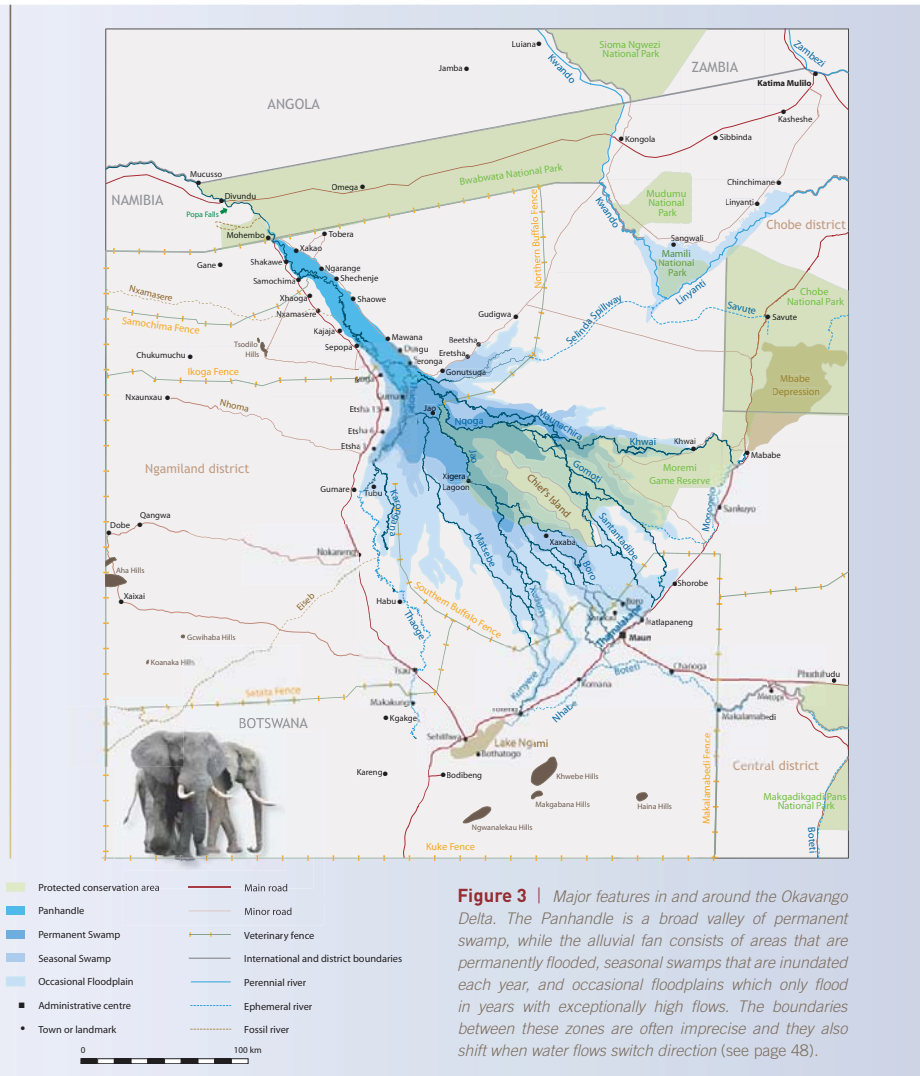


Figure 2 | The Delta's alluvial fan is in the foreground, the Panhandle behind it, while the Angolan catchment commands the background. Panhandles are narrow strips protruding from larger areas of land, while deltas and alluvial fans are defined as triangular or fan-shaped plains of alluvial sediments deposited where the gradients of rivers suddenly decrease.³ This is usually at the mouth of a river where it meets the sea – and that is called a delta – or where a river issues onto a broad plain, where the sediments would be an alluvial fan. The latter definition applies more closely, but calling this the Okavango Alluvial Fan would be indeed cumbersome!



Compared to other freshwater environments, the Delta is thus well known as a spectacle rich in wildlife, especially in the minds of devotees to wild places and nature. But much less is generally known about the origins of the Delta, its functioning, the major processes that give it bountiful life, what threats it may face in the years ahead, and what can be done to meet challenges that may compromise its future. And limited information about its workings is available to people who may influence that future, for example those who determine how water in the Delta's catchment is used or abused.

The first is to explore how the Delta functions. Much of our search is synthesised from the findings of hundreds of scientists who have given years of study to the Delta. The book describes the catchment areas in Angola and the passage of the Okavango River through Namibia. This is where the quality, volume and timing of water flow entering the Delta is determined. Once water reaches the Delta, various processes govern the distribution of flows across the alluvial fan. Some processes are physical, dependant on slope, sedimentation, faults and channels fixed long ago in the sands of the Kalahari. Yet others are driven by biological agents, principally by such divergent organisms as papyrus, termites and hippos. The effects of all these processes also change, and so the spread of water varies from one season to the

Okavango Delta: Floods of Life is a celebration of the Delta's living wealth, but it specifically aims to do three things.



The Delta immediately evokes water and wildlife. But there is so much more: a meeting between wetland and dryland, a rich reservoir of nutrients, engineering processes that move water from one place to another and keep the water fresh; a patchwork of diversity of habitat and life forms; three countries, each with separate perspectives and influences on the Okavango River and its Delta; high economic values that move people of the Delta from subsistence lifestyles to ones enmeshed in cash-based services; one of the world's most pristine river systems; and tangible proof of good governance.

next, and across longer scales of time that range from tens to thousands of years. In short, the flow of water is extremely variable and unpredictable.

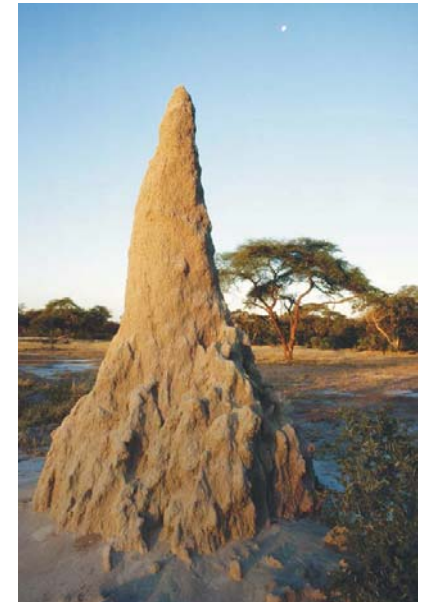
Pulses of water coming down from the catchment are critical to the functioning of the Delta. But the rich production of plants and animals is only possible when – and where – the waters mix with layers of nutrients to mobilise these molecular constituents of food and form. Without abundant nutrients, the waters of the Delta would be sterile, and so it is this dynamic mix of water and nutrients, ever shifting from one place to another, that holds the key to the wealth of biological production and diversity.

A second aim of this book is to emphasize the values of the Delta that stem from the rich life found here. This wealth has been recognized by the international Ramsar Convention, which has distinguished the Delta as a wetland of 'significant value for Botswana and ... for humanity as a whole ... because of its international significance in terms of ecology, botany, zoology, limnology or hydrology'.⁴

Not only is the Delta an oasis of water, but also one of high biological diversity with more than 400 species of birds, about 1,300 plants, 71 fish and tens of thousands of invertebrate species, for example. What is significant about these organisms? Where else in the world are they found? On what habitats do they depend, and what factors determine their abundance? What assets, resources, products and services are provided by the Delta's biota, and what or whom do they benefit?

What needs to be done to secure the future of the Delta? To address this question is the third purpose of *Okavango Delta: Floods of Life*. Although this Kalahari wetland is isolated from other expanses of freshwater, it is by no means immune to various external threats. There are also local challenges brought about by economic activities that take place in and around the Delta. Most of these relate to the way in which the people of the Delta live and regard its resources.

A range of approaches and activities need to be employed if the Delta is to continue to serve its people, the citizens of Botswana and the international community. Reliable information is needed to assess the nature and degree of threat posed by the many challenges. Since many of the threats are constantly changing and ever



The elevated mounds of termites later become wooded islands which are crucial in adding to the diversity of habitats in the Delta and maintaining its fresh water.

increasing, it is important to monitor the health of the Delta so that detrimental impacts can be identified as early as possible.

Such technical assessments and measurements are necessary, but alone they are not sufficient. The challenges facing the Delta derive ultimately and proximally from economic interests, which are usually cloaked in the languages of politics and business. The choice for conservation thus needs to be backed by political will.

All who have an interest in the Okavango Delta need a common purpose and tongue if they are to preserve this valuable oasis of water, wildlife, wealth and welfare. We hope that this book will contribute to the development of this common language and understanding.