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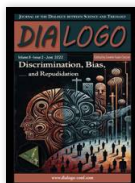


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HeartMath iBhubesi Tree Rhythm Project at Umhlanga Rocks South Africa



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ARTICLE INFO

Article history:

Received 15 January 2024

Received in revised form 18 May

Accepted 20 May 2024

Available online 30 June 2024

doi: [10.51917/dialogo.2024.10.2.22](https://doi.org/10.51917/dialogo.2024.10.2.22)

Keywords:

iBhubesi; Indigenous knowledge; Interconnectedness; HeartMath; Tree Rhythm Project; South Africa;

ABSTRACT

The HeartMath Tree Rhythm project is a citizen science interconnectivity initiative. Interconnectivity refers to the hypothesis that all life forms are interconnected via intersecting magnetic energy fields. HeartMath tree rhythm research complements the HeartMath Global Coherence Initiative (GCI) and Global Consciousness Project (GCI). Related websites are as follows: <https://treerhythms.net/> <https://www.heartmath.org/gci/gcms/live-data/> and <https://gcp2.net>

The present contribution employs a narrative methodology to introduce the iBhubesi Tree Rhythm project at Umhlanga Rocks South Africa. The isiZulu term “iBhubesi” denotes an African lion. Ubuntu connotes humanity. Its deeper meaning is that we only become human through others (umuntu umuntu ngabantu), especially, ancestors, family and friends. African dialogue is epitomized by respectful greeting and openness in human relationships.

Umhlanga Rocks iBhubesi Mango has a unique ecological ancestry and eco-spiritual story. Mango trees are originally indigenous to India, its people and continent. They are also connected to everything else - nature, people, continents, planets and cosmos. The following contribution intends to unpack some universal, differential and unique aspects of this interconnectedness.

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Citation: Edwards, Stephen David. “HeartMath iBhubesi Tree Rhythm Project at Umhlanga Rocks South Africa.” *DIALOGO*, ISSN: 2393-1744, vol. 10, issue 2 (June 2024): pp. 337-345. DOI: [10.51917/dialogo.2024.10.2.22](https://doi.org/10.51917/dialogo.2024.10.2.22)

I. INTRODUCTION

Trees are vital in the world's ecosystems. Motivation for the present contribution included a recent estimate [1] that indicated a third of the planet's tree species, some 17,510 species, are threatened with extinction. Their extinction will significantly alter the planet's ecosystems and negatively affect billions of people. Priority actions include greater promotion of eco-spirituality, recognition of tree extinction, and the restoration of natural tree populations, addressing direct threats and prioritizing conservation actions to particular tree species, as well as strengthening the role of trees in environment policy and sustainable development [1].

This African eco-spiritual story has natural, animal, and cultural nuances. For the latter view readers are invited to simply live amongst trees and/or watch the brilliant photo-documentary by Artur Homan on The Secret Life of Trees available on the website: <https://www.youtube.com/watch?v=k9fBEc-dRYI>. The specific intention of the present contribution is to introduce the HeartMath iBhubhesi Tree Rhythm project at Umhlanga Rocks with special reference to an African male Mango tree. Mango trees are originally from India as indicated in the botanical names of *Mangifera indica*. [2]. The particular tree, nicknamed *iBhubhesi*, is situated at Antigua Apartments, 32 Chartwell Drive, Umhlanga Rocks, a seaside village, some 16 kilometres north of central Durban. In the Zulu language, *isiZulu*, *iBhubhesi* literally refers to an African lion or *Panthera leo*. An equivalent Zulu term is *iNgonyama*. *iBhubhesi* and *iNgonyama* originally referred to nicknames given to two local ecologists who care for the Apartment Complex with its 21 apartments surrounding a central swimming pool area. The Antigua site was specifically chosen for the tree

rhythm project, because it is strong in Wi-Fi connectivity.

The HeartMath Institute was established in 1991 by Doc Childre, in company with a multi-professional research team with the goals of promoting personal, social, and global coherence, research education and health [4]. The HeartMath tree rhythm project is interconnected with the HeartMath Global Coherence Initiative (GCI) and Global Consciousness Project (GCP). Related websites are as follows: <https://treerhythms.net/> <https://www.heartmath.org/gci/gcms/live-data/> and <https://gcp2.net>. The aim of this paper is to introduce this *iBhubhesi* tree and tell its Tree Rhythm Project story.

II. METHOD

Human evolutionary genetics points to our Southern and Eastern African ancestral roots [3]. African visitors often experience homecoming reconnection with Spirit (Moya). Appropriate African narrative methodology honours Moya [4]. *Ukuhlonipha* refers to an African cultural custom of recognizing, valuing, affirming and/or praising important community persons, elders and ancestors, for example during praise singing (*imibongi*). This paper constitutes recognition of two local ecologists, respectfully nicknamed *iBhubesi* and *iNgonyama* for their tireless ecological contributions to the local Umhlanga community. Both *iBhubesi* and *iNgonyama* are *isiZulu* terms for an African lion, with the former typically invoked in the case of a wild lion (*panthera leo*) and the latter as a term of respect in reference to Zulu royalty.

The act of naming is a recognized African method. The ecologist *iBhubesi* first received his name because of his shaggy, bearded appearance over the COVID-19 pandemic lockdown period. It is also bestowed on a

male mango tree, growing in the corner of Antigua Apartments in Umhlanga Rocks, the subject of the present study. This respectful act of naming is coherently integrative, denotative and connotative. Our story expresses appreciative praise (ukubonga) for all stakeholders involved in this study, the HeartMath tree rhythm project, the Umhlanga Rocks community, the ecologists, and last but definitely not least, the particular subject of this study, iBhubhesi Mango.

III. AFRICAN ECO-SPIRITUALITY THROUGH INTERCONNECTED RELATIONSHIPS.

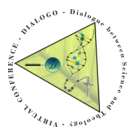
Indigenous knowledge systems in Africa and elsewhere typically postulate interconnectedness, with plants, animals, humans, ancestors and all creation interdependently coexisting. Sages such as Imhotep, Smuts and Wilber have advanced theories of holism, involution and evolution [4]. Wisdom traditions and evolutionary science variously postulate cosmic origins, such as steady state, big bang, oscillating theories and developmental sequences as atoms to molecules to cells and plants to animals to humans [5]. For example, Ancient Egyptians worshipped Ra, the Sun God, the Nile, as well as plants trees, animals and people. Evolutionary genetics indicate Southern central and Eastern African early sites from which pedestrian human migrations crossed the Sinai Peninsula, continuing through India. Survival required social cooperation, coherent communication and endurance running in pursuit of wild animals [3].

In the African eco-spiritual context [6] African proverbs bring out the richness of African ecological spirituality. Examples are: a tree on a hill is a meeting place for birds; trees pull the rain; hills with trees are footprints of God; the best time to plant a tree is twenty years ago, the second-best time is now; when there is something

wrong in the forest, there is something wrong in the society; a person who has planted a tree before he dies did not live in vain; to plant a tree is to mix with God; eat, but leave some in the forest for others; do not finish the arrowroot; think of the future; earth is our mother's womb; one will take a reserve if only one puts in the reserve; treat the earth well; it was not given to you by your parents; do not drain the river till it dries; a dried-up tree does not bear a green one; a tree blossoms with rain; no one throws a stone where he or she has placed a container of milk.

Interconnected interrelationships of all life components has long been recognized in African indigenous knowledge systems. African homesteads are typically circular, all centred around the cattle kraal. Wholeness, wholesomeness, and health are particularly prized survival dimensions. Profound oneness becomes especially evident in such themes as ubuntu (humanity in all communality and mutuality). Healing practices by traditional doctors (izinyanga) and diviners (izangoma) include, ritual purification, indigenous medicines, sexual abstinence, observance of other cultural and moral requirements, dream messages, ancestral dancing, bone throwing, and a host of other divining practices. Divine healing itself (ukuvumissa) typically includes immanent and transcendent consciousness, in an atmosphere where the presence of the divine is profound apprehended. It implies continual spiritual growth and moral discernment not to abuse gifts received as a result of divine calling [4].

Many of the traditional roles of the izangoma and izinyanga today have been taken over by Afro-Christian healers (abathandazi), who provide the vast majority of Southern African healing resources. Emphasis is on ancestral reverence, with Jesus as the greatest ancestor, and Holy



Spirit in a continually evolving form of generational consciousness, typically involving collaborative relationships (masihambisane), rhythmic dance and song. The originally African Nguni word “Ubuntu” has become international. It implies more than its literal translation as “humanity”. It conveys a vision and mission of individual, family, and community, ecological relationships of respect, mutuality, harmony and integrity. It implies that we are our neighbours, all interconnected with, plants and animals, earth and sky, all part of everything, with everything part of us. Ubuntu is one way towards a more coherent cosmos, which demands prevention of pollution, pride, power, possessiveness and promotion of umsebenzi –A Zulu word which means work, love and sacrifice [4].

The HeartMath iBhubesi Tree Rhythm project was specifically chosen for its safety and interconnectivity reasons. An African indigenous uMlahlankhosi tree was found unsuitable as it did not satisfy these requirements. However its cultural, ethnobotanical meanings are included to complete our story. From the botanical perspective, *Ziziphus mucronata* are of the family Rhamnaceae. In Southern Africa common names: buffalo thorn (Eng.); blinkblaar-wag-’n-bietjie (Afr.); umphafa, umlahlankosi, isilahla (isiZulu); umphafa (isiXhosa); umlahlabantu (Swazi); mokgalo (Tswana); mutshetshete (Venda); mphasamhala (Tsonga); mokgalô, moonona (N Sotho). The wag-’n-bietjie boom or tree represents life as lived. According to the website <http://pza.sanbi.org/ziziphus-mucronata>, the young twigs are zigzag, indicating that life is not always straightforward. Two thorns at the nodes are also significant; one facing backward represents where we come from and one facing forward, represents where we are going. Zulu cultural meanings are as

follows [4].

In traditional Nguni culture, a continuous relationship between the living and the “living dead” (abaphansi). The burial process called “umsebenzi wokubuyisa” signifies the beginning of a new life as an ancestor. In the case of a person who died away from home, an ihlahla twig from the “umlahlankosi” tree becomes a symbolic link between the living and the deceased person. During the process of bringing the deceased home from the site of death, the spirit of the deceased is carried on twig. This “umsebenzi” signifies respect for the deceased, recognition of life after death as an ancestor and also symbolically renders the environment accident free for other road users.

Umuthi is a Zulu word that stands for both a tree and medicine, appropriately so, as many medicines typically derive from the roots, bark, leaves and other parts of trees, which, at a subtler level, provide oxygen for all living breathing beings. There is a large African Mahogany tree (*Trichilia emetic*) which stands near the entrance to the church, which was considered for the HeartMath Tree Project. Although the tree was found unsuitable for interconnectivity and practical purposes, it has many valuable medicinal for healing usages, for example, as in emetics, as indicated by its name. Indigenous and Afro-Christian faith healers often use traditional medicines in symbolic and serial sequence, for example black medicines (imithi emnyama) at night (e.g., ubulawo is a liquid medicine used as an emetic); red medicines (imithi ebomvu) given at dawn or dusk and white medicines (imithi emhlophe) at midday [4].

A. Mango Tree Slave Trade Symbolism

One of Steve Edwards’ enduring memories is of an invitation to attend First Pan African Congress on Mental Health, Dakar, Senegal, over 18-20 March,

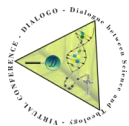
2002. Full travel and conference fees were paid by the Canadian Government. He was accompanied by a psychiatrist and traditional healer, who worked in the training and registration of traditional healers. The trio landed on Ilha da Sol in the Cape Verde Islands for fuel as the flight destination was Atlanta in the USA. For whatever reason, e.g., security precautions related to the recent New York Twin Towers bombing, and/or simple incompetence, their luggage was rerouted to New York. In Dakar they were later given complementary shirts by the organizers in their concern for their plight. Actually that is all that was needed with the warm weather and alternate shirt washing. The trio visited the Island of Goree which, from the 15th to the 19th century, was one of the largest slave-trading centre of the African coast. Ruled in succession by the Portuguese, Dutch, English and French, it continues to serve as a reminder of human exploitation. Today it is a UNESCO heritage and sanctuary for reconciliation.

Mango trees remain a potent symbol of the slave trade, for the trees were first transported to West Africa in the cargo of Portuguese vessels of the fifteenth and sixteenth century. Tradition has it that as slaves were marched to the coast, they dropped mango seeds along the way. The seeds later grew into trees. The trees thus symbolized the slaves final African meal before their departure across the Atlantic. This departure was understood as death. Another story is of how those left behind planted a mango tree as a memorial to an individual life lost. Mango trees are still planted on graves of a deceased persons [7]. In East Africa, mango trees are also found to mark the paths walked by slaves to the coast, where the fruit may have been introduced before the fifteenth century by Arab traders [8].

Mango trees originated in the foothills of

the Himalayas [2, 9]. They play a sacred role in India, as symbol of love and prosperity. Historically, mangoes have been associated with Mughal emperor Babar, as well as Lord Shiva, and the Buddha. In Hindu culture fresh mango leaves are hung outside the front door during religious festivals to bless the house. Durban is home to the largest Indian population outside India. South Africans of Indian origin comprise a heterogeneous community distinguished by different origins, languages, and religious beliefs. The first Indians arrived during the Dutch colonial era, as slaves, in 1684. A conservative calculation indicates over 16 300 slaves from the Indian subcontinent having been brought to the Cape. In the decades 1690 to 1725 over 80% of the slaves were Indians. This practice continued until the end of slavery in 1838. Indian slaves made up the majority of slaves that came from the Far East and were by the 1880s totally integrated into the Cape White and Coloured communities [<https://www.sahistory.org.za/article/indian-south-africans>, accessed 12/9/2023].

The end of slavery was succeeded in South Africa by British Colonial cultural and racial tradition. This was followed by the formal institution of Apartheid in 1948. This nefariously violent and unjust system ultimately met its demise through mass democratic movements. After many years' human rights struggles, the first truly democratic elections and the Presidency of Nelson Mandela continued. Indians came to South Africa in two categories, namely as indentured workers and later as 'free' or 'passenger' Indians. The former came as a result of a triangular pact among three governments, which stated that the indentured Indians were to work for the Natal colonial government on Natal's sugar plantations. The 'free' Indians came to South Africa mainly as traders alert to new opportunities abroad. These 'free Indians'



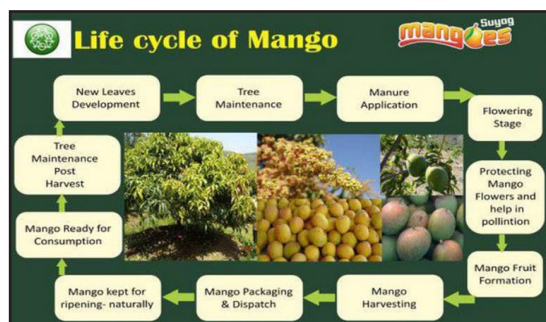
came at their own expense from India, Mauritius, and other places. However, emigration was stopped in 1914. Between November 1860 and 1911 (when the system of indentured labour was stopped) over 150 thousand indentured labourers from across India arrived in Natal. After serving their indentures, the first category of Indians were free to remain in South Africa or to return to India. By 1910, about 250,000 indentured men returned to India, but most chose to stay and thus constituted the forbearers of the majority of present-day South African Indians [<https://www.sahistory.org.za/article/indian-south-africans>, accessed 12/9/2023].

Apartheid was notorious for arbitrarily dividing people along cultural (so called racial) grounds. The so called Zulu-Indian war of 1949 is a case in point. Although the Apartheid government were eager to advance racial factors as the reason, many now believe that the Durban Riots of 1949 were not a result of racial bigotry between Indians and Zulus. Indian Traders and landlords, were targeted and many killed (<https://www.sahistory.org.za/dated-event/zulus-attack-indians-durban> accessed 5-12-2023). Although Indian businesses, families and communities were on the receiving end of the attacks, a precipitating factor seems to have been economical. However, clearly the main reason for violence was the structural, repressive and reactive violence occasioned by forced segregation. Although he was to pay the ultimate price in being murdered, a much loved subsequent President of the Psychology Society of South Africa, Sipiwe Ngobo did much to reconcile people through the Ubuntu that radiated from his multicultural counselling work [10].

The destructive influence of Apartheid was also apparent in perpetuating divisive interpersonal and cultural factors, which operated as precipitants to parasuicide

in Durban Indian population. One study indicated all 100 cases of parasuicide managed in a large general hospital in Durban involved some form of interpersonal dispute, and 59 percent were also associated with some flouting of cultural norms typically involving Hindu-Moslem cross caste relationships [11]. Another example was the double disadvantage suffered by traditional Zulu healers who were not legally allowed to work with modern Western style medical doctors in the acceptance or referral of clients, who would benefit from a more collaborative or integrated system of services involving both traditional and modern healers [4].

Illustration 1. The Life Cycle of the Mango



[https://www.facebook.com/story.php?story_fbid=1425527967751902&substory_index=0&id=1424348017869897 accessed on 23-10-23]. See also [9]

B. Ecological interconnectedness.

Lions and mango trees are from Africa and India. Rural Zulu view strangers as both powerful and vulnerable [4]. As strangers in urban environments, lions are similarly vulnerable and powerful. They will avoid people as far as possible. Situated in the corner of an Apartment complex, in between Apartments and adjacent Complex, *iBubhesi* resonates with other plants and trees, people of African, Indian, European and mixed descent cultures. It is a powerful symbol of ecological

interconnectedness. Its leaves are sacred symbols in Hindu culture. Serendipitously, the latter fact was pointed out by an Indian friend to the authors as they were attaching the HeartMath Remote Tree Unit.

Africa and India are geographically connected. Evolutionary genetics indicate Southern central and Eastern African early sites from which pedestrian human migrations crossed the Sinai Peninsula, continuing through India [3]. The collectivistic orientation of both counties provide evidence for the view that humanity survived and thrived through social cooperation. People need to work at their ecological, social and spiritual relationships in order to promote homeostasis. Interconnectedness is easily disturbed and apparent harmony is precarious. Various studies attest to relationship between the natural environment and human health and illness. Trees in particular, have huge health value. This fact was emphasized by a study indicating that loss of trees to the emerald ash borer increased mortality related cardiovascular and lower-respiratory-tract illness [12].

In his 2017 study, Zlinszky and his colleague Anders Barfod [13] used terrestrial laser scanning to monitor 22 tree species to observe how the shape of their canopies changed. The measurements were taken in greenhouses at night to rule out sun and wind as factors in the trees' movements. In several of the trees, branches moved up and down by about a centimetre or so every couple of hours. After studying the nocturnal tree activity, the researchers theorized as to the meaning of the movement. They believe the motion is an indication that trees are pumping water up from their roots. This is the heartbeat that we may apprehend in those deep meditation apprehensions illuminating global interconnectedness.

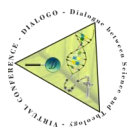
The four year duration of COVID -19,

and many related cardiovascular deaths are a reminder of the vital importance of what is known as *prana* or *chi* in Asia and other parts of the world not particularly dominated by Western style bio-medicine. This holistic emphasis has been described as follows: "As the study and use of the breath, breath psychology emphasises that the more relaxed, deeply, regularly and completely we breathe, the better the quality and quantity of life for all to come. The science, art and psychology of breathing are infinite topics of which this article is merely a brief sketch in relation to energy, consciousness, embodiment, ecology, spirituality and sport. The air around us is shared. When it enters individual lungs it creates consciousness, responsibilities and personal choices as to its use. Given such ecological threats as global warming, pollution and overpopulation, optimal use of the breath becomes an ethical, planetary and cosmic imperative" [14].

This paper has served to introduce the *iBhubhesi* Mango tree and tell its Tree Rhythm Project story, within the interconnected HeartMath, Indian and South African context. In due course, we hope to further this study with reference to two related HeartMath South African studies.

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ACKNOWLEDGEMENT

Grateful thanks are due to many people who contributed to this citizen science project. Special thanks are due to particular collaborators: Hilton Maclarty, Ron McLarty, David S. Ngcobo, Goodman Z. Cabe, Pricilla B. Mbele, Sandy Edwards, Daniela Viljoen, Andrew Warmback, Chris Tattari, and Kerry Tattari.

BIOGRAPHY



Steve Edwards is currently an Emeritus Professor and Research Fellow at the University of Zululand. Qualifications include doctoral degrees in Psychology and Education and registrations in South Africa and the United Kingdom as Clinical, Educational, Sport and Exercise Psychologist. Steve's research, teaching and professional activities are mainly concerned with health promotion. He has supervised many doctoral students, published much research, and presented papers at many international conferences. He is happily married with two children, and four grandchildren.

Tree Rhythms



iBhubesi Tree



Ron, Steve, Hilton and David

