INTERACT-Bio
Integrated action on biodiversity

An Investment Case for Nature's Benefits in Dar es Salaam

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Commissioned by ICLEI Africa and ICLEI CBC

Compiled by
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https://interactbio.iclei.org/

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Executive Summary

ICLEI Africa appointed MCA Urban and Environmental Planners and I and M Futureneer Advisors Pty Ltd to develop an investment case and conduct associated activities to attract multiple sources of funding to support the implementation of a project demonstrating nature-based solutions in Dar es Salaam.

Please note that the Business Case is not an academic document or a full feasibility study with full technical details and design. The Business Case has been written for consideration by a wide range of stakeholders, to obtain support and buy-in for the project.

The first phase of the project will commence with the rehabilitation of the Botanical Garden in the Dar es Salaam CBD. The enhanced Botanical Garden will connect the community of Dar es Salaam with their natural heritage. It could also serve as a nursery for some of the mature trees and spices to be planted in the second phase of the project (i.e. the Green Corridor), serve as base for the educational program on the benefits of the Green Corridor, serve as a model for a public private partnership, provide maximum benefits to both local residents and tourists in the shortest amount of time; and serve as a case study and base for the Green Corridor project.

The envisaged rehabilitated Botanical Garden will include indigenous plants and spices based on a landscape layout master plan, interpretational signage, garden furniture from recycled plastics, new exhibits including a butterfly exhibit, local vendors selling local food, an interpretation centre, nursery and composting facility. The rehabilitated Botanical Garden will be supported by an educational program and a marketing and communication strategy including various related events.

The second phase of the project comprises the planting of mature, indigenous trees to create a Green Corridor along the A7/Morogoro Road, linking with Samora Avenue and Barack Obama Drive. (The term 'mature' tree is used here to refer to trees that have been grown beyond sapling stage and are well established, but still sufficiently moveable to be transported). The Green Corridor will include links to the Kariakoo Market, the Fish Market and the Old Boma Tourism Office and will improve the walking conditions for Dar es Salaam residents and tourists. This improvement will be realised by providing nature-based services such as providing shade for residents and tourists alike, reducing the overall temperature in the city, improving the air quality, carbon sequestration, preventing soil erosion, promoting pollination and improving the aesthetic appeal of the city and thereby encouraging recreation and tourism.

The rehabilitation project is to be facilitated and realised through the establishment of a not-for-profit, private company, employing a project manager and administrator. The private company will include a board of seven representatives from both the public and private sector. Alternatively, an existing, established, not-for-profit which is trusted by the parties could be considered.

The rehabilitation of the Botanical Garden will commence during November 2021, allowing for a 24 month period to obtain funding, establish the required institutional entity, conduct all the required planning and obtain all the required approvals and stakeholder buy in.

The funding requirement for the rehabilitation of the Botanical Garden is estimated at US$120 289 and incorporates funding for pre-opening expenses and working capital.

It is projected that the rehabilitated Botanical Garden would be able to attract around 42 000 visitors per annum from foreign tourists and local residents. The detailed financial projections indicate that the rehabilitated Botanical Garden would achieve:

- A gross operating loss in the first two years of operation until the Botanical Garden becomes established as a tourist attraction;
- A retained nett loss for the first six years of operation, due to capital charges, such as depreciation; and
- A positive net cashflow from the first year of operation, due to the injection of working capital.

The significant benefits of the rehabilitated Botanical Garden include:

- Increase in tourism;
- Increase in recreational activities for residents;
- Providing education and awareness of the importance of urban biodiversity, through the awareness campaign;
- The conservation and rehabilitation of indigenous plants;
- The potential to utilise plants for medicinal purposes and develop pharmaceutical products;
- The ability of plants and trees to reduce the temperature in the inner city;
- The ability of plants and trees to improve the air quality in the inner city;
- The ability of plants to sequester carbon in the inner city;

- The utilisation of the compost facility to restore soil fertility;
- The creation of a safe habitat for pollinators such as insects and birds;
- The potential to inspire arts, culture and design by creating a biodiversity oasis in an urban environment;
- The improvement in the mental health of residents; and
- The increase in land values of surrounding properties.

Figure 1: Urban trees: An example of a nature based solution in Dar es Salaam

1. The Project

1.1 Introduction

ICLEI Africa appointed MCA Urban and Environmental Planners and I and M Futureneer Advisors Pty Ltd to develop an investment case and associated activities to attract multiple sources of funding to support the implementation of a project demonstrating nature-based solutions in Dar es Salaam.

The project is a key deliverable of the INTERACT-Bio project that has been designed to improve the utilization and management of nature within fast-growing cities and the regions surrounding them. It aims to provide expanding urban communities in the Global South with nature-based solutions and associated long-term benefits.

In Dar es Salaam, the project aims to attract investment that will not only improve the utilization and management of nature in the city, but that can also be used to attract tourists to Dar es Salaam.

The formulation of the investment case followed a robust approach and methodology (See Annexure A) and the proposed project emanating from this process is detailed below.

Please note that the Business Case is not an academic document or a full feasibility study with full technical details and design. The Business Case has been written for a wide range of stakeholders to obtain support and buy-in for the project. The Business Case is the first step in the proses to obtain funding and support from the relevant stakeholders. These stakeholders are most qualified to provide the technical expertise for the full feasibility and final design of the project.

1.2 Project Description

The project was conceptualised by following the process as described in Step 1 of our approach (See Annexure A and Annexure D). The process aimed to link Dar es Salaam's biodiversity significance with INTERACT-Bio's objectives and value proposition. The process involved identification of the ecosystem service opportunities in Dar es Salaam such as the provision of water, roadside greening for cleaner air, greenspace development for healthy communities, urban vegetation to cool the city and creating green space to reduce flood risks. The process then determined the value proposition and funding mechanism of the nature-based solution (for example tree planting) that will best address the ecosystem service opportunity.

It is acknowledged that Dar es Salaam is located in a globally important biodiversity hotspot, the "East African coastal forest". The East African coastal forest hotspot runs along the Tanzanian and Kenyan coasts from the border with Somalia to the north, to that with Mozambique to the south. It straddles two ecoregions: Eastern Arc Forest and Northern Zanzibar-Inhambane Coastal Forest Mosaic. Of the original 30 000 km2, just 2 000 km2 (i.e. 6.7%) of the hotspot remains. The East African Coastal forests are an important and highly threatened centre of endemism for plants, mammals, birds, reptiles, frogs, butterflies, snails and millipedes.

Remnants of these coastal forests remain within Dar es Salaam City's jurisdictional boundary. Despite rapid urbanization, Dar es Salaam still has a picturesque shoreline, beautiful beaches, pockets of mangroves, remnants of coastal and Afromontane forest and various wildlife elements (most notably birds, bats, monkeys and marine wildlife). The city centre also boasts many shade trees.

The project builds on the existing natural assets of Dar es Salaam and propose to incorporate the rehabilitation of the Botanical Garden to serve as a case study for the joint venture between the public and private sector. This joint venture can be utilised for the development of a Green Corridor in the central business district of Dar es Salaam to provide shade, reduce the overall temperature and improve the air quality, amongst others, for residents and tourists alike.

1.2.1 First Phase Project Description

It is proposed that the first phase of the project commence with the rehabilitation of the Botanical Garden in the Dar es Salaam CBD.

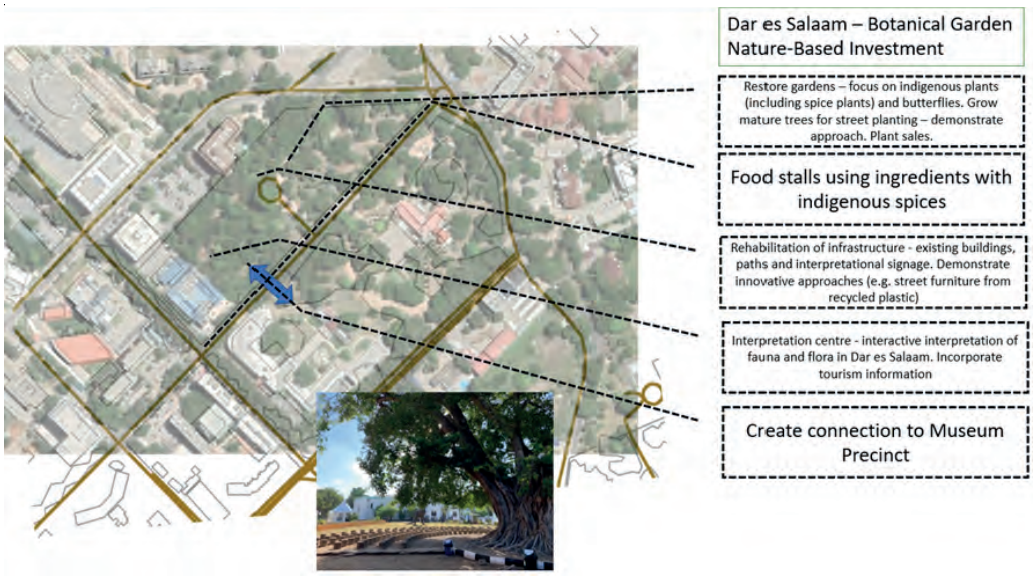


Figure 2: The Dar es Salaam Botanical Garden

The motivation for the rehabilitation of the Botanical Garden and why it should form phase 1 project include:

- The Botanical Garden will connect the community of Dar es Salaam with their natural heritage through the rehabilitation of indigenous trees;
- The Botanical Garden could serve as a nursery for some of the mature trees and spices to be planted in the second phase of the project, i.e. the Green Corridor;
- The Botanical Garden could serve as base for an educational program on the benefits of the Green Corridor;
- The Botanical Garden could serve as a model for a public private partnership;
- A rehabilitated Botanical Garden would provide most benefits to both local residents and tourists in the shortest amount of time;
- The rehabilitation of the Botanical Garden has the best chance of success and demonstrating the viability of the Green Corridor project by serving as a case study and base for the Green Corridor project; and
- The rehabilitation of the Botanical Garden will create job opportunities including composting and gathering of raw plant material from surrounding hotels, tour guides, vendors, etc.

The rehabilitation of the Botanical Garden is to include:

- Rehabilitation of the indigenous plants and spices in the Botanical Garden based on a landscape layout master plan;
- Rehabilitation of infrastructure including the existing buildings, paths and interpretational signage. Recycled plastic furniture could be utilised to demonstrate the viability for its use in the Green Corridor;
- The creation of new permanent exhibits which could include butterflies and spices;
- The creation of space for two to three vendors to sell local food that incorporates the spices. These vendors can be incorporated into a small food court;
- The creation of an interpretation centre providing displays and interactive interpretation of the fauna and flora to be seen, not only in the Botanical Garden, but also elsewhere in Dar es Salaam. The interpretation centre could be a joint venture between the Botanical Garden and Dar es Salaam Tourism to incorporate tourism information;

- The creation/rehabilitation of a nursery that could grow and sell plants and spices to provide a source of income for the Botanical Garden. The nursery could also serve as the source for some of the mature trees to be planted in the Green Corridor. Due to space constraints it is not envisaged that the nursery would provide all the mature trees for the Green Corridor, but to serve as a demonstration of the viability of the Green Corridor project. It is envisaged that mature trees could be sourced from various nurseries as well as from the relocation of existing trees that would have been removed due to construction projects.
- The creation of a composting facility utilising the raw, uncooked plant matter from surrounding hotels and business could serve as demonstration of a small circular economy project. Raw, uncooked plant matter is proposed to be used to avoid negative impact such as attracting rats. The compost generated will be utilised within the Botanical Garden and it is not foreseen that it will become a commercial venture with the sale of compost;
- The creation of an educational program and regular tours to demonstrate the significance of nature based solutions and the importance of conservation. It is envisaged that initially two guides will be trained to provide guided tours through the Botanical Garden. The educational program will also, initially be based at the Botanical Garden, with future phases including an out reach program to schools;
- The creation of events within and surrounding the Botanical Garden. These events could include a night market, festivals, community theatre, exhibitions, lectures and movie nights. The event will initially only be held occasionally until demand increase for regular scheduled events.

1.2.2 Second Phase Project Description

The project comprises the development of a Green Corridor in the central business district of Dar es Salaam. The project includes multi-phase and multi-faceted elements anchored by the Green Corridor along the A7/Morogoro Road, linking with Samora Avenue and Barack Obama Drive. The Green Corridor will include links to the Kariakoo Market, the Fish Market and the Old Boma Tourism Office.

The Green Corridor will be achieved by planting of mature, indigenous trees along the corridor to provide nature-based services such as providing shade for residents and tourists alike, reducing the overall temperature in the city, improving the air quality through carbon sequestration, preventing soil erosion, promoting pollination and improving the aesthetic appeal of the city and thereby encouraging recreation and tourism.

The term 'mature' tree is used here to mean trees that have been grown beyond sapling stage and are well established, but still sufficiently moveable to be transported.

Mature trees will be sourced and planted to improve the viability and sustainability of the Green Corridor. The trees will also be protected and enhanced with street furniture made from recycled plastic. In addition to providing a protective barrier around the trees, the street furniture will also provide seating for pedestrians and could be modelled to provide facilities for street traders.

Figure 3: Dar es Salaam Green Corridor Project

The Green Corridor will complement the revitalisation of the Botanical Garden and will be enhanced by the creation of events, such as night markets and festivals as demand dictate. These enhancements will include the creation of an educational program to promote the conservation of trees and to obtain involvement of the private sector to sponsor the maintenance of the Green Corridor.

The project will also include the planting of spices and along with relevant interpretive signage to explain their significance.

The Green Corridor will also lend itself to the creation of various activities such as cycling, walking tours, events (e.g. night markets and festivals). Each of these activities are opportunities for the development of small businesses. The viability of these small businesses will be enhanced by working closely with various stakeholders such as, for example, the Dar es Salaam City Council that offers a Dar es Salaam City Tour which can be expanded to incorporate the Green Corridor.

Both Phase I and Phase II proposed activities are aligned with the recently developed Ilala Local Biodiversity and Action Plan (LBSAP). Of the five focus areas identified in the Ilala LBSAP, three are strongly matched with this investment case, namely:

- Maintain and expand green spaces;
- Improve livelihoods through green infrastructure initiatives; and
- Protect and restore natural infrastructure.

Figure 4: Barack Obama Drive in Dar es Salaam

2. Organisational Framework

2.1 Introduction

The proposed organisational framework has been formulated to implement the first phase of the project. It might be necessary to revise the organisational framework to implement subsequent phases of the Green Corridor. It is argued that the best organisational framework for the first phase should be utilised to ensure the success of the first phase, without which subsequent phases may not materialise.

2.2 Stakeholders

The project would involve various stakeholders and it is important to understand their interests and expectations of the first phase of the project as shown below. The stakeholders and their interests and expectations were obtained during research visits to Dar es Salaam.

Stakeholder	Interest and Expectations	Potential Funding Mechanisms
Dar es Salaam residents	Daily recreation & education	Entrance fees
Tanzania domestic tourists	Tourism & education	Entrance fees
Foreign tourists to Tanzania	Tourism & education	Entrance fees
Civil society including: • Nipe Fagio • Tanzanian Forest Group • Botanic Gardens Conservation International • ICLEI Africa	Conservation & education	Donations Technical support
Public sector including: • Ilala Municipality • Dar es Salaam City Council • Dar es Salaam Regional Government • Tanzania Ministry of Natural Resources and Tourism • Tanzania Forest Service	Funding, conservation, education & tourism	Grants Incentives Waiving or reduction of water & electricity levies and property taxes
Private sector including: • Tsogo Sun Hotel • Friends of the Botanical Garden • Missouri Botanical Gardens	Funding, conservation & education	Monetary donations for restoration, furniture, paving, signage, etc In kind donations of skills, equipment, etc
Education sector including: • University of Dar es Salaam • Ardhi University • Friends of the Botanical Garden • Schools	Conservation & education	In kind donations of skills

All the identified stakeholders would be beneficiaries of a rehabilitated Botanical Garden. Potential funding mechanisms have been identified based on the principle of "Beneficiary Pays".

2.3 Organisational Structure

It is proposed that a non for profit (NPO) private company be established through the Business Registration and Licensing Agency (BRELA) to facilitate the development of phase 1 of the project.

The main purpose of the private company would be to:

- Facilitate the rehabilitation and development of the Botanical Garden in conjunction with all stakeholders; and
- Securing and management of funding from both public and private sector.

The benefits of the establishment of a private company to facilitate the development of phase 1 include:

- The entity can be established in 7 to 14 working days;
- The entity can employ staff in its own name;
- The entity can raise finance and pursue commercial ventures;
- The entity can conclude contracts with service providers without long and extensive procurement processes;
- The entity will be subject to laws and financial and operational governance structures;
- The entity will be able to apply for incentives;
- The liability of the shareholders is limited; and
- The entity is not dissolved on the resignation of one of the shareholders or directors.

It is proposed that the private company initially employ one project manager and one administrator. The staff compliment of the entity could be increased as the budget allows, and workload demands.

It is proposed that the private company has a board of seven directors drawn from the stakeholders groups listed above. Should legislation prevent the public sector representatives to be a director, then the public sector representatives should attend all board meetings as a non-director, observer or associated party.

In future, the entity could evolve to facilitate the development of the Green Corridor. At that time the best institutional option should be considered which may include remaining as is or the development of a formal City Improvement District (CID).

A CID is a defined geographic area within which property owners cooperate to enhance the physical and social environment of the area. These enhancements could include the planting of trees, the cleaning of streets, the provision of security, etc. The CID could include contributions (financial or otherwise) from the property owners to pay for the enhancement of the area. The institutional structure of the CID could be an informal association but is most successful when a non-profit organisation is created.

2.4 Regulatory Environment

The process to establish a private company through the Business Registration and Licensing Agency (BRELA) as regulated by Tanzania Companies Act No 2 of 2002 is well established in Tanzania.

It is recommended that the services of a lawyer be obtained to ensure that all legal requirements are complied with.

Figure 5: Kivukoni Fish Market in Dar es Salaam

3. Cost-Benefit Analysis

3.1 Introduction

The cost-benefit analysis included below consist of three main components, namely:

- A market assessment to indicate the demand for the rehabilitated Botanical Garden, i.e. the number of visitors to be expected;
- A financial assessment to indicate the capital and operational expenditure, as well as the projected income and the funding requirement; and
- An economic assessment to indicate the monetary and non-monetary costs and benefits of the project, beyond the capital cost and operational income and expenses.

3.2 Market Assessment

To project the number of visitors to a rehabilitated Botanical Garden, it is necessary to identify the main source of potential visitors to the Botanical Garden and the size of these potential markets.

The main source of potential visitors to the Botanical Garden will be:

- Residents of Dar es Salaam;
- Domestic tourists from Tanzania to Dar es Salaam; and
- Foreign tourists to Dar es Salaam.

The Sub-Divisional Population Projection from the Tanzania National Bureau of Statistics indicate that the population of Dar es Salaam was 5 781 557 in 2017. Based on the annual growth in population of 5.7% in 2017, it is estimated that the population of Dar es Salaam grew to 6 11 106 in 2018 and 6 459 439 in 2019.

There is very little research available on the size of the domestic tourism market in Tanzania. The best available indication of the size of the domestic tourism market is domestic visits to key attractions in Tanzania. The 2017 Tourism Statistical Bulletin from the Ministry of Natural Resources and Tourism states that in 2017:

- 249 428 domestic tourists visited the Ngorongoro Conservation Area;
- 408 136 domestic tourists visited 16 National Parks in Tanzania;
- 66 100 domestic tourists visited Museum Centres in Tanzania;
- 9 868 domestic tourists visited the National Museum & House of Culture which is located adjacent to the Botanical Garden; and
- 3 836 domestic tourists visited Antiquities Sites in Tanzania.
- Foreign tourists to Dar es Salaam.

According to the Voluntary National Review (VNR) 2019 - A Report on the Progress of the Sustainable Development Goals (SDGs) Implementation in the United Republic of Tanzania; submitted to the High-Level Political Forum (HLPF), United Nations, the number of foreign tourists increased from 1 137 182 in 2015 to 1 505 702 tourists in 2018. Based on the average annual compound growth between 2015 and 2018 of 9.8%, it is estimated that Tanzania will receive 1 653 411 foreign tourists in 2019.

It should be noted that not all of the estimated 1 653 411 foreign tourists to Tanzania would visit Dar es Salaam. Utilising the 2017 Tourism Statistical Bulletin from the Ministry of Natural Resources and Tourism it was calculated that 29% of all foreign arrivals to mainland Tanzania and Zanzibar in 2017 arrived at Julius Nyerere International Airport in Dar es Salaam. The 1 653 411 total foreign tourists were therefore reduced to 480 762 foreign tourists visiting Dar es Salaam.

To project the number of visitors to the rehabilitated Botanical Garden, it is necessary to project the penetration rate for each of the potential tourism markets i.e. how many of the potential tourism market segments would actually visit the Botanical Garden.

An article by D&J International Consulting on www.attractionsmanagement.com provides a benchmark of typical penetration rate ranges for different attraction types.

Benchmark of Penetration Rates for Different Types of Attractions

Tourism Market Segment	Culture	Wildlife	Entertainment
0-1hr drive resident	2% - 7%	6% - 15%	6% - 20%
1-2hr drive resident	1% - 4%	1% - 8%	2% - 7%
Domestic tourist	1% - 7%	2% - 11%	2% - 12%
Foreign tourist	2% - 14%	2% - 7%	1% - 10%
Total/Average	**2% - 7%**	**3% - 9%**	**3% - 11%**

Source: D&J International Consulting

The penetration rates were used as a guide and applied to the potential residential and foreign tourism target markets to project the number of visitors to the Botanical Garden. Domestic tourists were not included as insufficient information was available to project the size of the domestic tourism market with any degree of confidence. The projected number of visitors to the Botanical Gardens are thus conservative.

Projected number of visitors to the rehabilitated Botanical Garden

Market	Potential	Penetration Rate	Projection
Residents	6 459 439	0.50%	32 297
Foreign tourist	480 762	2.00%	9 615
Total			**41 912**

Source: D&J International Consulting

The projected 41 912 visitors per annum, translate to 115 visitors per day to the Botanical Garden. The projected 32 297 visitors from Dar es Salaam is also three times the number of current visitors to the adjacent National Museum and House of Culture. The penetration rates utilised are conservative as the rehabilitated Botanical Garden would need time to establish itself as a must see attraction. The projected visitor numbers are expected to grow strongly in the first two years of operation as the Botanical Garden becomes more established.

The number of actual visitors to the Botanical Garden would be limited by the actual size of the Botanical Garden. The Botanical Garden consist of a space of approximately 2.38ha (or 23 837m2)[1] and a detailed layout master plan is to be compiled to indicate the space available to visitors while incorporating the layout for plants, buildings and facilities.

For the purposes of the financial projections (see Annexure E and table below), the number of visitors to the Botanical Garden have been projected for a ten year timeframe. It has been assumed that the visitors will grow by 5% per annum during the first two years of operation of the Botanical Garden, before stabilising at 2.5% per annum.

Projected Visitors	0	1	2	3	4	5	6	7	8	9	10
Residents	32297	33912	35607	36498	37410	38345	39304	40287	41294	42326	43384
Growth		5.0%	5.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Foreign tourists	9615	10096	10601	10866	11137	11416	11701	11994	12293	12601	12916
Growth		5.0%	5.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Total number of projected visitors	**41912**	**44008**	**46208**	**47363**	**48547**	**49761**	**51005**	**52280**	**53587**	**54927**	**56300**

3.3 Financial Assessment

The capital cost required is based on a proposal submitted by Nipe Fagio on behalf of the Friends of the Botanical Garden (escalated from 2016 to 2019), as well as the Property & Construction Cost Guide 2019, published by AECOM.

[1] Based on a Google Earth calculation of the area.

The projected development/capital cost is shown below.

Development/Capital Cost	US Dollar
Building works	
Master Plan and Renovations	30 000
Planting and Signage	13 500
Security	11 000
Composting Project	5 600
Retail Shop	5 600
Butterfly Sanctuary	11 250
Furniture, Fittings and Equipment	
Water pipes	5 600
Contingency of 10%	8 255
Cost before escalation & professional fees	**90 805**
Escalation: Pre-contract	5 616
Escalation: Contract	2 933
Cost at escalated prices	**99 353**
Professional & other fees	9 935
Cost before pre-opening expenses	**109 289**
Pre-opening expenses	5 000
Cost before working capital	**114 289**
Working capital	6 000
Total funding required	**120 289**

It has been assumed that the rehabilitation of the Botanical Garden will commence during November 2021, allowing for a 24 month period to obtain funding, establish the required institutional entity, conduct all the required planning and obtain all the required approvals and stakeholder buy in.

The total funding requirement for the development cost is estimated at US$120 289 and incorporates funding for pre-opening expenses and working capital.

Potential funding mechanisms have been identified in Section 2.

The projected income for the rehabilitated Botanical Garden has been based on the projected number of visitors as per the market assessment. It has been assumed that the Botanical Garden could ask a similar entrance fee as the National Museum and House of Culture which are Tshs 10 000 for foreign visitors. It was also assumed that Tanzanian nationals would pay a lesser fee. An exchange rate of Tshs 2 300 to US$1 was utilised to project an entrance fee of US$4.35 per foreign visitor and US$1 per Tanzanian national. These entrance fees were escalated to the opening date in 2021.

Based on these assumptions, the rehabilitated Botanical Garden is projected to achieve an annual income of US$52 399 in the first year of operation, escalating to US$103 993 in the tenth year.

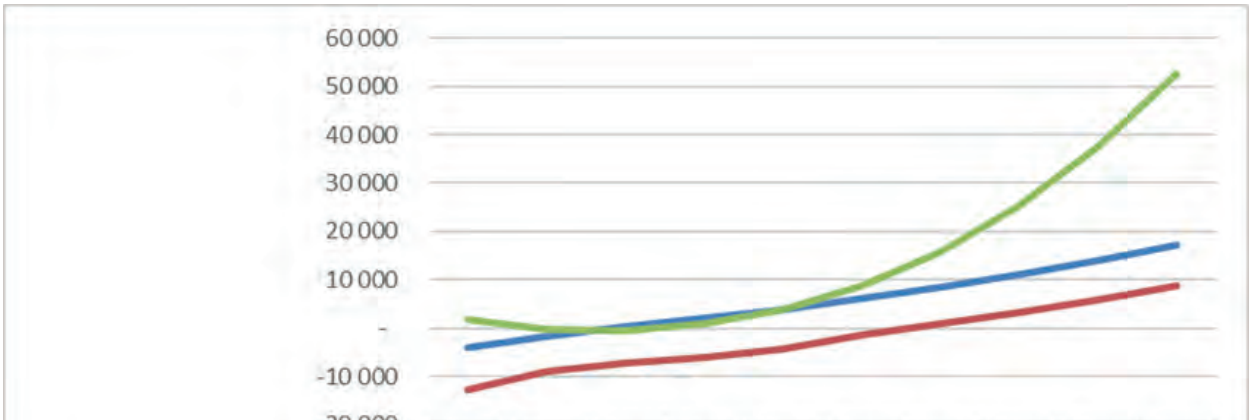
Overhead expenses were projected based on the Nipe Fagio proposal, escalated to the opening date in 2021. Overhead expenses were also benchmarked to ratios of overhead expenses to total turnover for similar projects. Administration and general expenses include staff costs, while marketing expenses includes the cost for amongst others, the website, free Wi-Fi and events. Overhead expenses for utilities (water and electricity), security and ongoing repairs and maintenance have been estimated based on a percentage of total revenue.

Capital charges includes the write off, amortisation and depreciation of capital expenditure and have been based on typical rates applicable to these types of deduction. The Tanzanian company tax rate of 30% has been applied.

The assumptions and projections result in:

- A gross operating loss in the first two years of operation until the Botanical Garden becomes establish as a tourist attraction;
- A retained nett loss for the first six years of operation, due to capital charges, such as depreciation;
- A positive net cashflow from the first year of operation, due to the injection of US$6 000 working capital.

Projected Financial Performance



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Gross Operating Profit/Loss	-3 999	-1 586	398	2 049	3 908	5 994	8 329	10 935	13 838	17 067
Retained Profit/Loss	-12 787	-8 918	-7 231	-6 030	-4 289	-1 344	814	3 219	5 900	8 884
Net Cashflow	1 765	- 208	- 415	834	3 882	8 766	15 750	25 205	37 417	52 693

The financial projections indicate that the rehabilitation of the Botanical Garden would require funding of at least US$120 289, including an allocation for pre-opening expenses and working capital.

3.4 Socio-Economic Assessment

The economic assessment indicates the monetary and non-monetary costs and benefits of the project, beyond the capital cost and operational income and expenses, these include:

- Contribution to the restoration of the unique biodiversity of Dar es Salaam and reconnecting local residents and tourist with this unique natural heritage;
- Improving the conditions for people travelling on foot by creating a Green Corridor;
- Increase in tourism as the Botanical Garden becomes a tourism attraction, providing tourists with more to see and therefore stay longer and spend more in Dar es Salaam and Tanzania;
- Increase in recreational activities for residents, by providing an additional recreational facility and regular recreational events;
- Increase of education and awareness of the importance of biodiversity, through the awareness campaign;
- The conservation and rehabilitation of indigenous plants through the nursery. According to the International Union for the Conservation of Nature, the number of extinct plant species would be 34% higher were it not for those preserved in botanical gardens;
- The potential to utilise plants for medicinal purposes and developing pharmaceutical products;
- The ability of plants and trees to reduce the temperature in a city. By 2100, mean annual temperature for Tanzania is expected to increase by 1.7°C, including areas around Dar es Salaam. A single tree can have a cooling performance of up to ten standard air conditioners through transpiration alone and typically, urban greenspaces are between 1°C and 3°C cooler than their built-up surroundings. This also leads to saving on energy used for cooling and reduce the carbon footprint;
- The ability of plants and trees to improve the air quality in a city. It is estimated that traffic air pollution along a busy road is comparable to 10 passively smoked cigarettes per day. The local effect of mitigating air pollution can be as much as a reduction of 70% of the pollutants in a street;
- The utilising of the compost facility to restore soil fertility and to reduce landfill waste;
- The creation of a safe habitat for pollinators such as insects and birds;
- The potential to inspire arts, culture and design by creating a biodiversity oasis in an urban environment;

- The improvement in the mental health of residents. A 2015 study by researchers at Stanford University found that a 90-minute walk in a natural setting (as compared to walking in an urban area) reduced activity in an area of the brain linked to depression and mental illness. Similarly, a 2014 University of Michigan study found that group nature walks were linked to better moods, even after a stressful event like divorce or losing a job;
- The increase in land values of surrounding properties. An article on Johannesburg's tree canopy on www.jhbcityparks.com state that "A 2009 US study found that foliage increases land value, and is especially apparent in built-up urban areas, where it estimates a 5% premium on properties within 150 metres of a park. This also provides benefits at scale, for example, New York's Central Park adds an approximate 20% market value to those properties on blocks closest to the park compared to those just one block away, and 44% compared to those two blocks away. Bryant Park (also in New York City), previously dirty and dangerous, reopened in 1992 and by 2015 enabled surrounding property owners to charge rents 12.5% higher than similar buildings within a few blocks – and the resulting 20-25% higher than average property values contributes at least an extra R476m each year to tax revenue".

Figure 6: Roadside Nursey in Dar es Salaam

4. Risk Assessment

4.1 Introduction

It is important to identify the relevant risk to the project and the required mitigation measures to ensure viability of the project.

4.2 Risk Assessment

The various risks to the project are detailed below, along with the severity and consequences of the risk and how the risk can be mitigated.

Risk	Severity & Consequence	Mitigation Measures
Lack of stakeholder buy in	Project may not be implemented or only partially implemented	Wide stakeholder consultation from business case stage and throughout the process to ensure input and buy in
Cost estimates higher than initially estimated	Funding requirement may be higher than initially estimated in the business case	Cost overrun contingency included in business case with detailed cost estimates to be conducted based on technical feasibility study and layout master plan
Income and demand projections lower than initially estimated	Funding requirement may be higher than initially estimated in the business case	Conservative income and demand estimates in the business case Implementation of an effective marketing campaign to ensure realisation of projected demand
Inability to obtain funding	Project may not be implemented or only partially implemented	Consultation with potential funders from business case stage to ensure input on funding criteria and to obtain buy in
Decline in support of project once established and operational	Decline in income and support leading to deterioration of project	Implementation of an effective marketing campaign to ensure continued visitation
Lack of required skills to rehabilitate and operate the project	Inadequate establishment and operation of the project	Ensure sufficient multi-year funding for required expertise for establishment and operation of the project
Potential for vagrants and vandalism	Degrading of the project	Budget allocation for security guard and security measures such as fences.

5. Marketing and Communication Strategy

5.1 Introduction

The marketing and communication strategy should be an ongoing process to ensure that input and buy in is obtained and sustained from all stakeholders. The marketing and communication strategy have been categorised according to the various stages of development of the project, namely, the Business Case, Detailed Planning and Technical Feasibility Study, Rehabilitation of the Botanical Garden and the ongoing Operation of the Botanical Garden.

5.2 Marketing and Communication Strategy

It is important to tailor the marketing and communication strategy to the particular stakeholder. For Dar es Salaam residents, Tanzania domestic tourists and foreign tourists to Tanzania, the following marketing and communication tools are to be used:

- Press releases to local and international newspapers, online news websites and television and radio stations;
- Social media posts to Facebook, Instagram, Twitter and YouTube;
- Creation of a profile of the Botanical Garden on websites such as TripAdvisor and encouraging visitors to write reviews to establish the Botanical Garden as a must-see attraction in Dar es Salaam. This profile should be managed to ensure that any complaints and negative reviews are answered and addressed;
- Articles in inflight magazines of major airlines flying to Dar es Salaam, scientific magazines, lifestyle and recreational magazines; and
- Website with all relevant information on facilities and activities, opening times, events, etc. The website should also include a blog which is linked to the posts on social media and press releases.
- Creation of a profile of the Botanical Garden on websites such as TripAdvisor and encouraging visitors to write reviews to establish the Botanical Garden as a must-see attraction in Dar es Salaam. This profile should be managed to ensure that any complaints and negative reviews are answered and addressed;

It is not recommended that paid advertising be included in the marketing and communication strategy as the budget could be more effectively spent on more direct marketing and communication channels as described above.

The marketing and communication strategy for civil society, the public sector, private sector and education sector will be more direct and based on personal interaction. The marketing and communication tools to be used include:

- Personal meetings;
- Participation in working groups; and
- Stakeholder engagement meetings.

The marketing and communication strategy during the **Business Case** stage are shown below:

Stakeholder	Interest	Marketing and Communication Strategy
Dar es Salaam residents Tanzania domestic tourists Foreign tourists to Tanzania	Daily recreation, tourism & education	Press release to indicate the planned rehabilitation of the Botanical Garden to obtain initial interest and buy in
Civil society including: • Nipe Fagio • Tanzanian Forest Group • Botanic Gardens Conservation International • ICLEI Africa	Conservation & education	Presentation of the Business Case to obtain input and buy in
Public sector including: • Ilala Municipality • Dar es Salaam City Council • Tanzania Forest Service	Funding, conservation, education & tourism	Presentation of the Business Case to obtain input and buy in
Private sector including: • Tsogo Sun Hotel • Friends of the Botanical Garden • Missouri Botanical Gardens	Funding, conservation & education	Presentation of the Business Case to obtain input and buy in
Education sector including: • University of Dar es Salaam • Friends of the Botanical Garden	Conservation & education	Presentation of the Business Case to obtain input and buy in

The marketing and communication strategy during the **Detailed Planning and Technical Feasibility** stage are shown below:

Stakeholder	Interest	Marketing and Communication Strategy
Dar es Salaam residents Tanzania domestic tourists Foreign tourists to Tanzania	Daily recreation, Tourism & education	Regular press releases every two months to indicate progress with the detailed planning stage to maintain initial interest and buy in
Civil society including: • Nipe Fagio • Tanzanian Forest Group • Botanic Gardens Conservation International • ICLEI Africa	Conservation & education	Establishment of a private company (as per Section 2) to facilitate the development of a joint technical feasibility study and obtain funding, planning permission, etc
Public sector including: • Ilala Municipality • Dar es Salaam City Council • Tanzania Forest Service	Funding, conservation, education & tourism	Establishment of a private company (as per Section 2) to facilitate the development of a joint technical feasibility study and obtain funding, planning permission, etc Personal meetings with potential funders to obtain funding

The marketing and communication strategy during the **Rehabilitation** stage are shown below:

Stakeholder	Interest	Marketing and Communication Strategy
Dar es Salaam residents Tanzania domestic tourists Foreign tourists to Tanzania	Daily recreation, Tourism & education	Development and launch of an awareness campaign to demonstrate the benefits of nature based solutions and the value of the Botanical Garden and the Green Corridor Project Regular press releases, social media posts, news articles, etc every month to indicate progress with the rehabilitation to maintain interest and buy in

Civil society including: • Nipe Fagio • Tanzanian Forest Group • Botanic Gardens Conservation International • ICLEI Africa	Conservation & education	Weekly meetings by the rehabilitation working group (incorporating the private company and any other parties involved in the rehabilitation such as an architect, engineer, etc) to report progress and obtain input Monthly meetings with broader stakeholders to report progress and obtain input
Public sector including: • Ilala Municipality • Dar es Salaam City Council • Tanzania Forest Service	Funding, conservation, education & tourism	Weekly meetings by the rehabilitation working group (incorporating the private company and any other parties involved in the rehabilitation such as an architect, engineer, etc) to report progress and obtain input Monthly meetings with broader stakeholders to report progress and obtain input Quarterly meetings with political leadership to report progress and obtain input
Private sector including: • Tsogo Sun Hotel • Friends of the Botanical Garden • Missouri Botanical Gardens	Funding, conservation & education	Weekly meetings by the rehabilitation working group (incorporating the private company and any other parties involved in the rehabilitation such as an architect, engineer, etc) to report progress and obtain input Monthly meetings with broader stakeholders to report progress and obtain input
Education sector including: • University of Dar es Salaam • Friends of the Botanical Garden	Conservation & education	Weekly meetings by the rehabilitation working group (incorporating the private company and any other parties involved in the rehabilitation such as an architect, engineer, etc) to report progress and obtain input Monthly meetings with broader stakeholders to report progress and obtain input

The marketing and communication strategy during the ongoing **Operational** stage are shown below:

Stakeholder	Interest	Marketing and Communication Strategy
Dar es Salaam residents Tanzania domestic tourists Foreign tourists to Tanzania	Daily recreation, Tourism & education	Continued awareness campaign to demonstrate the benefits of nature based solutions and the value of the Botanical Garden and the Green Corridor Project Regular press releases, social media posts, news articles, etc every month to indicate facilities, exhibitions, events, etc at the Botanical Garden to maintain interest and visitation Creation of a profile on websites such as TripAdvisor and encouraging people to write reviews to establish the Botanical Garden as a must see attraction in Dar es Salaam
Civil society including: • Nipe Fagio • Tanzanian Forest Group • Botanic Gardens Conservation International • ICLEI Africa	Conservation & education	Weekly meetings by the Botanical Garden operational staff to manage and plan operations Quarterly meetings with broader stakeholders to report progress and obtain input
Public sector including: • Ilala Municipality • Dar es Salaam City Council • Tanzania Forest Service	Funding, conservation, education & tourism	Weekly meetings by the Botanical Garden operational staff to manage and plan operations Quarterly meetings with broader stakeholders to report progress and obtain input Quarterly meetings with political leadership to report progress and obtain input
Private sector including: • Tsogo Sun Hotel • Friends of the Botanical Garden • Missouri Botanical Gardens	Funding, conservation & education	Weekly meetings by the Botanical Garden operational staff to manage and plan operations Quarterly meetings with broader stakeholders to report progress and obtain input

Education sector including: • University of Dar es Salaam • Friends of the Botanical Garden	Conservation & education	Weekly meetings by the Botanical Garden operational staff to manage and plan operations Quarterly meetings with broader stakeholders to report progress and obtain input

6. Implementation Plan

6.1 Introduction

The implementation plan has been categorised according to the various stages of development of the project, namely, the Business Case, Detailed Planning and Technical Feasibility Study, Rehabilitation of the Botanical Garden and the ongoing Operation of the Botanical Garden.

6.2 Implementation Plan

The implementation plan for the **Business Case** stage are detailed below.

Activity	Resources	Timeframe	Responsibility	Key Performance Indicator
Circulation of the draft Business Case to various stakeholders in Dar es Salaam to obtain input	Time	February 2020	ICLEI Africa	Stakeholder presentation event
Incorporation of stakeholder input and compilation of final Business Case	Time	March 2020	ICLEI Africa	Revised Business Case
Presentation of Business Case at investment roadshow in Dar es Salaam	Time	March 2020	ICLEI Africa	Investment roadshow presentation
Personal meetings to obtain follow up and secure funding	Time	April 2020 to June 2020	ICLEI Africa	Funding obtained
Establishment of private company to facilitate the project	Time Funding	July 2020 to November 2021	ICLEI Africa	Private company established

Incorporate relevant stakeholders in the private company	Time	July 2020 to November 2021	ICLEI Africa	Relevant stakeholders incorporated and committed
Marketing and communication	Time	November 2020 to February 2021	Private Company	As per the marketing and communication strategy

The implementation plan for the **Planning** stage are detailed below.

Activity	Resources	Timeframe	Responsibility	Key Performance Indicator
Development of master layout plan and technical feasibility	Time Budget	February 2021 to June 2021	Private Company	Detailed master layout plan and technical feasibility
Obtain planning approval	Time Budget	July 2021 to September 2021	Private Company	Planning approval obtained
Secure required builders and technical trades	Time Budget	October 2021	Private Company	Building team and trades contracted
Marketing and communication	Time	February 2021 to October 2021	Private Company	As per the marketing and communication strategy

The implementation plan for the **Rehabilitation** stage are detailed below.

Activity	Resources	Timeframe	Responsibility	Key Performance Indicator
Rehabilitation of Botanical Garden	Time Budget	November 2021 to October 2022	Private Company	Rehabilitated Botanical Garden
Marketing and communication	Time	November 2021 to October 2022	Private Company	As per the marketing and communication strategy

The implementation plan for the **Operational** stage are detailed below.

Activity	Resources	Timeframe	Responsibility	Key Performance Indicator
Garden opening and ongoing operations	Time Budget	November 2022 onward	Private Company and operational staff	Operational targets achieved
Marketing and communication	Time	November 2022 onward	Private Company	As per the marketing and communication strategy

Annexure A: Approach

ICLEI Africa appointed Futureneer Advisors and MCA Urban and Environmental Planners to develop an investment case and associated activities to attract multiple sources of funding to support the implementation of a project demonstrating nature-based solutions in Dar es Salaam. The investment case approach was formulated by Futureneer Advisors and MCA Urban and Environmental Planners on behalf of ICLEI Africa and includes 3 main steps:

- Step 1: Identify the ecosystem service opportunities
- Step 2: Determine the value proposition and funding mechanism of the nature-based solution by accessing the ecosystem services addressed and the available funding mechanisms
- Step 3: Develop the investment case aimed at the entity that funds/supports/ champions the nature-based solution based on their value proposition.

The approach was grounded on continuous consultation and engagement with the public sector, private sector and communities.

Step 1: Identify the ecosystem service opportunities

Task 1.1: Analyse how ecosystem services relate to management issues

- What are the relevant issues?
- What are the important ecosystem services and what is their role in tackling the issues?
- Do the different ecosystem services conflict with each other?

Task 1.2: Determine providers, beneficiaries and degraders of ecosystem services

- Who is an ecosystem provider? (conserves biodiversity, manages ecosystems or otherwise contributes to ecosystem provision)
- Who is an ecosystem beneficiary? (uses or depends on ecosystem services or indirect interest in their provision)
- Who is an ecosystem degrader? (damages, depletes or destroys ecosystems or otherwise has a negative impact on their provision)

Task 1.3: Assess gaps in ecosystem service provision and imbalances in costs and benefits

- Which ecosystem provider bears costs for ecosystem stewardship that they do not recover?
- Which ecosystem service beneficiaries receive benefits for free? Which ones are interested in more ecosystem service provision?
- Which degraders are not held liable and why?

Task 1.4: Identify ecosystem service opportunities

- Stewards earn principle: Can we make sure that ecosystem providers are rewarded in line with the benefits they generate and the costs they incur?
- Beneficiary pays principle: Can we make sure that ecosystem beneficiaries contribute to the costs of conservation in line with the benefits they enjoy?
- Polluter pays principle: Can we make sure that ecosystem degraders are penalized or provide compensation in line with the damages they cause?
- Innovation principle: Can we tap into innovative business opportunities through which local communities may benefit from conservation?

Task 1.5: Check for appropriateness of ecosystem service opportunities

- Will this opportunity generate net livelihood benefits for those concerned, in both qualitative and quantitative terms? Are there no (undesired) side effects for other groups?
- Are possible sources of opposition understood and can they be dealt with?
- Can this opportunity be expected to have desirable ecological consequences, considering all relevant aspects of biodiversity and ecosystem services?
- Is this opportunity compatible with the legal and institutional setting?
- Is this opportunity appropriate according to ethical considerations and within the socio-cultural setting?
- Is there a risk of undermining existing motivations to preserve nature and if so, is this risk understood and considered?

Task 1.6: Identify economic instruments

- Positive incentives and rewards to motivate ecosystem services provision are used in payment for ecosystem services (provider side) / green subsidies / conservation easements / debt-for-nature swaps
- Contributions from ecosystem beneficiaries to finance ecosystem provision are used in payment for ecosystem services (user side) / charges & fees / corporate sponsorship
- Negative incentives and compensations for harming ecosystem services are used in legal liabilities & fines / (Pigouvian) taxes / offsetting schemes
- Unlocking new potentials to benefit from conservation can be reached with eco-labelling / ecological products & eco-tourism / microcredit / green investment

To assist with Task 1.6, a list of economic instruments that could be utilised to fund nature-based solutions are provided in Table 1: Classification of common policy instruments along economic principles in J. Rode et al. Ecosystem service opportunities: A practice-oriented framework for identifying economic instruments to enhance biodiversity and human livelihoods.

Step 2: Value Proposition and Funding Mechanisms for Nature-based Solutions

This step determines the value proposition and funding mechanism of the nature-based solution by accessing the ecosystem services addressed and the available funding mechanisms. It builds on Task 1.6 and defines the funding mechanism to be included in the investment case.

Task 2.1: Determine the monetary value of the ecosystem service. Potential monetary valuation methods (TEEB 2010) include:

Methods	Summary	Statistical Analysis	Which Services Valued?
Direct market prices	Observe market prices	Simple	Provisioning services
Market alternative - Replacement costs	Finding a man-made solution as an alternative to the ecosystem service	Simple	Pollination, water purification, carbon sequestration
Market alternative - Damage cost avoided	How much spending was avoided because of the ecosystem service provided	Simple	Damage mitigation, carbon sequestration
Market alternative - Production function	How much is the value-added by the ecosystem service based on its input to production processes	Complex	Water purification, freshwater availability, provisioning services
Surrogate markets - Hedonic Price Methods	The extra amount paid for higher environmental quality	Very complex	Use values only, recreation and leisure, air quality
Surrogate markets - Travel Cost Method	Cost of visiting a site: travel costs (fares, car use, etc) and also value of leisure time expended	Complex	Use values only, recreation and leisure
Stated preference - Contingent valuation method	How much is the survey respondent willing to pay to have more of a particular ecosystem service?	Complex	All services

Stated preference - Choice experiments	Given a menu of options with differing levels of ecosystem services and differing costs, which is preferred	Very Complex	All services
Participatory environmental valuation	Asking members of a community to determine the importance of a non-marketed ecosystem service relative to goods or services that are marketed	Simple	All services
Benefits transfer (mean value, adjusted mean value, benefit function	Borrowing or transferring a value from an existing study to provide a ballpark estimate for current decision	Can be simple, can be complex	Whatever services were valued in the original study

For additional resources in completing Task 2.1, also see GIZ Value: Indicators for Managing Ecosystem Services – Options & Examples

Task 2.2: Determine the value proposition of the ecosystem service to potential funders to demonstrate why they should be funding the ecosystem service. Typical value propositions include:

- For public bodies priorities are de-risking (water retention, urban heat) i.e. mainly regulating services
- For private entities priorities are real estate value capture, return on investment & stewardship
- Citizens/communities priorities in developed countries are symbolic & educational. Priorities in least developed countries include food security and fresh water (i.e. mainly provisioning services)

Task 2.3: Determine the funding mechanism to use - utilising the economic instruments identified in Task 1.6 and addressing the following questions.

- Identify least-cost policy options (What instruments are most likely to meet the intended goals? Identify least-cost policy options and mechanisms and areas for intervention to determine policy priorities and sequencing)
- Identify safeguards (What are the potential environmental trade-offs? Put in place environmental safeguards to address these as needed. What are the likely distributional implications of the instrument? Consider social safeguards to address these as needed).
- Identify capacity needs (What are the governance and capacity needs to effectively implement these instruments? Are the circumstances/conditions needed for these to be effective currently in place?)

Please read in conjunction with Table 1: Classification of common policy instruments along economic principles in J. Rode et al. Ecosystem service opportunities: A practice-oriented framework for identifying economic instruments to enhance biodiversity and human livelihoods

Finance Mechanism	Individual capacity	Organisational capacity	Enabling conditions
Environmental Fiscal Reform	Skilled advocates to secure political acceptance and public support for EFR through e.g. awareness campaigns	Processes for dialogue and consultation, information dissemination and advocacy with key stakeholders (including via civil society groups)	Established tax system capable of levying, collecting and redistributing revenues
Payments for Ecosystem Services	Experts (external or internal) can identify metrics and carry out assessments to inform targeting of payments for public pay for ecosystem services programmes	Systems in place to ensure that payments are delivered efficiently and to the appropriate recipient avoiding elite capture etc.	Inclusion of ecosystem service provisions in sector strategies, Poverty Reduction Strategy Papers, etc. and coherency between policies
Biodivesity offsets	Experts to select and apply metrics and indicators to compare expected losses and gains	Market support services (e.g. assurance, public registries, brokerage etc.)	Laws requiring developers to compensate for their environmental damages
Markets for green products	Trained experts to carry out certification and accreditation	Distribution channels to deliver certified products in competitive manner (particularly for local communities marginalised from premium markets)	Green procurement policies (including public procurement policies)
Biodiversity in climate change funding	Technical expertise and knowledge related to green infrastructure and ecosystem based adaptation approaches	Systems to manage and distribute funds in an efficient and equitable manner	National climate change mitigation and adaptation strategies explicitly recognising REDD+ and ecosystem based adaptation options

Biodiversity in international development finance	Development support staff have a thorough understanding of the local level linkages between development, biodiversity loss and poverty	Guidelines for the application of environmental and social safeguards (e.g. SEA and environmental screening tools)	Development support providers have commitment to environment strategy linked to poverty reduction and the Sustainable Development Goals

Source: OECD, Scaling up finance mechanisms for biodiversity

Step 3: Investment Case

The investment case provides the answers to the questions: "What, Why, Where, Who, How, How Much, When". The investment case should be aimed at the potential funder/champion i.e. the answer to the question "Why" should speak to addressing the priorities of the funder/champion. The funder and champion of the project may not always be the same entity.

Task 3.1: The executive summary provides a concise summary of the salient points of the investment case and should answer each of the questions: "What, Why, How, How Much, Who, Where, When".

Task 3.2: The project description answers the question "What, Why, Where". It incorporates the work conducted during Step 1. It should include a project description, project rationale and value proposition. The value proposition should address the priorities of the funder/champion identified in Task 2.2.

Task 3.3: The organisational plan/framework answers the question "Who, How". It incorporates the work conducted during Task 2.2. and Task 2.3. It details the stakeholders, the project funder/champion, the institutional structure required and the regulatory environment.

Task 3.4: The cost benefit analysis answers the question "How Much". It incorporates the work conducted during Step 2 and can include case studies to provide proof of the costs and benefits of nature-based solutions. The analysis can include the following:

- A market assessment to indicate whether there will be demand for the nature-based solution i.e. if the solution is provided, will people use it, how much will they use it, and will it be to their benefit.
- A financial assessment to indicate whether the nature-based solution would be affordable and/or provide a return on investment. The cost of the nature-based solution (Task 2.1) needs to be clearly defined and linked to the identified funding mechanism (Task 2.3)
- An economic assessment to indicate whether the nature-based solution would provide value for money. This analysis is more than a financial analysis as it includes monetary and non-monetary costs and benefits.

Task 3.5: The risk assessment answers the question "How" by identifying the main risks and critical success factors of the project. It should highlight the impact if the risk should materialise and the mitigation measures that could be taken.

Task 3.6: The marketing and communication strategy answers the questions "How, When". It details the key messages that should be communicated with all stakeholders in the project and could range from general awareness amongst communities to lobbying of government and the private sector.

Task 3.7: The implementation plan answers the questions "Who, How and When". It includes a clear timeline with key steps, responsible parties and measurable performance indicators.

Annexure B: Definitions and Terminology

Investment case and Feasibility study: An investment case is the first step in the decision-making process to invest in a project. The investment case could include an analysis of various options and indicate why a specific option was chosen. It provides high-level analysis of the key issues to address for a successful project. A feasibility study follows from the investment case and includes more technical details of the project. A detailed technical feasibility is usually required by funders.

Nature-based solution: Nature-based solution refers to the sustainable management and use of nature for tackling socio-environmental challenges. The challenges include issues such as climate change, water security, water pollution, food security, human health, and disaster risk management.

Return on investment (ROI): Return on investment is a ratio between net benefit and cost of investment. A high ROI means the investment's gains compare favourably to its costs. As a performance measure, ROI is used to evaluate the efficiency of an investment or to compare the efficiencies of several different investments. Financial return on investment refers to the ratio between net profit and capital cost. The return on investment of a nature-based solution may refer to the ratio of the net benefit and cost of the investment where the benefit can be defined as something like quality of life and the cost can be defined as costs such as suffering from malnutrition.

Funding mechanism - Economic mechanism: A funding mechanism uses a funding instrument to make funding available for a project/investment. Funding instruments direct monetary instruments such as loans from various entities. An economic mechanism uses an economic instrument to make funding available for a project/investment. Economic instruments are indirect instruments such as incentives, taxes, policies and even laws and regulations.

Value proposition: A value proposition is a promise of value to be delivered. The value that different parties recognise in a particular project depends on their needs and requirements and to what extent the project address those needs.
Monetary value: Monetary value is the value in currency that a person, business or the market places on a resource, product, or service.

Hedonic price: The basic premise of the hedonic pricing method is that the price of a marketed good is related to its characteristics, or the services it provides. For example, the price of a car reflects the characteristics of that car—transportation, comfort, style, luxury, fuel economy, etc

Payments for Ecosystem Services (PES): Payments for ecosystem services (PES) occur when a beneficiary or user of an ecosystem service makes a direct or indirect payment to the provider of that service. The idea is that whoever preserves or maintains an ecosystem service should be paid for doing so.

Ecosystem valuation: The process of valuing the contribution of ecosystem services to human well-being through economic and non-economic analyses. Contemporary economic and participatory techniques requiring the use of both quantitative and qualitative methods allow the monetary and nonmonetary values of a wide range of ecosystem services to be identified. Economic valuation attempts to elicit public preferences for changes in the provision of ecosystem services in monetary terms. Ecosystems and their associated services have economic value for society because people derive utility from their actual or potential use and also value services for reasons not connected with use such as altruistic, bequest and stewardship motivations.

Figure 7: The Botanical Garden in Dar es Salaam City Centre

Annexure C: Ecosystem Services

The benefits that humans derive from nature are known as ecosystem services and can be categorised as follows:

1. Provisioning services:

- Food: Ecosystems provide the conditions for growing food including managed agro-ecosystems, marine and freshwater systems, forests and urban horticulture.
- Raw materials: Ecosystems provide materials for construction and fuel including wood, biofuels and plant oils derived from wild and cultivated plant species.
- Fresh water: Ecosystems provide drinking water, by ensuring the flow, storage and purification of water. Vegetation and forests influence the quantity/quality of water.
- Medicinal resources: Biodiverse ecosystems provide plants used as traditional medicines as well as raw materials for the pharmaceutical industry.

2. Regulating services:

- Local climate and air quality regulation: Trees and green spaces lower the temperature in cities, whilst forests influence rainfall and water availability. Trees or other plants regulate air quality by removing pollutants from the atmosphere.
- Carbon sequestration and storage: Ecosystems regulate the global climate by storing greenhouse gases. As trees and plants grow, they remove carbon dioxide from the atmosphere and effectively lock it away in their tissues.
- Moderation of extreme events: Ecosystems and living organisms create buffers against natural disasters, thereby preventing or reducing damage from extreme weather events including floods, storms, tsunamis, avalanches and landslides.
- Waste-water treatment: Ecosystems such as wetlands filter effluents using the biological activity of microorganisms in the soil, to breakdown most waste and eliminate pathogens (disease causing microbes).
- Erosion prevention and maintenance of soil fertility: Vegetation cover provides a vital regulating service by preventing soil erosion. Soil fertility is essential for plant growth and agriculture and well-functioning ecosystems supply soil with nutrients required to support plant growth.
- Pollination: Insects and wind pollinate plants, which is essential for the development of fruits, vegetables and seeds. Animal pollination is an ecosystem service mainly provided by insects but also by some birds, bats and mice.

- Biological control: Ecosystems are important for regulating pests and vector borne diseases that attack plants, animals and people. Ecosystems regulate pests and diseases through the activities of predators and parasites. Birds, bats, flies, wasps, frogs and fungi all act as natural controls.

3. Habitat or supporting services:

- Habitat for species: Habitats provide everything that an individual plant or animal needs to survive: food, water, and shelter. Each ecosystem provides different habitats that can be essential for a species' lifecycle. Migratory species including birds, fish, mammals and insects all depend upon different ecosystems during their movements.
- Maintenance of genetic diversity: Genetic diversity (the variety of genes between, and within, species populations) distinguishes different breeds from each other, providing the basis for locally well-adapted cultivars and a gene pool for developing commercial crops and livestock. Some habitats have an exceptionally high number of species which makes them more genetically diverse than others and are known as 'biodiversity hotspots'.

4. Cultural services:

- Recreation and mental and physical health: Walking, cycling and playing sports in green space are good forms of physical exercise and helps people to relax. The role that green space plays in maintaining mental and physical health is increasingly becoming recognized, despite difficulties of measurement.
- Tourism: Ecosystems and biodiversity play an important role in many kinds of tourism which in turn provides considerable economic benefits and is a vital source of income for many countries. Cultural and eco-tourism can also educate people about the importance of biological diversity.
- Aesthetic appreciation and inspiration for culture, art and design: Language, knowledge and the natural environment have been intimately related throughout human history. Biodiversity, ecosystems and natural landscapes have been the source of inspiration for much of our art, culture and increasingly for science.
- Spiritual experience and sense of place: In many parts of the world natural features such as specific forests, rivers, caves or mountains are considered sacred or have a religious meaning. Nature is a common element of all major religions and traditional knowledge, and associated customs are important for creating a sense of belonging.

Annexure D: Identifying Ecosystem Service Opportunities

As part of Step 1 in the approach to develop the business case, ecosystem service (ES) opportunities were identified				
Clarifying relevant issues and the role of ES	The Thematic Atlas of Nature's Benefits to Dar es Salaam highlights the need for greening the city and for keeping urban and peri-urban ecosystems intact. Particular opportunities highlighted are the provision of water, roadside greening for cleaner air, greenspace development for healthy communities, urban vegetation to cools the city and creating green spaces to reduce flood risks.			
Understanding how stakeholders relate to ES	Stakeholders in Dar es Salaam can simultaneously be ES providers, beneficiaries and degraders. ES providers in Dar es Salaam are public sector authorities tasked with the provision of clean water, urban parks and flood risk mitigation. They also benefit from the ES provision but also degrade the ES through lack of maintenance of the ES provided. Dar es Salaam residents provide ES through urban agriculture and fishing and are beneficiaries of these ES. They also degrade the ES through unsustainable practices and pollution.			
Recognizing gaps and imbalances	Unrecovered costs of ES provision or potential costs for more ES provision include the additional cost to maintain ES	Unpaid benefits or interest in more ES provision include tourism, recreation, education, conservation, rehabilitation of indigenous species, reduction in air pollution, reduction in temperature, potential medicinal benefits, restoration of soil fertility, habitat creation, inspiration for arts & culture, improved mental health and increased land values.		Uncompensated ES degradation include polluters that are not held liable
Identifying ES opportunities	Steward earns opportunities include incentives to the private sector to create and maintain green spaces	Beneficiary pays opportunities include foreign and domestic tourism	Polluter pays opportunities include fines for polluters	Innovation opportunities include nature-based tourism and education

Checking the appropriateness to pursue the ES opportunity	Incentives to the private sector will take a significant amount of time to define and legislate	Foreign tourism will be more viable as domestic tourism numbers and expenditure are low	Enforcement of fines would require additional resources – policing, prosecution, etc	Tourism is viable but will commence from a low base, while education will require funding, but will have long-term benefits
Pre-selecting suitable economic instruments	Greenspaces are owned and managed by the public sector, who have limited budget and human resources. The private sector is willing to support ES opportunities but wish to ensure that the funding is effectively spent. The creation of a private sector entity to facilitate and realise the ES opportunities in partnership with the public sector is required. The relevant economic instruments could then include private sector funding through cash donations, donations in kind, contribution of skills and expertise, etc. The public sector could contribute concessions on tax, water and electricity payments, etc			

Annexure E: Financial Projections

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019

C O N T E N T S

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 BALANCE SHEETS

	year: y/e Dec	at opening	1 2023	2 2024	3 2025	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032
		$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
SHAREHOLDERS EQUITY:												
Share capital	Page 8	120	120	120	120	120	120	120	120	120	120	120
Retained earnings/(deficit)	Page 3	0	-13	-22	-29	-35	-39	-41	-40	-37	-31	-22
Total shareholders' equity		120	108	99	91	85	81	80	81	84	90	99
Accumulated Capital Reserve	Page 7		0	0	0	0	0	0	0	0	0	0
DEFERRED TAX	Page 10	0	1	0	0	0	0	0	0	0	0	0
LONG-TERM LOAN												
Loan	Page 8	0	0	0	0	0	0	0	0	0	0	0
TOTAL CAPITAL EMPLOYED		120	108	99	91	85	81	80	81	84	90	99
FIXED ASSETS:												
Land & buildings	Page 7	92	86	81	75	70	64	59	53	48	42	37
Furniture & fittings:												
cost	Page 7	9	10	10	11	11	12	13	15	16	18	20
accumulated depreciation	Page 7	0	-1	-3	-4	-6	-8	-9	-11	-14	-16	-19
Operating equipment and other cost	Page 5	8	8	8	8	8	8	8	8	8	8	8
Pre-opening expenses	Page 7	5	4	3	2	1	0	0	0	0	0	0
Total fixed assets		114	107	99	92	84	77	71	65	59	52	46
NET CURRENT ASSETS:												
Current portion of long-term loan	Page 8	0	0	0	0	0	0	0	0	0	0	0
Other	Page 4	6	2	0	0	1	4	9	16	25	37	53
TOTAL NET ASSETS		120	108	99	91	85	81	80	81	84	90	99
debt/equity ratio			*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
current ratio			*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 NET INCOME

	year:	1	2	3	4	5	6	7	8	9	10
	y/e Dec	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
		$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
GROSS REVENUE:											
Gate Revenue	Page 6	52	58	62	67	72	78	83	90	97	104
OVERHEADS:											
Administration & general	Page 6	28	30	31	33	34	36	38	40	42	44
Utilities	Page 6	3	3	3	3	3	3	4	4	4	4
Security	Page 6	3	3	3	4	4	4	4	4	5	5
Marketing	Page 6	20	21	22	23	24	25	26	28	29	31
Repairs & maintenance	Page 6	3	3	2	3	3	3	3	3	3	3
GROSS OPERATING PROFIT		-4	-2	0	2	4	6	8	11	14	17
CAPITAL CHARGES											
Capital Reserve	Page 7	0	0	0	0	0	0	0	0	0	0
Pre-opening expenses	Page 7	1	1	1	1	1	0	0	0	0	0
Amortisation of buildings	Page 7	5	5	5	5	5	5	5	5	5	5
Depreciation	Page 7	1	1	1	2	2	2	2	2	2	3
INCOME BEFORE TAX		-12	-9	-8	-6	-4	-1	1	3	6	9
TAXATION	Page 9	1	-1	0	0	0	0	0	0	0	0
RETAINED INCOME/(ACCUMULATED LOSS)		-13	-9	-7	-6	-4	-1	1	3	6	9

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 CASHFLOW

	year: y/e Dec	at opening	1 2023	2 2024	3 2025	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032
		$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
PROFITS:												
Income before tax	Page 3		-12	-9	-8	-6	-4	-1	1	3	6	9
Amortisation	Page 3		5	5	5	5	5	5	5	5	5	5
Depreciation	Page 3		1	1	1	2	2	2	2	2	2	3
Transfer to reserves	Page 3		0	0	0	0	0	0	0	0	0	0
Pre-opening expenses	Page 3		1	1	1	1	1	0	0	0	0	0
			-4	-2	0	2	4	6	8	11	14	17
TAXATION	Page 9		0	0	0	0	0	0	0	0	0	0
CAPITAL EXPENDITURE:												
Project	Page 5	-109										
Pre-opening expenses	Page 5	-5										
Refurbishments												
FINANCING:												
Equity	Page 8	120										
Ongoing additions	Page 7		0	0	-1	-1	-1	-1	-1	-1	-2	-2
Long-term loan	Page 8	0	0	0	0	0	0	0	0	0	0	0
NET CASHFLOW FOR YEAR		6	-4	-2	0	1	3	5	7	9	12	15
OTHER NET CURRENT ASSETS B/FWD		0	6	2	0	0	1	4	9	16	25	37
OTHER NET CURRENT ASSETS C/FWD		6	2	0	0	1	4	9	16	25	37	53

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 DEVELOPMENT SCENARIO

Development programme:		
Base date	Nov-19	
Building start	Nov-21	
Garden opening	Nov-22	
First year end	Dec-23	
Planning period	24	months
Construction period	12	months
Total period	36	months
Exchange rate	1	US Dollar
	2300	Tanzania Shillings

Development costs allocation:			Total Costs US Dollar	Total Costs Tshs	Accounting allocation: Buildings		Depreciable		Non-Depreciable	
			$'000	**Tshs '000**		**$'000**		**$'000**		**$'000**
Land			0	-	95%	0	5%	0	0%	0
Building works			77	176 985	95%	73	5%	4	0%	0
Furniture, fittings and equipment			6	12 880	0%	0	100%	6	0%	0
Contingency at	10.0%		8	18 987	0%	0	0%	0	100%	8
Cost before escalation & professional fees			91	208 852		73		9		8
Escalation: Pre-contract	0.25%	pm	6	12 916	100%	6	0%	0	0%	0
Escalation: Contract	0.25%	pm	3	6 745	100%	3	0%	0	0%	0
Estimate, at escalated prices			99	228 513		82		9		8
Professional & other fees	10.0%		10	22 851	100%	10	0%	0	0%	0
Cost before pre-opening expenses			109	251 364		92		9		8
Pre-opening expenses			5	11 500	0%	0	0%	0	100%	5
Total cost excluding working capital			114	262 864		92		9		13

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 OPERATING ASSUMPTIONS

		year:	Base	1	2	3	4	5	6	7	8	9	10
		y/e Dec	date	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INFLATION:													
Projected annual rate			5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Inflation index:													
at beginning of year				116	122	128	134	141	148	156	163	172	180
at end of year			100	122	128	134	141	148	156	163	172	180	189
average for year				119	125	131	138	145	152	160	168	176	185
Gate Revenue:													
Projected Visitors													
Residents			32297	33912	35607	36498	37410	38345	39304	40287	41294	42326	43384
Growth				5.0%	5.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Foreign tourists			9615	10096	10601	10866	11137	11416	11701	11994	12293	12601	12916
Growth				5.0%	5.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Total number of projected visitors			41912	44008	46208	47363	48547	49761	51005	52280	53587	54927	56300
Average entrance fee: Residents			$ 1.00	$ 1.19	$ 1.25	$ 1.31	$ 1.38	$ 1.45	$ 1.52	$ 1.60	$ 1.68	$ 1.76	$ 1.85
Average entrance fee: Foreign Tourists			$ 4.35	$ 5.18	$ 5.44	$ 5.71	$ 6.00	$ 6.30	$ 6.61	$ 6.94	$ 7.29	$ 7.65	$ 8.03
Total gate revenue	**$'000**			52	58	62	67	72	78	83	90	97	104
OVERHEADS:													
Administration & general	**$'000**		24	28	30	31	33	34	36	38	40	42	44
Utilities	**$'000**			3	3	3	3	3	3	4	4	4	4
Security	**$'000**			3	3	3	4	4	4	4	4	5	5
Marketing	**$'000**		17	20	21	22	23	24	25	26	28	29	31
Repairs & maintenance	**$'000**			3	3	2	3	3	3	3	3	3	3

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 CAPITAL CHARGES ASSUMPTIONS

	year: y/e Dec	Base date	1 2023	2 2024	3 2025	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032
			$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Capital reserve												
ratio of gross operating revenue			4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
transfer to reserves			0	0	0	0	0	0	0	0	0	0
Total transfers to reserves			0	0	0	0	0	0	0	0	0	0
Depreciation of furniture and equipment:												
Cost	- b/fwd	Page 5	9	10	10	11	11	12	13	15	16	18
	- net additions		0	0	1	1	1	1	1	1	2	2
	- c/fwd		10	10	11	11	12	13	15	16	18	20
Accum depreciation	- b/fwd		0	1	3	4	6	8	9	11	14	16
	- at avg rate of 14.30% pa		1	1	1	2	2	2	2	2	2	3
	- c/fwd		1	3	4	6	8	9	11	14	16	19
Net book value			8	7	6	6	5	4	3	3	2	1

Pre-opening expenses:

Amount to be amortised	**$'000**	Page 5	5	
Amortised over			60	months

Amortisation of buildings:

Amount to be amortised	**$'000**	Page 6	92	
Amortisation rate			6%	per annum

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 FINANCING SCENARIO

		$'000
Financing required:		
Development cost before interest	Page 5	114
Working capital		6
Financing required		120
Gearing:		**$'000**
Shareholders' equity	100%	120
Borrowings	0%	0
	100%	**120**

DAR ES SALAAM BOTANICAL GARDEN

BUSINESS CASE FINANCIAL PROJECTIONS: NOVEMBER 2019 TAXATION COMPUTATION

	year: y/e Dec	1 2023	2 2024	3 2025	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032
		$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
INCOME BEFORE TAX	Page 3	-12	-9	-8	-6	-4	-1	1	3	6	9
TIMING DIFFERENCES:											
Pre-opening expenses written off	Page 3	1	1	1	1	1	0	0	0	0	0
Pre-opening expenses allowable	Page 5	-5									
Depreciation	Page 7	1	1	1	2	2	2	2	2	2	3
Amortisation of buildings	Page 3	5	5	5	5	5	5	5	5	5	5
Professional fees	Page 3	-10									
buildings - annual allowance -	Note 1	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
furniture - wear and tear allowance	Note 2	-1	-1	-1	-2	-2	-2	-2	-2	-2	-2
Net timing differences		-13	2	2	2	2	1	1	1	2	2
TAXABLE INCOME FOR YEAR		-25	-8	-6	-4	-2	0	2	5	8	11
ASSESSED LOSS B/FWD		0	-25	-32	-38	-42	-45	-45	-43	-38	-31
TAXABLE INCOME/(TAX LOSS)		-25	-32	-38	-42	-45	-45	-43	-38	-31	-20
TAXATION, AT 30%:											
Current		0	0	0	0	0	0	0	0	0	0
Deferred		1	-1	0	0	0	0	0	0	0	0
Total taxation per income statement		1	-1	0	0	0	0	0	0	0	0

NOTES:

1. Building Annual Allowance

tax value b/fwd		0	87	82	78	73	69	64	60	55	50
project costs	Page 5	92	0	0	0	0	0	0	0	0	0
annual allowance @ 2% pa on cost		5	5	5	5	5	5	5	5	5	5
tax value c/fwd		87	82	78	73	69	64	60	55	50	46

DAR ES SALAAM BOTANICAL GARDEN

PRELIMINARY FINANCIAL PROJECTIONS: TAXATION COMPUTATION (CONTINUED)

		year:	1	2	3	4	5	6	7	8	9	10
		y/e Dec	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
			$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
2. Furniture & Equipment - wear and tear allowance												
tax value b/fwd			0	8	7	6	6	5	4	4	4	4
project costs		Page 5	9									
additions			0	0	1	1	1	1	1	1	2	2
wear and tear allowance @ 14,3% pa on cost			1	1	1	2	2	2	2	2	2	2
tax value c/fwd			8	7	6	6	5	4	4	4	4	4
Deferred tax computation:												
Book values:												
buildings			86	81	75	70	64	59	53	48	42	37
pre-opening exps			4	3	2	1	0	0	0	0	0	0
furniture & equipment			8	7	6	6	5	4	3	3	2	1
total book value			98	91	84	76	69	63	56	50	44	38
Tax-values:												
building			87	82	78	73	69	64	60	55	50	46
pre-opening exps			0	0	0	0	0	0	0	0	0	0
furniture & equipment			8	7	6	6	5	4	4	4	4	4
total tax value			95	90	84	79	73	68	63	59	54	49
Excess book value v tax value			3	1	-1	-3	-5	-6	-7	-8	-10	-12
Bal of deferred tax at ye @	30.0% *Credit*		1	0	0	0	0	0	0	0	0	0
Bal of deferred tax b/fwd			0	1	0	0	0	0	0	0	0	0
Deferred tax charge for yr - Dr/(Cr)			-1	1	0	0	0	0	0	0	0	0