AfriCat namibia

AfriCat Foundation Annual Report

1 March 2019 – 29 Feb 2020

I. INTRODUCTION – AFRICAT'S MISSION

The AfriCat Foundation was founded in the early 1990's and registered as a non-profit organization in August 1993. AfriCat primarily started out as a welfare organization who worked closely with the farming community and became home to a number of cheetah, leopard and lion, mostly orphaned through human-wildlife conflict. Over the years, AfriCat has identified the need to include a focus on education, communal carnivore conservation and research, which are essential in accomplishing its mission of the long-term conservation of Namibia's large carnivores in their natural habitat.

Over the last years, researchers and veterinarians have been involved in a number of studies involving captive cheetahs at AfriCat's Care Centre, as well as the cheetahs and leopards captured on farmland and released back into the wild. Annual health examination of captive cheetahs, as required by the Ministry of Environment and Tourism (MET), allowed specialized veterinarians in the fields of dentistry, ophthalmology, gastro-enterology and reproduction the opportunity to conduct research on various aspects of animal health, particularly those relating to the health of large carnivores in captivity. As well as providing expert information on the health of AfriCat's animals, the examinations enabled the comparison of results with similar studies being conducted on large carnivores in other captive facilities. Some of this information has allowed veterinarians to gain more insight into the health of large carnivores in the wild.

Since its registration in 1993, the AfriCat Foundation is involved in various research projects concerning the ecology and conservation of large carnivores in an enclosed and protected reserve. The establishment of protected areas like national parks and private game reserves is claimed to be the driving force for the long-term survival of wildlife populations and the preservation of biodiversity. Protected areas are frequently surrounded by electrical boundary fences which separate protected areas from areas influenced by anthropogenic activity and thus, mitigate the risk of edge effects. While fencing provides an important tool in conservation, it represents a controversial matter as impermeable fencing stops natural processes such as emigration and immigration, which could ultimately lead to inbreeding, a decline in genetic diversity and local extinction if not managed correctly. To ensure demographic and genetic viability, fenced reserves require intensive population management. With the robust estimation of carnivore populations, focusing on leopard and brown hyaena, as well as the data collection of temporal-spatial behavior, AfriCat has identified the need to focus parts of its dedication to large carnivore research, which has a critically important and valuable input in forming effective conservation and management strategies for the reserve. Alongside its carnivore research, AfriCat has more recently expanded to include research on rare and endangered species and those potentially vulnerable to climate change impacts; to this end pangolin and aardvark research are now a major focus of the AfriCat research program.

Alongside ecological research, AfriCat has dedicated itself to make a difference through environmental education by guiding the Namibian youth towards a greater understanding of the natural world and the importance of wildlife conservation – especially, promoting predator and environmental awareness. Youth education is vital to the long-term conservation of large carnivores and knowledge, on any level, increases awareness and changes perspective, which in turn changes attitude and behavior. AfriCat is committed to win the hearts and minds of the Namibian youth for environmental conservation, enabling them to become future custodians of their world.

For further information please visit www.africat.org

II. ANNUAL REPORT 2019 – 2020

1. AfriCat UK

AfriCat UK represents the AfriCat Foundation in the United Kingdom. It is a registered charity and undertakes fundraising and awareness activities for the AfriCat Foundation. It also maintains a membership database of AfriCat supporters in the UK, maintaining their links with AfriCat and keeping them informed of AfriCat developments and achievements. Chris Packham, a well-known British naturalist, nature photographer, television presenter and author and Lorraine Kelly, a Scottish television presenter, journalist and actress, are AfriCat's patron. AfriCat UK has spent many busy years spreading the conservation message, raising awareness of our work, increasing the size of our e-database, encouraging visits to Okonjima as well as many fundraising efforts.

Project objectives:

1. Organize the succession of work following the retirement of Carey Widdows from the AfriCat UK Board.
2. Raise funds for AfriCat North projects – Onguta School payments, Protect a Pride and the Lion Guards project etc. and to support the fundraising efforts for land developments given the new situation regarding the purchase of Wildeck.
3. AfriCat to be represented at Big Cat events in the UK, Bradt Travel Big Cat Festival 2019, Big Cat Sanctuary and Blair Drummond days, to raise awareness of our existence and funds.
4. Step-up fund-raising efforts to meet the changing priorities of AfriCat Namibia by recruiting new supporters and Trustees in the UK.

Main activities during the last 12 months:

1. Ran a low-profile fund-raising campaign on #GivingTuesday 2019 and raised £500 on Virgin Money Giving and £875 on PayPal towards the cost of Onguta School.
2. Individual fundraising initiatives Jack and Janet raised over £1000 for Protect a Pride and William Askew's Edinburgh half-marathon run raised £199 for Lion Guards.

3. Attendance at events to promote the work of the AfriCat Foundation while raising funds at the same time saw us represented at the Bradt Travel Big Cat Festival, the Big Cat Sanctuary and Blair Drummond Safari Park. The £1917 of funds raised from these events went towards AfriCat North's work with the lions under the Protect a Pride umbrella raised.
4. Our non-email 'Correspondence' membership raised over £1000 for a variety of AfriCat projects.
5. Relationships were strengthened with new organizations supporting the work of the Foundation including Blair Drummond Safari Park and Unicorn Ingredients.
6. AfriCat UK worked with Tusk Trust to complete the changes necessary given the fact that from 2020 Tusk will no longer be supporting AfriCat Foundation projects in Namibia.
7. Ongoing work was carried out including maintaining the members' database, producing newsletters, and keeping up to date with legal and admin compliance.
8. It has been pleasing to see the results of various 'online' initiatives beginning to bear fruit and bring in funds: Facebook donate raised £137 for the Lion Guards, Lion Guard Virgin Money Giving Page raised £450.50 while we gained small amounts of funds from using social media £359.23 from easyfundraising for AfriCat North, £11.73 from Amazon Smile, £202.50 from Benevity for AfriCat North projects.
9. AfriCat UK has worked to support members of Jenny Horan's family. We saw the development of the new Jenny Horan Classroom at the Okonjima Environmental Education Centre. The family felt the ethos and commitment of those they met at Okonjima fully supported their goals of a lasting tribute to Jenny's memory and reflects her desire for a 'better' future.
10. There was £400 for the sponsorship of two cheetah from Bruce Allan's contacts.

Major achievements:

1. A very successful Charity Dinner in April raised over £17,000 most of which went to pay for the costs of building Onguta School
2. AfriCat UK was a sponsor of Bradt Big Cat Festival where AfriCat's Patron Chris Packham was the headline speaker with Trustee and Director Carey Widdows sharing a question and answer panel with Chris, HRH Princess Michel of Kent and the UK Director of the Cheetah Conservation Fund.
3. £10,500 from Unicorn Ingredients to sponsor Lion Guards for three years: and
4. £1,500 from the programme of Blair Drummond Safari Park to buy Lion Collars as part of the Protect a Pride campaign. The scheme is part of the Park's 'Link to the Wild' scheme.

Constraints and challenges:

1. All this was achieved against a background of greater competition for funds and declining levels of giving to charity in the UK. The decline of the value of the £, following the result of BREXIT vote in the UK, hit the value of the money we send to Namibia again in 2019
2. Major technology problems were associated with the website update and the unexpected impact this had on the AfriCat UK email meant that we did not send out monthly e-newsletter Big Cat Banner in the first few months of the year. This is our only major means of communication with our supporters in the UK. Further disruption to the email service was experienced later in the year as well.
3. The unexpectedly drawn out nature of the separation of the Namibian Lion Trust (NLT) from the AfriCat Foundation – has meant that we have waited for a final communication on the subject and that we have not communicated with our supporters via the e-newsletter or planned new fund raising efforts in the last few months of 2019 and early 2020.

Activities planned for the next 12 months:

1. In 2020 a key activity will be to establish appropriate structures for AfriCat UK to support the work of the AfriCat Foundation given the changes planned in both Namibia and in the UK. We will need to develop an accurate accounting system to ensure that monies are sent to the various projects on a regular basis whilst establishing a reliable mechanism to enable funds to be safely transferred to Namibia as the option of using Tusk Trust, to do this work, will not be available.
2. Focus fund-raising efforts and seek support for The Namibian Lion Trust.
3. Continue to encourage people to go to Namibia and stay at Okonjima.
4. Support the work of the research team based at Okonjima.
5. Promote the Environmental education programme at Okonjima to schools with options for visiting The Namibian Lion Trust.
6. Seek out and build links with organizations that may be able to offer support or funding to projects in Namibia.
7. Collect and distribute funds for the conservation efforts of The AfriCat Foundation and The Namibian Lion Trust.

Financial implications:

1. Hiring venues – hopefully paid for from the income generated from these events.
2. Staffing events – mostly covered by volunteers living close by to the venues which should ensure that transport or accommodation costs should be minimized.
3. Social media sites currently being used for fundraising require no up-front or maintenance costs. Others either pay for themselves or like Virgin Money Giving where the operator takes a small percentage of the total income raised from a campaign.
4. Costs will be incurred in the setting up of the Namibian Lion Trust in the UK as a charity.

2. AfriCat USA

AfriCat USA is currently in the process of being legally registered in the US as a legal not-for-profit organisation. Once this registration has been achieved, full-scale awareness raising and fundraising activities will be established under various 'chapters' throughout the United States.

AfriCat America registered in the state of Illinois with five Directors on the board.

3. AfriCat Namibia

3.1. AfriCat North

AfriCat North committed to the long-term conservation of lions working with local communities to reduce human wildlife conflict. It has developed a range of practical strategies that includes education, research and livestock management techniques and support. It is based on the western borders of Etosha and near the Hobatere Lodge.

3.1.1 AfriCat Hobatere Lion Research Project & Human-wildlife conflict mitigation and community support

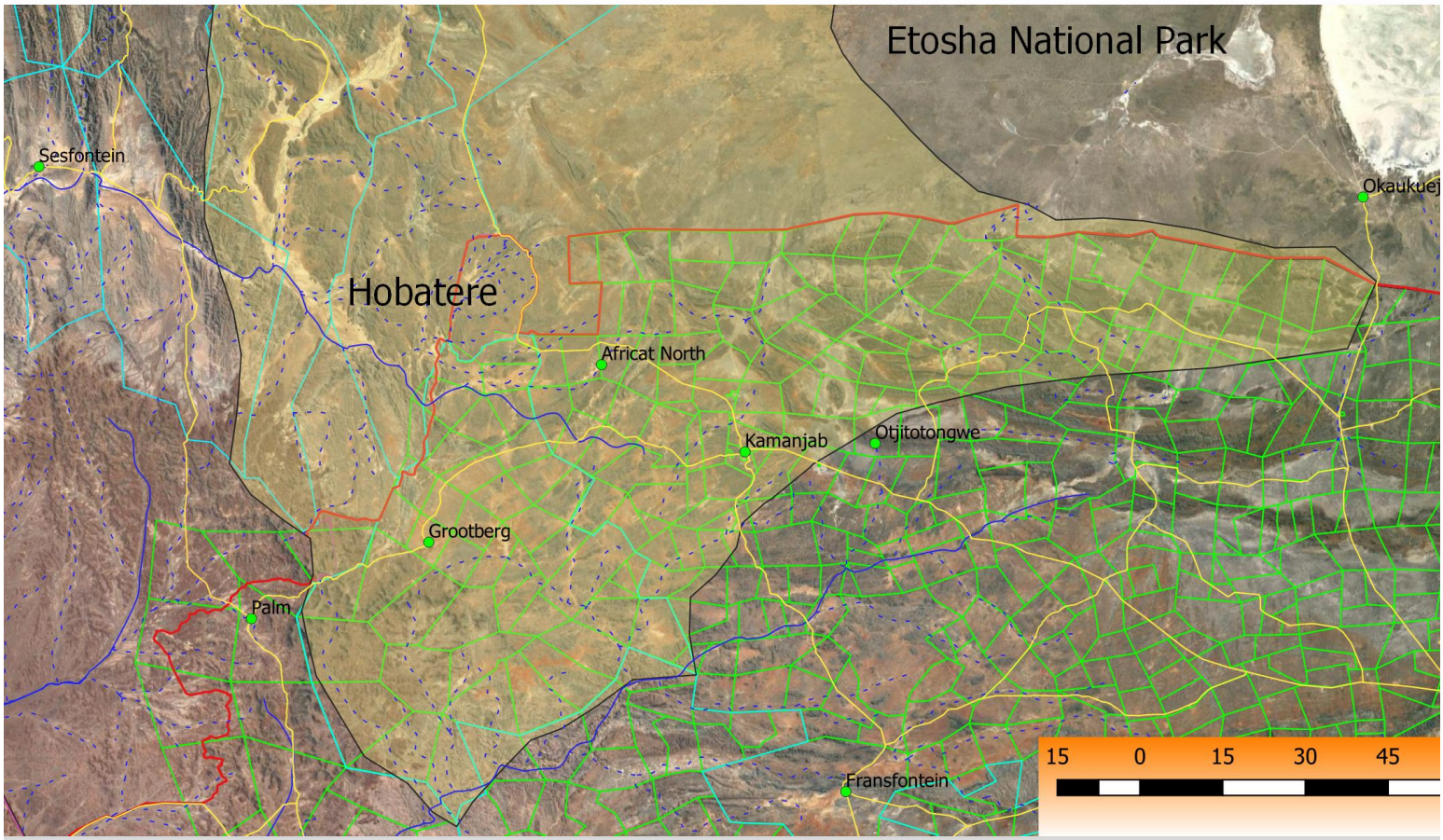
Aim: to conduct a study of the Lion (*Panthera leo)* population within the Hobatere Concession Area and the movements between the Hobatere Concession Area, western Etosha National Park, and adjacent communal farmland.

Project objectives:

1. To understand the population dynamics of the lions utilizing the Hobatere Concession area, and how one or more of the prides found within Hobatere relate to the greater Kunene population and/or the western part of Etosha National Park.
2. To understand the dispersal and or migration/immigration patterns of lions within Hobatere and the surrounding areas.
3. To understand the role of:
    a. water and prey availability within Hobatere and the surrounding areas
    b. fencing surrounding Hobatere and Etosha National Park
    c. human pressure from outside of Hobatere
    d. hunting within the surrounding areas

e. how these factors affect the movement of the so-called 'Hobatere lions' and the associated human-lion conflict within the area

4. To test the effectiveness of human-lion conflict mitigation measures, e.g. bomas, herding, geo-fencing/early-warning systems and translocations.



Study Area – Detailed Map

Main activities during the last 12 months:

a. Re-establishing accurate current data on the demography of lions within Hobatere and the surrounding areas: *Lion population size and demography were evaluated through live observations and photographs taken by camera traps.*

b. Quantifying the degree of human-lion conflict and the impact it has on people living around Hobatere.

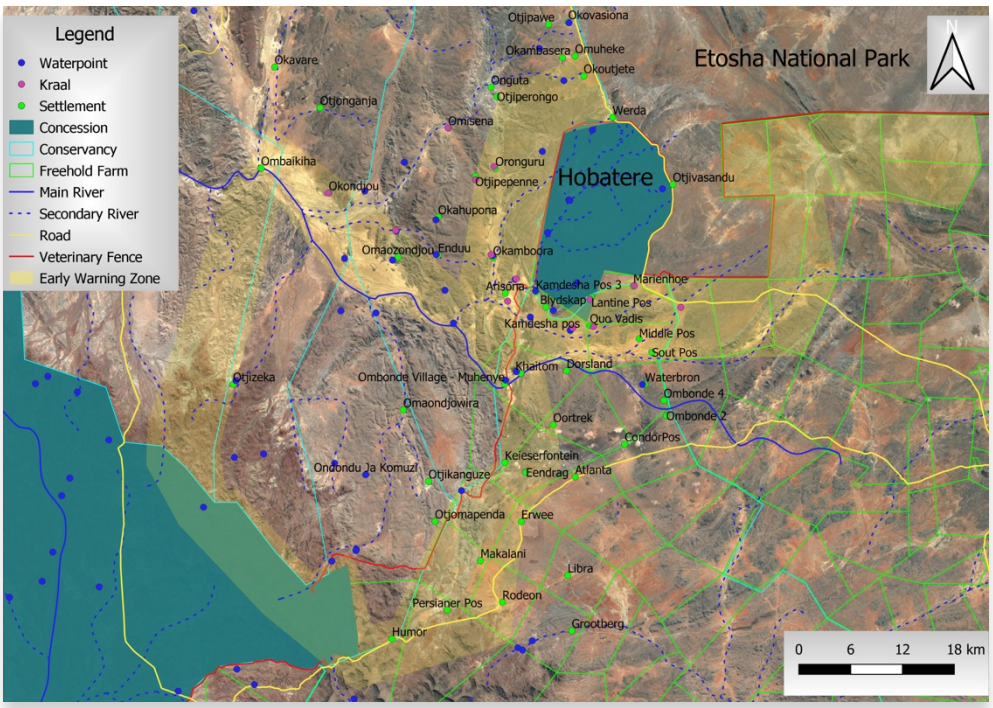
c. Mitigation measures were analyzed and the effectiveness of each measure was assessed.

Major achievements:

1. Analysis of home range data: Seven lions (4 females and 3 males) had active GPS collars to track their movement during the period of 1 March 2019 up until 29 February 2020.

2. The AfriCat 'Lion Guard' Programme: Essentially, the Lion Guards are assigned to various 'conflict' areas, along the boundaries of Protected Areas as well as further afield. These men play a vital role in protecting the Hobatere & Etosha lions and mitigating lion-farmer conflict on communal farmland.

3. Human-Wildlife Conflict Mitigation measures in place:
    a. Geo-fencing or early-warning systems (via GPS-Satellite collars fitted on lions and other predators), whereby farmers are warned of lion / predator movement when in close proximity to their herds or villages. AfriCat monitors 5 lions on a two-hourly basis, gathering much-needed data on movement patterns, thereby mitigating conflict.



    b. Strong, 1.8 - 2m high nocturnal bomas (ongoing new construction / repairs & maintenance of existing bomas) with Lionlights, for nocturnal use: to date, 23 such bomas have been built in the Ehirovipuka, Omusati and !Khoa di //Hoas Conservancies by AfriCat.

    c. Rangeland Management & Herding systems in communal Grazing Areas: whereby farmers employ herdsmen to take care of their livestock during

the day whilst in the field and to 'boma' them at night; the recent AfriCat collaboration with CAN (Conservation Agriculture Namibia) in communal Grazing Areas encourages rangeland management and improved husbandry & livestock protection.

d. 'Conservation Education': whereby the youth as well as adult community members accept the lions' role in a balanced ecosystem and understand the value as a sustainable tourist attraction and an essential part of our heritage.

e. The Lion Guard Programme provides day- and night-time patrols, protecting both the villagers and their livestock from marauding predators; success is high provided livestock are safely penned during the night. A more extensive Lion Guard Programme, whereby conservancy members take on the role of 'keepers of the wilderness', is being developed.

f. In progress: 'Conservation Agriculture' courses and workshops, providing sound arid-adapted farm management, animal husbandry and improved livestock protection programmes, thereby minimizing the disastrous effects of drought.

4. Information is now available to effectively assist in the making of informed decisions as to how best to alleviate conflict and minimize livestock losses, while at the same time maximizing conservation goals for the lion.

5. A study of prevalence of Feline Immuno-defieciency Virus (FIV-ple) in lions (*Panthera leo*) within the Etosha National Park and the Hobatere Concession Area, completed by S M Zealand to fulfill her research module at the University of Namibia as part of her Veterinary Degree. Her results concluded some sample to test positive when making use of the FASTest FeLV-FIV, which tests for the presence of anti-bodies. Whereas the Polymerase Chain Reaction, indicated no amplification of the virus. This could be the result of vaccination against the virus or alternatively the virus to be different to those for which the primers have been prepared for.

6. Lion Conservation Genomics: The study is in collaboration with the Technical University of Munich, Stanford University, Ministry of Environment and Tourism, Desert Lion Project and the Kwando Carnivore project. Lion blood samples have been collected by respective parties over several years, the samples have been exported safely to the University of Munich, where the genetics work will be conducted. The study will be a whole genome sequencing of the several lion individuals in an area across Africa. The results of the study will allow a better understanding of the lion population across Africa and will allow for of species-specific microsatellites to be designed to evaluate the Namibian population in a non-invasive level.

7. Namibian Lion Population Genetics: The study is in collaboration with the Technical University of Munich, Ministry of Environment and Tourism, Desert Lion Project and the Kwando Carnivore project. The study will evaluate population structure amongst the Namibian lion population and will indicate whether the Namibian population is one panmictic lion population or separated isolated populations. Additional analyses will also be carried out depending on the results as to evaluate genetic diversity as well as paternity for comparison based on observations.

8. A study of Lion Habitat suitability study by an MSc student Elisabeth Kirchner, is currently being conducted to evaluate the a) Habitat suitability, corridor analyses

and water regime simulation in Northern Namibia and b) Habitat suitability, corridor analyses and water regime simulation in West Etosha, Hobatere Concession (AfriCat), and Skeleton Coast, on a high-resolution dataset.

9. Edible Caterpillars of Southern Africa: Principle Investigator Dr. Barbara van Asch from Stellenbosch University, in collaboration with the Namibian University of Science and Technology, funded by the National Research Foundation of South Africa.

Constraints and challenges:

1. Further studies have established that the regularity of lion movement onto farmland from the Hobatere Concession, has increased since August 2015: the persistent drought has resulted in widespread migration of wildlife, with the lions naturally following their prey cross-border; as livestock frequently graze within the Protected Areas, the lions have become habituated to livestock as easy prey, causing them to kill inside of the Protected Area and outside. As far as can be ascertained, through the monitoring of the 10 marked / collared lions, these lions would be regarded as 'occasional' stock-raiders, chiefly due to habituation caused by livestock grazing inside of Protected Areas, porous boundary fences and poor livestock management on communal farmland.

2. Despite the presence of communal kraals (bomas) in the 'hot-spot areas' (built by AfriCat, with Commitments signed with the headmen), large numbers of livestock still remain unattended during the day and in the field at night: reasons remain unclear but it is evident that the lack of graze keeps animals in the field for longer periods, farmers leaving their stock to search for the last morsels, livestock too weak to return to the homesteads and safety, and most importantly the outdated livestock management practices on communal farmland.

Activities planned for the next 12 months:

1. Extension of Project into the Ombonde – Palmfontein area, Ehirovipuka & Omatendeka Conservancies: Since the successes of the AfriCat Lion Research Project and the Human-Wildlife Conflict Mitigation & Community Support Programmes have become evident, Conservancies further afield have requested AfriCat's support and advice, including requesting monitoring of lions in their respective areas.

2. The studies carried out since 2013 by the AfriCat Hobatere Lion Project (AHLRP) indicate strongly the natural movement of lions along the Otjovasandu and Ombonde Rivers, as well as where the rivers converge south-west of the Hobatere Concession Area; into the fourth year of drought, these ephemeral river systems offer the last source of grazing and browse for both livestock and wildlife.

3. Reports of at least 4-6 lions frequenting the Otjeombonde waterhole have been received, after the loss of 5 lions at the hands of a farmer illegally residing and farming in the Ehirovipuka Core area west of Palmfontein; evidence of lion movement entering the Hobatere Concession from the south-west, has also been observed.

4. Funding has been sourced for more collars and trail cameras, which will enable AfriCat to establish lion numbers, age and range, as well as identify problem areas regarding improved protection of livestock, increasing tolerance towards lions. The use of mobile bomas should be encouraged, for use in the field when graze and water availability force herdsmen to stay away from their homesteads.

5. Extension of the AHLR Project westwards (including Orupupa, Omatendeka and Anabeb Conservancies) with the Grootberg Range as ecological boundary.

6. AfriCat has developed an innovative Communal Carnivore Conservation Programme (CCCP) whereby the communal livestock farmers are encouraged to adopt improved livestock protection methods, effectively reducing livestock

losses. Data received from the GPS-Satellite Collars may be used as an Early-Warning System to further minimize losses.

Financial implications:

Activity: **12 months**	**Brief description**	**Approx. Cost in N$**	
1-3. Lion Research & HWC Mitigation	Extension of lion research programme in Ehirovipuka & Omatendeka Conservancies	750,000	
4.Collars, Trail Cameras & Mobile Bomas	Establish Lion numbers in the greater Ombonde River area (Ehirovipuka,Omatendeka Cons)	200,000	
5. Lion Research & HWC Mitigation	Extension into Anabeb & Orupupa Conservancies	200,000	
6.Arid-adaptive farming methods, Early-Warning systems	Further develop Holistic Rangeland Management and Early-Warning Systems	750,00	
TOTAL		**1,900,000**	

3.1.2 AfriCat North rebrands as the Namibian Lion Trust

AfriCat North, originally Afri-Leo, established in 1997 on farm Kaross, primarily the AfriCat Foundation field-base for lion research, human-wildlife conflict mitigation and community support, has seen its role as a lion-conservation force in the Kunene Region, grow exponentially. *The need to have a significant presence to protect the lion, to assist with lion-farmer conflict situations, to mentor otherwise desperate farmers in predator-friendly farming practices and to educate the young, grows with each passing year.* Some months ago, a decision was made to re-brand AfriCat North and to begin a new chapter in large carnivore conservation, with emphasis on the lion (*Panthera leo*) and the people who share their habitat. 2020, the start of a new decade, sees the launch of the Namibian Lion Trust (NLT), with its own charitable status and independent, enthusiastic Board of Trustees. The key purpose of its work: to increase the protection of lions and to guide local communities to live alongside carnivores, will continue with the Lion Guard Programme, Early-Warning Systems for farmers in areas of conflict, Livestock Protection techniques, Research, Community enhancement and Education in Conservation & Agriculture.

In order to do this, AfriCat North must now boldly set out with renewed energy and commitment as the Namibian Lion Trust (Reg # T298/2019), with our slogan FOR LIONS, FOR LIFE and FOR OUR FUTURE, dedicated to *Panthera leo, for it is essential that AfriCat North's work should persist…*

Our Mission & Purpose

- The Namibian Lion Trust is committed to the long-term protection and conservation of the lion and other large carnivores that co-exist in the Namibian landscape.
- We promote co-existence between farming communities and conflict wildlife.
- We seek to find workable solutions to the present human-lion conflict without threatening the survival of the lion and other large carnivore species.
- We work tirelessly to make a significant difference to peoples' lives, especially those who have to bear the cost of living with wildlife. - We strive to inspire people, young and old, to respect and protect fauna and flora in their natural habitats.
- Ultimately, the Namibian Lion Trust strives for increased protection of the Namibian Lion.

3.2. AfriCat HQ and Okonjima

Okonjima, home of the AfriCat Foundation, was established as a small 'guest farm' in 1986. Okonjima, meaning "place of the baboon" in the Herero language, is an extensive tract of land nestled among the Omboroko Mountains, about seventy kilometres south of the small town of Otjiwarongo. For the last 35 years, Okonjima has been in the hands of the Hanssen family. Today, nearly 20 years after Wayne, Donna and Rosalea Hanssen took over the cattle farm from their parents, the original farm has grown in size to 20,000 hectares and hosts a guest lodge business. The cattle have gone, grasslands are returning, and wildlife abounds. Although they are separate entities, the relationship between Okonjima, its Nature Reserve, and the AfriCat Foundation is one of symbiosis.

In this, Okonjima owns and manages the land/nature reserve and operates the tourism business, while the AfriCat Foundation provides a unique opportunity for guests and sponsors to view large carnivores, as well as the work of the Foundation. In turn, AfriCat receives an income from the revenue generated by tourism, which contributes to covering the running costs of the organisation as well as an opportunity to obtain additional income from visitors, having witnessed the Foundation's work with carnivores in Namibia first hand, through on-going sponsorship programmes.

3.2.1. Research in the 20,000 ha Okonjima Nature Reserve

As part of its dedication to conservation through research, AfriCat now runs four main ecological research projects; leopard *Panthera leo*, brown hyena *Parahyaena brunnea*, aardvark *Oryceteropus afer* and pangolin *Smutsia temminckii*. As enclosed reserves are becoming increasingly common across southern Africa, there is an urgent need to understand the altered ecology of large carnivores in enclosed reserves to ensure sustainable and informed management decisions can be made. As such, the AfriCat leopard and brown hyena research projects strive to gain an in-depth understanding of these species in enclosed areas with specific respect to home-range size, social organization and density, occupancy and habitat preferences, activity patterns and spatial and temporal niche partitioning with sympatric carnivore species, with the ultimate aim of producing species specific management guidelines.

Recent research activities carried out in the Okonjima Nature Reserve started focusing on non-carnivorous mammals like pangolin and aardvark to investigate habitat preferences, diet, home range sizes and spatial dynamics of species that are highly endangered and potentially directly affected by climate change. The end goal of collecting this data is to shed light on biological baseline knowledge, increase awareness and to create fundamental conservation guidelines.

3.2.1.1 AfriCat's and Okonjima's leopard long-term monitoring programme

Aim: to understand the altered ecology of leopards residing within an enclosed reserve and to produce sustainable management guidelines to ensure their long-term persistence.

Project objectives:

1. Density estimation of leopard population occurring in the Okonjima Nature reserve through the use of camera trap surveys and spatially explicit capture-recapture analysis of camera trap data.
2. Home range estimation of leopards via the use of data obtained from VHF collars and camera traps and estimation of home range overlap between same and different sexed individuals.
3. Monitoring of the dispersal and philopatric behavior of sub-adult leopards in an enclosed environment.
4. Establishment of prey preferences and species-specific feeding habits.
5. Long-term monitoring of Okonjima's leopard population to detect changes in population dynamics over time.
6. Collection of biological samples of wild-caught leopards for storage in Okonjima's bio bank for the assessment of genetic diversity and relatedness between individuals.

Main activities during the last 12 months:

1. Leopard density was calculated based on data from a leopard density survey carried out in 2015/2016 and results written up for the peer-reviewed journal *Animals*.
2. Home ranges of all collared as well as a few un-collared individuals were established and compared every three months throughout the year.
3. Four sub-adult leopards were fitted with VHF collars enabling the collection of spatial data and thus, the monitoring and analysis of dispersal behaviour of young leopards in an enclosed environment like the Okonjima Nature Reserve. Other sub-adult individuals not fitted with a research collar were monitored via the use of camera traps. If funding for GPS collars can be secured, sub-adult individuals will be fitted with GPS collars to obtain higher resolution data on post-natal spatial distribution patterns.
4. All observed leopard kills and positively identified prey items were recorded throughout the year as well as the location in which prey was consumed.
5. Two sub-adult female leopards were newly collared and seven individuals re-collared due to battery exhaustion of the previous collar throughout the year. ???

VHF collars have been purchased to ensure gapless collaring and re-collaring of selected study individuals.

The first leopard on Okonjima was fitted with a GPS collar in April 2019. Funding for 10 further leopard GPS collars has been applied for.

6. 25 camera traps were permanently installed and maintained throughout the reserve to ensure the long-term monitoring of Okonjima's leopard population.
7. Biological samples (urine and blood) were taken of all leopards that have been immobilized for the purpose of collaring throughout the year and stored.

Major achievements:

1. The submitted article on leopard density in the Okonjima Nature Reserve was published as a short communication in the peer reviewed journal *Animals*: Noack, J., Heyns, L., Rodenwoldt, D., & Edwards, S. (2019). Leopard Density Estimation within an Enclosed Reserve, Namibia Using Spatially Explicit Capture-Recapture Models. *Animals*, *9*(10), 724.
2. Home ranges were calculated every three months in R using Minimum Convex Polygon (MCP), 95% and 50% kernel density estimations and visualized in QGIS. A quarterly report was produced.
3. Preliminary post-natal spatial data of four sub-adult individuals were collected and analyzed regarding dispersal age, dispersal distance, size of established post-natal home range and differences between male and female sub-adult leopards. Data from GPS collars will be vital to produce more conclusive data on dispersal parameters.
4. 312 leopard kills were reported and recorded and analyzed regarding species, age class, sex of the prey species and location in which prey was consumed. Results have been visualized and compared to previous years in a quarterly report.
5. Data received from research collars as well as camera traps were analyzed and results visualized in a quarterly report including data on population demography, home range estimations and prey preferences.

   Funding for 10 leopard GPS collars was received from the Galanthus Foundation, USA. The grant also covered costs for the upgrade of the live-feed camera system of five steel-mesh box traps which enable the capture and collaring of leopards in

the reserve, 60 packets of Lithium batteries to operate camera traps and three GPS collar repeater poles.

6. Biological samples were transferred to the Institute of Communities and Wildlife in Africa (iCWild), University of Cape Town, South Africa for genetic analysis.

Constraints and challenges:

1. Lack of GPS collars. GPS collars would enable to obtain higher resolution data on home range and territory sizes, overlap between individuals and natal dispersal behaviour of sub-adult leopards.
2. A limited sample size leading to a fragmentary data collection based on the primary use of VHF collars.
3. Malfunctioning of camera traps resulting in a loss of data.

Activities planned for the next 12 months:

1. Continuation of the leopard monitoring program based on research collars and camera traps.
2. Fitting of leopards with GPS collars. GPS collaring of sub-adult leopard if suitable study animals become available.
3. Re-collaring leopards with malfunctioned VHF collars to ensure a gapless data collection.

Financial implications:

1. The funding for batteries to operate camera traps for the next 12 months is secured.
2. Funding for 10 leopard GPS collars was received from the Galanthus Foundation, USA.
3. Funding for new VHF collars needs to be sourced.
4. If funding becomes available, renewal of malfunctioned camera traps.

3.2.1.2. Behavioral ecology and management-induced niche shift of brown hyaena in a closed reserve; implications for conservation management

Aim: To understand the altered ecology of brown hyaenas residing in an enclosed reserve, with the ultimate aim of producing sustainable conservation management guidelines for enclosed reserves.

Project objectives:

1. Density estimation of brown hyaenas occurring on Okonjima reserve through the use of camera trap surveys and spatially explicit capture-recapture analysis of camera trap data;
2. Home range estimation of brown hyaenas present on the Okonjima Reserve through the use of fine resolution data obtained from GPS collars fitted to a number of adult animals. Estimation of overlap of home ranges of different clans (if a clan structure is present) occurring on Okonjima Reserve;
3. Examine the inter-birth intervals, litter sizes and cub survival of brown hyaenas on Okonjima and determine the number of females within each clan breeding;
4. Examine the dispersal behaviour of sub-adult/young brown hyaena within an enclosed system.

Main activities during the last 12 months:

1. Density estimation: Brown hyaena density was determined using a camera trap survey in combination with spatially explicit capture-recapture models. A density of 24.01 brown hyaena/100km^2 was estimated; the highest recorded for brown hyaena anywhere in their range. The study has been published in the journal Mammal Research, and a link can be found on the Publications tab of the AfriCat website.
2. Home range estimates and overlap and have been estimated in a collaborative project working with Dr Max Tarjan from the San Francisco Bird Observatory using an extension of the 'Permissible Home Range Method' developed by Tarjan and Tinker (2016) for sea otter. As typical home range estimate methods are not suitable for Okonjima's brown hyena as they typically estimate home ranges outside of the fence, an alternative method had to be developed. Mean home range size on Okonjima is 37km^2, and are currently some of the smallest recorded for brown hyaena to date. The study was written up for peer-review and at the time of writing accepted by the journal Mammal Research, a link to the full article will be added to the Publications page of the AfriCat website once published.
3. Assessing inter-birth intervals, litter sizes and cub survival of brown hyaena is ongoing; at the time of writing five hyaena communal dens are monitored with camera traps. In additional the natal den of OHB04 was monitored in October 2020, until her cubs died, and the natal den of OHB12 was monitored in November 2020 until her cubs died. During this monitoring, the first record of infanticide in wild brown hyaenas was recorded, at the natal den of OHB12. The incident was written up for peer-review and at the time of writing has been accepted by African Journal of Ecology and a link to the full article will be added to the Publications page of the AfriCat website once published.
4. Examining the dispersal behaviour of young brown hyenas has been developed once the spatial data of the adult brown hyena showed Okonjima to be fully occupied by brown hyena and hence the dispersal of young animals is on interest for population management. To meet this objective, funding will need to be secured for the purchase of additional GPS collars for young animals, and then the physical capture and collaring of these animals for the data collection period to begin

Major achievements:

1. Density estimates: Publication of the study in a quality scientific journal will be the final indicator of success for this objective.
2. Home range estimates: currently sufficient samples from all GPS collared brown hyenas have been gained to enable home range estimations, which is the first indicator of success for meeting the objective. The next step will be working on developing the Permissible Home Range Method with Max Tarjan so that the method can be applied to all data sets, with the next indicator being the development of R coding for the home range estimation and running this code on all data sets. The final measurable indicators of success will be a map of all home range estimates and a published journal article on the subject.
3. Examining inter-birth intervals, litter sizes and cub survival rates: Indicators will be collaring a good number of breeding females and ensuring cubs are monitored via camera trap from a young age, meaning natal dens should be located and monitoring started as soon as possible after the birth of cubs.
4. Dispersal behaviour: As this is a new objective, the first milestone will be securing funding for the purchase of the GPS collars. The second milestone would be fitting those GPS collars to known-origin sub-adults across Okonjima

Constraints and challenges:

1. Density estimation: Camera traps must be placed in areas which will maximize detection probability. Latrines are predictable areas of brown hyaena activity and as such finding enough active latrines at which to place camera traps is the biggest challenge for the density estimation survey.
2. Home range estimates: Darting hyaenas in the more remote areas of the park, where individuals are less habituated is a challenge. In order to meet this challenge a custom-built box trap with a live feed camera and remote triggered door system. This way hyaenas do not have to come close to humans in order to be trapped.

3. Assessing inter-birth intervals, litter sizes and cub survival of brown hyaena: Finding natal dens requires regular GPS collar downloads and inspecting data to check for indicators of birthing. To meet this challenge a base station and five repeaters have been purchased which means the majority of the park is covered with a UHF connection, resulting in regular GPS downloads from hyaena collars.
4. Examining the dispersal behaviour of young brown hyenas: Monitoring the young cubs until they are large enough for collaring requires a long-term monitoring of natal and communal dens, which also requires regular downloads of brown hyaena GPS data.

Activities planned for the next 12 months:

1. To continue collaring sub-adults of known origin and breeding females.
2. Continuing to monitor all natal and communal den sites.
3. Repeating the density survey to examine how the population is increasing or decreasing.
4. Examining ways to survey both brown hyaena and leopard simultaneously using a single camera trap set up
5. Once leopard GPS data becomes available to run dynamic interaction models to examine the temporal and spatial overlap between the two species to between understand how brown hyaenas might be benefitting from the presence of leopard on Okonjima.

Financial implications:

1. Density estimation: Purchase of sufficient batteries to power camera traps for the survey period, lithium batteries are required to ensure high performance
2. Home range estimates: Finances available for purchase of collars, veterinary drugs for darting and qualified personnel.
3. Assessing inter-birth intervals, litter sizes and cub survival of brown hyaena: Permanently monitoring den sites requires a lot of battery power and lithium batteries will be required for this, which are more expensive than normal batteries.

4. Examining the dispersal behaviour of young brown hyenas: Finances are available for the purchase of GPS collars for sub-adults, this was secured via a grant from the Ernest Kleinwort Charitable Trust.

3.2.1.3. Determining the home range size, population density, habitat selection and ecology of wild and rehabilitated-released Temmninck's ground pangolin (*Smutsia temminckii*) in the Okonjima Nature Reserve.

Aim: to understand the ecology of free-ranging ground pangolin in an enclosed reserve in order to establish biological baseline knowledge which will be utilized to conserve the species.

Project objectives:

1. Pangolin home range estimation and determining social dynamics
2. Burrow preference and activity patterns
3. Prey availability and selectivity
4. Effects of drought and seasonal changes on pangolin
5. Collection of biological samples

Main activities during the last 12 months:

1. Spatial data collection is ongoing for all study individuals via visual observations utilizing the VHF transmitters and downloaded data from GPS transmitters. Intra-specific interactions are recorded.

2. Identifying known burrows of study individuals and monitoring their activity patterns with camera traps.
3. Monthly pitfall collections were completed in five sites across known pangolin home ranges. Foraging samples were collected during visual observations.
4. Monthly weights and body measurements are taken. Monthly pitfalls and regular foraging samples are taken to look at diet. Post-mortems are conducted on all deceased individuals.
5. Collection and storage of genetic samples of all tagged pangolin

Major achievements:

1. Home ranges were calculated for the annual MET report in RStudio using Minimum Convex Polygon (MCP), 95% and 50% kernel density estimations and visualized in QGIS. CReSS analysis was also done for all pangolin 95KD home ranges and 50KD core areas which takes boundaries such as fence lines into consideration. Preliminary results demonstrate a polygamous mating system, with further spatial analysis to be done on home range overlap.
2. Over 150 burrows of study individuals have been identified. A protective frame has designed and built for all camera traps to continue with monitoring.
3. Analysing pitfall data has begun and 30 species of ants and termites have been identified whilst only 5 of these species were foraged by pangolin.
4. Over 50 % of study individuals died during 2019 due to limited food resources and a report was written on the mortalities and body condition loss as a result of the drought.
5. Biological samples have been taken and catalogued for future interest in genetic research.

Constraints and challenges:

1. Over 50% of the study individuals died between July 2019 and November 2019 as a result of the drought. Occasionally transmitters fall off which results in either the pangolin being missing and/or lost spatial data.
2. Some burrows are very deep reducing the range on the VHF signal and sometimes pangolin are not found. Camera trap monitoring was halted due to hyena attacks

on cameras. Pangolin do not always trigger the camera traps, so not all activity is recorded. Warthog like to bump the cameras shifting the angle off of the burrow entrance.

3. Rains and wild animals often alter or destroy the pitfall setups. They have to be checked and dug again 2 weeks prior to opening.
4. Measurements are not always accurate as the pangolin are not sedated for the exam. Individuals sometimes die in a deep burrow where there is no signal and/or the carcass is scavenged and no cause of death can be determined.
5. Current genetic studies on pangolin are only interested in blood samples

Activity planned for the next 12 months:

1. Additional pangolin will be tagged opportunistically and spatial data collection and visual observations will continue. Intra-specific interactions will be observed and recorded.
2. Monitoring of known pangolin burrows. Measuring and categorizing all identified pangolin burrows.
3. Continuation of pitfall trap surveys and continuous collection of foraging samples.
4. Continuation of monthly weight checks and measurements. Quarterly pitfalls and regular foraging samples to be collected. Post-mortem examinations on any deceased individuals.
5. Biological samples will be taken from new individuals and stored.

Financial implications:

1. Funding for VHF transmitters has been provided by Okonjima Lodge CC. Funding for GPS transmitters was secured for 5 GPS transmitters by University of St. Andrews and 15 transmitters from the Pangolin Consortium

2. Seven camera traps have been loaned to the project for the study. Batteries have been purchased with funding from Okonjima Lodge CC, additional batteries will need to be purchased to power the cameras for monitoring.
3. Funding has been secured from the Namibian Chamber of Environment through Namibia University of Science and Technology to purchase materials and expert entomologist support.
4. This monitoring does not require any additional funding which is not covered in other sections.
5. The storage of samples is not at any cost to the AfriCat Foundation. Genetic testing will only be conducted if external interests are interested and fund the tests.

3.2.1.4. The Okonjima aardvark research project: Investigating the potential impact of climate change on aardvark within north-central Namibia.

Aim: to establish the potential impact of climate change on free-ranging aardvark within the Okonjima Nature Reserve.

Project objectives:

1. Estimation of aardvark home ranges on the Okonjima Nature Reserve using VHF spatial data.
2. Spatial mapping of aardvark burrows within the Okonjima Nature Reserve.
3. Obtain activity patterns and times of emergence from and entry into burrows by aardvark and investigate the influence of climatic factors on both.
4. Investigate the occurrence of basking behaviour in aardvark by monitoring time and duration of any basking bouts.

Main activities during the last 12 months:

1. Tagging of aardvark: Tagging of aardvark began in winter of 2019, when a custom-built aardvark trap was built. The trap is a modified leopard box trap which is fitted with an infra-red beam, connected to powered magnets and a GSM commander. The trap is set outside of active aardvark burrows, which are identified by following aardvark until they enter a burrow. When the aardvark emerges from the burrow and breaks the infra-red beams, power to the magnets is cut causing the door to fall, trapping the aardvark inside. The GSM commander then sends a SMS text message to all team members meaning they can go to the trap immediately for darting, thus minimising the time the aardvark spends inside the trap.
2. During winter 2019, four aardvarks were tagged with VHF ear tags. Three of the four individuals died; two were killed by leopard and the third by a brown hyaena. In December 2019 the antenna of the VHF tag on the fourth aardvark snapped causing the signal strength to decrease. At the time of writing the team is trying to re-trap the aardvark in order to replace the tag.
3. Spatial mapping of aardvark burrows: This has been achieved by daily tracking of tagged aardvark to active burrow sites, the GPS coordinates of which are recorded.
4. Activity patterns of aardvarks: Camera traps set outside of active burrows (found by daily tracking of tagged aardvark) record the time of emergence, and when the same burrow is used on consecutive nights, the re-entry times of aardvarks to burrows.

5. Basking behaviour: By setting camera traps at active burrows, the occurrence of basking behaviours has been detected.

Major achievements:

- Trapping and darting of the first four aardvark with the use of a custom-built aardvark trap.
- Tagged aardvark were tracked on a daily basis during which active burrows were logged and GPS positions of active aardvark recorded to start home range estimations.
- Funding from the Namibian Environment and Wildlife Society has been secured to purchase additional batteries for camera traps and to cover a three-week internship for a Namibian student to come and assist with the aardvark project.

Constraints and challenges:

1. Trapping aardvark remains a challenge and using the current methods it can only be done during the winter when aardvarks are active during the day.
2. Given the high density of leopard and brown hyaena on Okonjima, three of the four tagged aardvarks were predated upon and a challenge for the aardvark project is having study animals stay alive long enough for sufficient data collection.
3. The breakage of the antennae on the VHF is also a challenge. However, at the moment this has only happened once and long-term monitoring is needed to see if this will become a common problem.

Activities planned for the next 12 months:

1. In 2020-2021, a project looking into the role of aardvark burrows as thermal refuges is to be initiated. The project will use temperature and humidity loggers

to measure the environmental conditions in the burrows as well as outside the burrows in the nearest available shade.

2. Six permanent camera traps will be set up to monitor aardvark burrows throughout the year to see which other species are using them. The data analysis for this will partly be completed by a NUST student funded by the February 2020 NEWS grant (N$7,000).
3. More aardvarks will be tagged during winter 2020.

Financial implications:

1. Funding will be required to purchase more VHF ear tags during 2020

2. Temperature loggers to be purchased using part of an N$18,000 donation coming in from AfriCat UK.
3. Batteries for the permanent monitoring of burrows in 2020/2021 covered by the grant from NEWS.

3.2.1.5. Veterinary and other research in the Okonjima Nature Reserve

Three student projects were undertaken on the Okonjima Nature Reserve, facilitated by the AfriCat Foundation, to form part of a 5-year collaboration between the University of Namibia School of Veterinary Medicine (UNAM SoVM) and the Murdoch University School of Veterinary Medicine, (MSoVM) Perth, Australia:

1. David Joubert – Murdoch University School of Veterinary Medicine, Perth, Australia: Helminth parasites of herbivores at Okonjima, Namibia.
2. Marnus Janse van Rensburg – School of Veterinary Medicine the University of Namibia: A comparative study of the helminth parasites between browsers and grazers in the wet and dry season on a game farm.
3. Cveta Pudar - School of Veterinary Medicine the University of Namibia: An investigation into the intestinal parasitic load and its effects on the body condition score of the white rhinoceros (*ceratotherium simum simum*) in an island-bound area.

Aim: to establish a (co)existence or not of any possible interaction of internal parasites in a combined / mixed livestock and wildlife farming system (commercial, communal and conservancies bordering wildlife core areas) in Namibia and its possible or not influence on anthelmintic resistance development.

Project objectives:

1. Use faecal samples to identify and quantify helminth parasite burden of kudu (*Tragelaphus strepsiceros)*, wildebeest (*Connochaetes taurinus)* and White Rhinoceros (*Ceratotherium simum simum*).
2. Compare helminth parasite burden in the wet and dry seasons (geometric mean).
3. Determine associations between helminth parasite burden and body condition scores of the study population.
4. Determine associations between helminth parasite burden and location within Okonjima.
5. Determine associations between the helminth parasite burden and age groups of the study population.

Main activities during the last 12 months:

1. Non-invasive fecal samples collected on the Okonjima Nature Reserve during April/May (wet season) and June/July (dry season) of kudu (browser) and blue wildebeest and White Rhinoceros (grazer) and in December (wet season 2017) and July (dry season) in 2018.

2. Body conditioning score recording of herd animals (or individuals – White Rhinoceros) from which samples were collected.
3. Quantify the helminth burden b.m.o. **f**ecal **e**gg **c**ounts (FEC) of collected fecal samples within 24 hours of collection using the mini-FLOTAC for blue wildebeest and kudu; within 7 hours of collection using the McMaster technique for white rhinoceros.
4. Geometrical means (GM) and student t-test ($p<0.001$ and $p<0.05$) were used for comparison of data results.

Major achievements:

1. Proof of significant difference in parasite load between grazers and browsers wet and dry season.
2. Baseline data collection of parasite load for browsers and grazers, which can be used as a comparison guideline for future studies.
3. Biological differences between kudu (browser) and blue wildebeest (grazer) in the degree of helminth infections, regardless of the season, were established.
4. No significant difference in the fecal egg count between wet and dry season in the white rhinoceros was demonstrated.
5. Season (wet vs. dry) had strong impact on helminth burdens of both species' groups, despite the 2019 severe drought due to high temperatures and low humidity
6. Fecal quality and quantity difference (grazer vs. browser) can affect the concentration of eggs per weight unit (moist vs. dryness) resulting in either shorter or longer fecal passage time through the intestinal tract

7. No correlation could be established between the degree of the hosts intestinal helminth infestation to the hosts body conditioning score of the three species.
8. Controlling stock density, clean feeding sites, feeding troughs off the ground help minimize: (1) food competing stress levels and (2) likelihood of ingesting larvae contaminated food.
9. The most accurate helminth worm burden determination per animal to retrieve adult helminth parasites by species and numbers found during a post mortem examination in herbivores and livestock and to relate them to body conditioning score.

Constraints and challenges:

1. Correct species-specific fecal sampling.
2. Correlate collected fecal sample to a specific individual for BCS evaluation, gender and age.
3. Collect a quality (fresh) fecal sample, to be statistical meaningful.
4. Environmental (temperature, humidity, sun radiation) influence on helminth nematode survival rate.
5. Collect specific fecal sample size from different geographical park areas.
6. Develop a practical laboratory methodology for consistency with different users.
7. Time constrains in sample collection, laboratory interpretation.
8. Limitations to the interpretation of the FEC analysis vs. true actual worm burden loosely linked and strongyle eggs cannot be differentiated, except for Nematodirus.

Activities planned for the next 12 months:

1. Unam SoVM and MSoVM students: entering phase 2, in the project to be performed in a mixed free roaming wildlife / cattle and goat communal conservancy farming area in the western part of Namibia.

Financial implications:

1. Transport to be supplied (motor vehicle and fuel)
2. Guide or research assistant to accompany student researcher
3. The AfriCat Foundation Veterinary Clinic's Laboratory to be used for sample processing

3.2.2. Carnivore Care

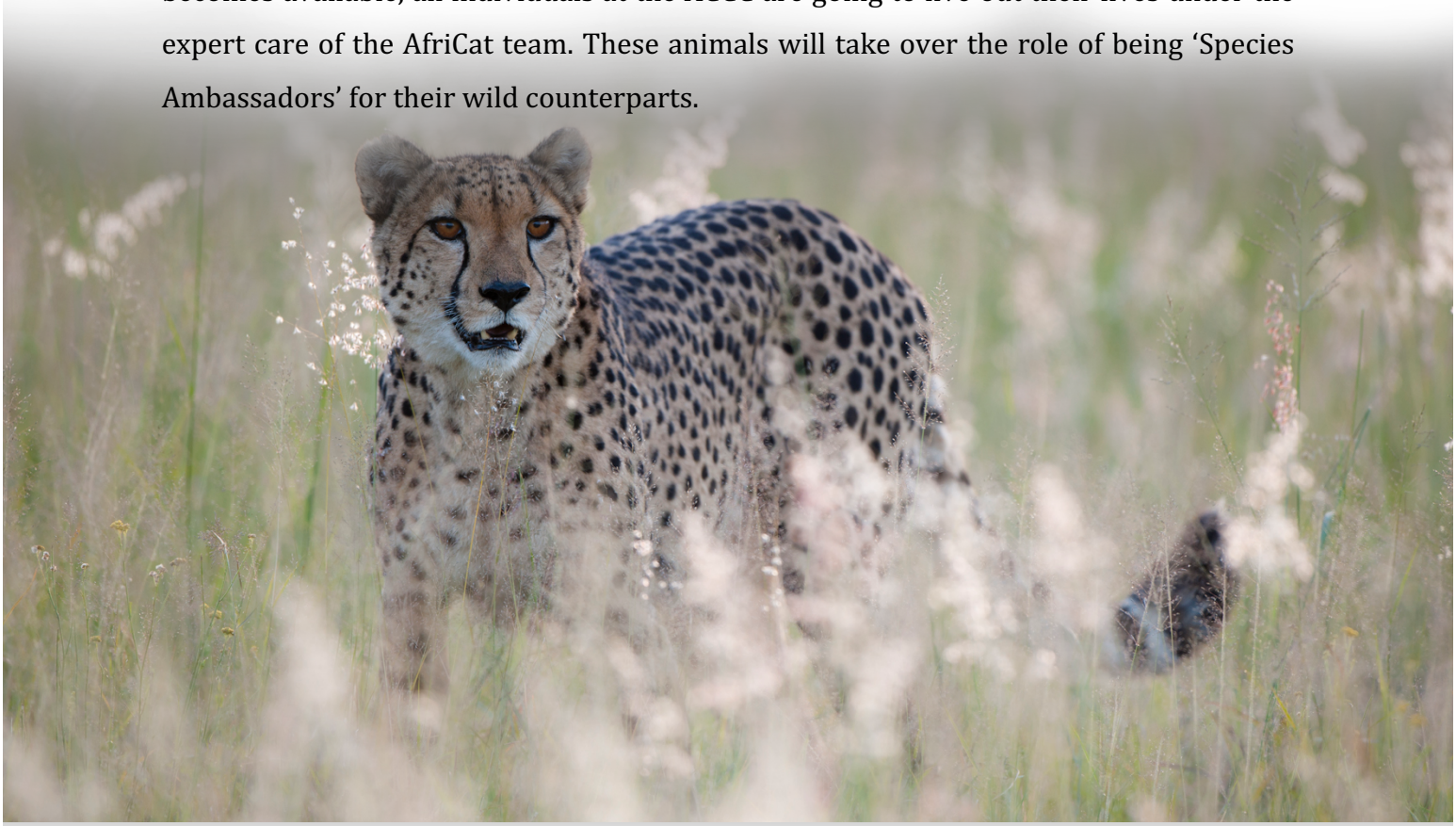
AfriCat's Carnivore Care Centre (ACCC) aims to provide a healthy living environment for the large carnivores in temporary or permanent captivity and to minimize illness and injuries as far as possible. The ACCC currently holds 13 cheetahs, two lions and three leopards in its care.

Since its registration in 1990, AfriCat has grown significantly and what started out primarily as a welfare organization has over the years identified the need to include a focus on education and an ongoing collaboration with researchers, scientists and conservation authorities through constructive research. Researchers have been involved in a number of studies involving captive cheetahs at AfriCat's Care Centre and gave invited specialist veterinarians in the fields of dentistry, ophthalmology, gastro-enterology and reproduction the opportunity to conduct research on various aspects of animal health, particularly those relating to the health of large carnivores in captivity. As well as providing expert information on the health of AfriCat's animals, the examinations also allowed for the comparison of results with similar studies being conducted on large carnivores in other captive facilities. Some of this information has also allowed vets to gain more insight into the health of large carnivores in the wild.

When managed correctly, 'ethical animal welfare' when managed correctly, can support environmental education, where children who are unfamiliar with wild animals are able to see these animals at close quarters, but with no direct human-animal contact, and learn to appreciate their beauty and value from a safe distance. The 'ambassadors' in captivity at AfriCat provide opportunities to increase awareness of their wild counterparts and their conservation priorities to the children visiting our education center. Keeping 'carnivore ambassadors' in captivity for this reason alone is not AfriCat's philosophy. However, after 18 years of rehabilitating cheetahs into the Okonjima Nature Reserve we have come to the conclusion that cheetah rehabilitation CAN be used a successful tool in conserving this big cat species and that cheetahs are able to adapt to different environments and able to learn how to survive in the wild and become sustainable hunters.

Unfortunately, the increasing pressure of higher-level carnivores like leopards and brown hyaenas in an enclosed ecosystem, makes the Okonjima Nature Reserve a more

and more ‘unsuitable place’ in which cheetahs can thrive. For this reason and until space becomes available, all individuals at the ACCC are going to live out their lives under the expert care of the AfriCat team. These animals will take over the role of being ‘Species Ambassadors’ for their wild counterparts.



3.2.2.1 General activities at the AfriCat Carnivore Care Center (ACCC)

Project objectives:

a. To maintain and improve the standard and safety of captive carnivore camps.
b. To maintain and improve captive animal welfare.

Main activities:

1. Upgrade of leopard camps and installment of connecting gates that allow an easy swap of individuals viewed by tourists throughout the year.
2. Regular exercise of cheetahs with the lure track.
3. An extra lure track was installed in one of the cheetah camps of 330 meters in length for regular exercise opportunities and enrichment
4. Regular maintenance of fences and fence electrics.

Major achievements:

1. Better control and monitoring of diet and health of leopards through installed swapping system.
2. Improvement of cheetah welfare through the installment of additional lure track enabling access to regular exercise opportunities for additional cheetahs.
3. Maintenance of a high-quality environment of captive carnivores at the ACCC.

Constraints and challenges:

1. Currently, not all cheetahs have access to the lure exercise program.
2. Running costs for keeping captive carnivores fed with a well-balanced diet and vitamin and mineral supplements to prevent deficiencies, are continuously increasing.

Activities planned for the next 12 months:

1. Cutting and baling of grass in the cheetah camps; the baled grass will be stored for times of drought should additional feeding for herbivores in the Okonjima Nature Reserve become necessary.

Financial implications:

1. Fuel costs for tractor and other machinery.

3.2.2.2. Veterinary research and other activities at the AfriCat Carnivore Care Center

Project objectives:

1. Education
2. Fund generation
3. Awareness creation to veterinary students regarding wildlife, conservation and ecology as an holistic approach
4. Maintenance of animal welfare

Main activities:

1. Two external research projects were conducted: (1) Samantha M Zealand - School of Veterinary Medicine of the University of Namibia: A study of prevalence of feline immunodeficiency virus (FIV-Ple) in lions (*Panthera leo*) within the Etosha National Park and the Hobatere concessions area, Namibia) and (2) Alan Channing and Francois Becker: Correction to the type locality of *Tomopterna ahli* (Deckert, 1938) (Anura: Pyxicephalidae), with the designation of a neotype.
2. Health examination of captive carnivores at the AfriCat Carnivore Care Center.
3. Two veterinary student groups from the University of Namibia, School of Veterinary Medicine, participated in a 5 to 6-day veterinary program hosted by the AfriCat Foundations as part of their training curriculum.
4. One specialized three-day veterinary program was held for an oversea feline specialist veterinary group.
5. Hosting one day of the Ultimate Safaris and Wilderness Travel conservation symposium “Namibia: A vision for wildlife”
6. Multiple small tourist groups visited the AfriCat Care Foundation for a specialised day “behind the scenes”.

Major achievements:

1. All captive carnivores (13 cheetah, two leopards and two lions) were examined, spread over the year, as part of the captive permit legal requirements.
2. Publication of the article: Channing, A., & Becker, F. (2019). Correction to the type locality of Tomopterna ahli (Deckert, 1938) (Anura: Pyxicephalidae), with the designation of a neotype. *Zootaxa*, *4688*(4), zootaxa-4688.
3. Direct funds and income was generated for the AfriCat Foundation through multiple behind the scenes activities throughout the year and specialized veterinary programs.

Constraints:

1. Boarding and lodging for external researchers and students.

Activities planned for the next 12 months:

1. Continuation of the (re-) classification of new frog species and/or gecko species by Francois Becker.
2. Implementation of a program to introduce "work integrated student learning" into current running and new research program activities.

Financial implications:

1. Provide accommodation for interns and students.

3.2.3. Environmental Education

The AfriCat Environmental Education Programme (AEEP) recognises that many Namibians lack in understanding the basic principles of conservation, sustainable development and living, and general environmental awareness. Through ignorance, cultural bias, misinformation and even arrogance they do not understand the role of the many different carnivores in the biodiversity of our country. In recognising the above, the AEEP aims to reach, teach and convince as many people as possible, especially Namibians, that conservation of our environment is critical.

We keep our programme flexible to be able to adapt it to the skills and abilities of each individual group. For all students we incorporate physical, mental as well as fun activities, while still emphasizing the same core principles within environmental education. We motivate all participants to use critical thinking skills, to think outside the box, and to inspire them to make decisions that are beneficial both to the environment, as well as to their future careers.

Project objectives:

1. To inform and educate, create awareness, enhance and grow knowledge, and to stir up an understanding and love of our natural heritage for national and international students.
2. To create an interesting and fun-filled learning experience.
3. To address topics on a more localized nature in the area of the outreach. In Namibia's coastal area, the devastating effects human activities can have on the environment and biodiversity will be discussed; human and wildlife coexistence and human-wildlife conflict mitigation are the focus in central Namibia and other areas.

Main activities:

1. Our main activity remained hosting schools, colleges, universities and interested groups at our Environmental Education Centre. This included visiting Namibian school, both primary and secondary schools, ranging from grade five up to grade twelve, as well as a number of UNAM initiated groups for practical training.
2. We continued hosting a number of international schools and colleges from the USA, UK and Poland.
3. Completion of the Jenny Horan Environmental Education Classroom, which was sponsored via a generous donation from the Horan family. The Class room comprises one educational material's storeroom, an equipment storeroom, an office and the main open view classroom area of approximately 90m^2.
4. Our outreach programme remained our secondary activity due to the fact that we only have participants for very short time periods. It allowed us to reach both small and larger groups with short informative sessions on a variety of topics. The topics presented were more general in nature and were used to challenge, inform and stir up curiosity
5. Contact with principals and teachers from schools, who couldn't be reached, were established and additionally used as a marketing tool for the Environmental education programme.

Major achievements:

1. During 2019 we had visits from 26 different schools, colleges, universities and groups:
   International visitors: 123 (100 learners/students and 23 staff).
   Local visitors: 361 (303 learners/students and 58 staff).
2. A total of 18 school were visited during our outreach programme.
3. A total of 6320 individuals through visits to the Environmental education centre and the School outreach programme.
4. A two-year sponsorship from the Giraffe Conservation Foundation was received. The sponsorship is used to sponsor a school's visit to the environmental education centre.

Constraints and challenges:

1. One of our main challenges remained transport to assist students, who do not have access to transport, to come to our centre.
2. A second challenge we faced increasingly, even more so during 2019, were a lack of funding from many affluent schools to assist learners to come to the Environmental education centre due to parents' personal finances and economic restraints.
3. However, the greatest challenge was, and remains, how to get the schools from less affluent areas here at the AfriCat Educational Centre. We are currently approaching Namibian companies for sponsorships for these schools to enable them to join us at on our Programme.

Activities planned for the next 12 months:

1. We continue to encourage a longer stay at the Environmental education centre that will allow students to have a greater exposure to our programme. The longer the students are exposed to the programme, the more significant the positive impact is on them, and it creates a longer and more memorable impression.
2. The aim is to still reach more high-profile primary and high schools which cater for students that come from families that are involved in the governing of our country. These students are likely to end up in the same professions and therefore

would be in a position to make decisions that could be beneficial to the long-term conservation of Namibia's natural resources.

3. Outreach remains a big priority. This allows us to reach more students and even to take the message to schools in remote areas. If a school can't come to the centre, we will go to them.
4. We hope to enhance the experience at the Environmental education centre to be a more environmentally friendly experience. To achieve this, we hope to change the centre to a lower impact facility over the next twelve to twenty-four months.

Financial implications:

1. The hope remains that both the Giraffe Conservation Foundation and the Pupkewitz Foundation will continue their financial support of the programme.
2. Considering the above, all other costs will have to be generated by the centre through international school, college or university groups and local schools visiting the centre.

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

DRAFT ANNUAL FINANCIAL STATEMENTS

for the year ended 29 February 2020

GENERAL INFORMATION

Registration number	T48/93
Registration date	23 June 1994
Objectives of the trust	To provide benefits to the beneficiaries.
Trustees	Wayne Bagot Hanssen Mark Jago Mark Reinecke Donna Lee Hanssen Tristan Boehme Kathleen Newton
Beneficiaries	The Wildlife of Namibia
Registered office	Farm Okonjima PO Box 1889 Otjiwarongo 12001 Namibia
Postal address	PO Box 793 Otjiwarongo 12001 Namibia
Accounting officer	Grant Thornton Neuhaus
Compiler	Tax & Bookkeeping Services Practice no: BAP(SA) 9216 SAIBA

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

DRAFT ANNUAL FINANCIAL STATEMENTS

for the year ended 29 February 2020

The reports and statements set out below comprise the draft annual financial statements presented to the trustees:

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

STATEMENT OF RESPONSIBILITIES BY THE TRUSTEES

for the year ended 29 February 2020

The trustees are required to maintain adequate accounting records and are responsible for the content and integrity of the financial statements and related information included in this report. It is their responsibility to ensure that the financial statements fairly present the state of affairs of the trust as at 29 February 2020 and the results of its operations and cash flows for the year then ended, are in conformity with the generally accepted accounting practice appropriate to the trust or accounting policies.

The financial statements are prepared in accordance with generally accepted accounting practice appropriate to the trust and are based upon appropriate accounting policies adopted and consistently applied and supported by reasonable and prudent judgements and estimates.

The trustees acknowledge that they are ultimately responsible for the system of internal financial control established by the trust and place considerable importance on maintaining a strong control environment. To enable the trustees to meet these responsibilities, the trustees set standards for internal control aimed at reducing the risk of error or loss in a cost effective manner. These standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the trust and all employees are required to maintain the highest ethical standard in ensuring the trust's business is conducted in a manner that in all reasonable circumstances is above

The focus of risk management in the trust is on identifying, managing and monitoring all known forms of risk across the trust. While operating risk cannot be fully eliminated, the trustees endeavour to minimise it by ensuring that appropriate infrastructure, control, systems and ethical behaviour are applied and managed within predetermined

The trustees are of the opinion, based on information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatements or loss.

The trustees have reviewed the trust's cash-flow forecast for the year to 28 February 2021 and, in the light of this review and the current financial position, they are satisfied that the trust has or has access to adequate resources to continue in operational existence for the foreseeable future.

The trustees are primarily responsible for the financial affairs of the trust.

The external accountant is only responsible for compiling the trust's financial statements. The financial statements have not been audited and reviewed and the compiler of this report has expressed no assurance thereon. The compilation report is presented on page 4.

The draft annual financial statements, set out on page 4 to 10, which have been prepared on the going-concern basis, were approved by the trustees on 20 July 2020 and are signed on their behalf.

TRUSTEE TRUSTEE

Tax & Bookkeeping Services
"For that personal touch to your financial affairs"

Shop 7, Anrika Office Park
92 Wilhelm Zeraua Road, Omaruru
PO Box 593, Omaruru, Namibia
Tel: +264 (0)64 570930
Fax: +264 (0)64 570933
Fax2email: 088635655
Email: info@tbs.com.na

Compilation Report

The draft annual financial statements of The Africat Foundation Trust for the year ending **29 February 2020** set out on pages 4 to 10 were compiled based on information provided by the trustees.

The trustees are responsible for these draft annual financial statements. We have not audited or reviewed these draft annual financial statements and, accordingly, express no assurance thereon.

Tax & Bookkeeping Services **Omaruru**
Practice number: BAP(SA) 9216 **20 July 2020**
Southern African Institute for Business Accountants
Per: A. Ebersöhn
Business Accountant in Practice (SA)

saiba SOUTHERN AFRICAN INSTITUTE FOR BUSINESS ACCOUNTANTS

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

STATEMENT OF FINANCIAL POSITION

as at 29 February 2020

	Notes	2020 N$	2019 N$
ASSETS			
Non-Current Assets		**14 187 405**	**14 273 090**
Property, plant & equipment	2	14 187 405	14 273 090
Current Assets		**5 573 103**	**4 748 997**
Inventories	3	- -	1 853 426
Trade & other receivables	4	4 357 173	1 767 096
Cash & cash equivalents	5	1 215 930	1 128 475
Total Assets		**19 760 508**	**19 022 087**
FUNDS AND LIABILITIES			
Funds		**19 662 260**	**18 280 597**
Opening balance		18 280 597	16 137 126
Surplus for the year		1 942 058	2 143 471
Prior year adjustment		(560 395)	- -
LIABILITIES			
Current Liabilities		**98 248**	**741 490**
Trade & other payables	6	98 248	741 490
Total Liabilities		**98 248**	**741 490**
Total Funds and Liabilities		**19 760 508**	**19 022 087**

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

STATEMENT OF PROFIT OR LOSS

for the year ended 29 February 2020

	Notes	2020 N$	2019 N$
Income		**8 017 141**	**7 689 974**
Donations received		6 163 403	5 291 992
Adoptions		67 315	197 826
Curios, net sales		1 162 775	1 216 886
Day Centre Activities		376 930	635 684
Insurance claim proceeds		- -	104 685
Rent received Day Centre		240 000	240 000
Interest received on investment accounts		402	2 901
Sundry income		6 316	- -
Expenditure		**6 075 083**	**5 546 503**
Project activity expenditure		3 580 797	3 436 539
Operational expenditure		2 494 286	2 109 964
Surplus for the year		**1 942 058**	**2 143 471**

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

STATEMENT OF CASH FLOWS

for the year ended 29 February 2020

	Notes	2020 N$	2019 N$
Cash flows from operating activities			
Cash generated from operations	8	415 007	1 832 762
Net cash from operating activities		**415 007**	**1 832 762**
Cash flows from investing activities			
Purchase of property, plant & equipment	2	(327 552)	(1 774 665)
Net cash from investing activities		**(327 552)**	**(1 774 665)**
Cash flows from financing activities			
Net cash from financing activities		**- -**	**- -**
Total cash movement for the year		87 455	58 097
Cash at the beginning of the year		1 128 475	1 070 378
Total cash at the end of the year	5	**1 215 930**	**1 128 475**

2. Property, plant & equipment

29 February 2020	**Cost / Valuation N$**	**Accumulated depreciation N$**	**Carrying value N$**
Motor vehicles	3 029 423	(2 020 618)	**1 008 805**
Furniture & equipment	336 907	(191 166)	**145 741**
Buildings	13 032 859	- -	**13 032 859**
Total	**16 399 189**	**(2 211 784)**	**14 187 405**

The carrying amounts of property, plant & equipment for the year 2020 can be reconciled as follows:

	Opening balance	**Additions/ (Disposals)**	**Depreciation**	**Total**
Motor vehicles	1 354 036	- -	(345 231)	**1 008 805**
Furniture & equipment	213 747	- -	(68 006)	**145 741**
Buildings	12 705 307	327 552	- -	**13 032 859**
	14 273 090	**327 552**	**(413 237)**	**14 187 405**

28 February 2019	**Cost / Valuation N$**	**Accumulated depreciation N$**	**Carrying value N$**
Motor vehicles	3 029 423	(1 675 387)	**1 354 036**
Furniture & equipment	336 907	(123 160)	**213 747**
Buildings	12 705 307	- -	**12 705 307**
Total	**16 071 637**	**(1 798 547)**	**14 273 090**

The carrying amounts of property, plant & equipment for the year 2019 can be reconciled as follows:

	Opening balance	**Additions/ (Disposals)**	**Depreciation**	**Total**
Motor vehicles	423 000	1 186 157	(255 121)	**1 354 036**
Furniture & equipment	45 578	212 133	(43 964)	**213 747**
Buildings	12 328 932	376 375	- -	**12 705 307**
	12 797 510	**1 774 665**	**(299 085)**	**14 273 090**

NOTES TO THE DRAFT ANNUAL FINANCIAL STATEMENTS

for the year ended 29 February 2020

		2020 N$	2019 N$
3.	**Inventories**		
	Curio stock	**- -**	**1 853 426**
4.	**Trade & other receivables**		
	Trade receivables	170 426	974 485
	Advance: Africat Environment Education Centre	86 900	86 885
	Advance: Africat North	6 858	6 858
	Advance: Okonjima Lodge CC	3 145 236	- -
	Prepayments	- -	115 800
	Receiver of Revenue: VAT	633 570	257 242
	Staff loans	314 183	325 826
		4 357 173	**1 767 096**
5.	**Cash & cash equivalents**		
	Cash & cash equivalents consist of:		
	Cash on hand	- -	700
	FNB acc. #62245889186: Africat Foundation	156 826	189 526
	FNB acc. #62246277851: Africat North	475 686	164 672
	FNB acc. #62261867348: Africat Environment Education Centre	570 526	475 620
	FNB acc. #62266083626: Africat Curios	12 892	12 526
	Okonjima inter-company account	- -	285 431
		1 215 930	**1 128 475**
6.	**Trade & other payables**		
	Trade payables	71 179	301 502
	Advance: Habitat CC	- -	422 256
	Other payables	27 069	17 732
		98 248	**741 490**

7. Taxation

The trust is exempt from tax in terms of section 16 of the Income Tax Act.

NOTES TO THE DRAFT ANNUAL FINANCIAL STATEMENTS

for the year ended 29 February 2020

		2020 N$	2019 N$
8.	**Cash generated from operations**		
	Surplus for the year	1 942 058	2 143 471
	Adjustments for:		
	Depreciation	413 237	299 085
	Prior year adjustment	(560 395)	- -
	Changes in working capital:		
	Inventories	1 853 426	(658 441)
	Trade & other receivables	(2 590 077)	(203 142)
	Trade & other payables	(643 242)	251 789
		415 007	**1 832 762**

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

ADDITIONAL INFORMATION

DETAILED STATEMENT OF PROFIT OR LOSS

for the year ended 29 February 2020

	2020 N$	2019 N$
INCOME	**8 017 141**	**7 689 974**
Donations received		
- Africat UK	70 723	882 500
- Africat USA	442 332	135 370
- Environmental Education	185 353	381 755
- First Rand	250 000	- -
- Grant: University of St. Andrews	178 770	- -
- Grant: EKCT	138 200	- -
- Human Wildlife Conflict & Comm Support	- -	1 148 843
- Namibia Chamber of Environment	- -	250 000
- Okonjima	3 669 223	1 170 559
- Onguta School Development Trust	306 702	- -
- Stitching Spots	184 283	270 788
- Tusk (Africat North)	31 460	- -
- Tusk (Environmental Education)	498 847	446 531
- Umbuntu	- -	72 866
- World Lion Day	- -	100 000
- Other	207 510	432 780
Adoptions		
- Adopt A Spot	1 660	14 600
- New	62 999	136 108
- Renewals	2 656	47 118
Curios, net sales		
- Sales	1 875 629	2 992 278
- Less: Cost of sales	(712 854)	(1 775 392)
Other income		
- Day Centre Activities	376 930	635 684
- Insurance claim proceeds	- -	104 685
- Rent received Day Centre	240 000	240 000
- Interest received on investment accounts	402	2 901
- Sundry income	6 316	- -

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

ADDITIONAL INFORMATION

DETAILED STATEMENT OF PROFIT OR LOSS (continued)

for the year ended 29 February 2020

	2020 N$	2019 N$
EXPENDITURE	**6 075 083**	**5 546 503**
Project activity expenditure		
Africat North (HWCC)		
- Advertising	114 381	37 951
- Bank charges	23 761	12 155
- Cellphone & telephone	44 939	98 349
- Equipment	35 548	93 233
- Food	294 716	259 881
- Fuel	637 316	445 328
- Maintenance	148 596	25 719
- Motor vehicle repairs & maintenance	233 418	197 403
- Research	96 733	97 561
- Salaries & staff training	439 198	632 814
- Stationery & office costs	21 831	10 815
- Travelling & accommodation	61 490	8 031
Animal food	257 159	420 792
Annual health check	- -	36 118
Clinic & medical expenses		
- Drugs & medication	38 995	2 388
- Equipment & supplies	28 854	3 645
Community Carnivore Conservation Project		
- Community support	- -	40 000
- Collars & equipment	169 832	83 159
- Drugs & veterinary	31 602	11 726
Education Centre expenses		
- Advertising & office costs	115 800	9 460
- Equipment	- -	12 164
- Fuel	- -	18 018
- Maintenance	- -	47 205
- Motor vehicle expenses	- -	2 158
- Outreach & food	- -	266 843
- Salaries	402 922	475 589
Hobatere Lion Research Project	- -	14 534
Research & Rehabilitation - Radio collaring	383 706	73 500

ADDITIONAL INFORMATION

DETAILED STATEMENT OF PROFIT OR LOSS (continued)

for the year ended 29 February 2020

	2020 N$	2019 N$
EXPENDITURE (continued)		
Operational expenditure		
Advertising & promotions	115 217	97 671
Accounting fees	3 000	- -
Aeroplane expenses - Hangar rental	30 720	3 200
Bank charges	45 474	33 483
Cleaning	- -	4 817
Computer expenses	- -	26 935
Consulting fees - Vet	290 967	256 050
Courier & postage expenses	12 204	68 411
Depreciation	413 237	299 085
Electricity & gas	46 823	90 274
Forex gain/loss	1 147	- -
Insurance	86 708	67 800
Legal fees	1 840	79 563
Motor vehicle expenses		
- Fuel	5 000	140 932
- Licenses	23 520	21 830
- Repairs & maintenance	3 232	36 325
Office consumables	- -	750
Printing & stationery	2 145	27 320
Repairs & maintenance		
- Buildings	968	27 064
- Equipment	12 000	801
- General	1 500	32 291
- Info centre	- -	2 740
Salaries & wages		
- Curios	196 877	193 735
- Human Wildlife Conflict & Comm Support	60 789	109 816
- Project & Office administration	61 327	198 812
- Research & rehabilitation	1 032 702	264 885
- Staff uniforms	7 758	- -
- Staff welfare & work permits	19 563	9 500

THE AFRICAT FOUNDATION TRUST
Registration no : T48/93

ADDITIONAL INFORMATION

DETAILED STATEMENT OF PROFIT OR LOSS (continued)

for the year ended 29 February 2020

	2020 N$	2019 N$
EXPENDITURE (continued)		
Subscriptions & membership fees	8 405	3 600
Telephone & fax	- -	4 474
Travelling & accommodation	11 163	7 800
SURPLUS FOR THE YEAR	**1 942 058**	**2 143 471**