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OF SCIENCE AND TECHNOLOGY



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Co-designing conservation technologies for Iona-Skeleton
Coast Transfrontier Conservation Area (Angola - Namibia)

17 October 2018 – SADC TFCA Meeting

Amber Nott – Project coordinator

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Introduction

- **European Development Fund**
 - Support to Long-term Sustainable Ecosystem Management and Wildlife Law Enforcement in Transboundary Conservation Areas under the Cross-Regional Wildlife Conservation programme in Eastern and Southern Africa and the Indian Ocean
- **February 2018 – January 2021**
- **Lead applicant: Namibia University of Science and Technology**
 - Faculty of Computing & Informatics
 - Faculty of Natural Resources & Spatial Sciences
- **Main partner: Instituto Superior de Ciências de Educação da Huíla – ISCED Huíla**





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Aim SCIONA project

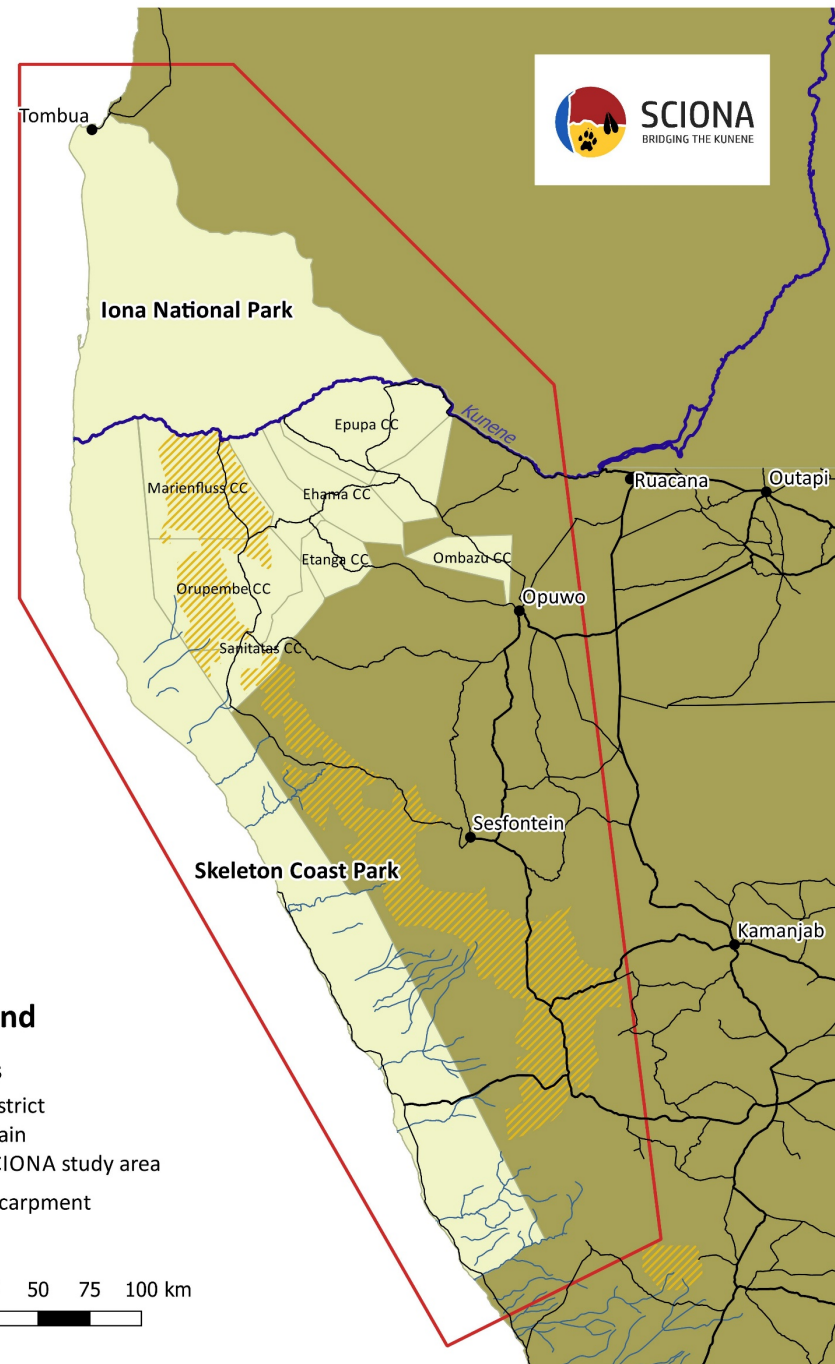
- Strengthen cross-border management and wildlife law enforcement in Iona-Skeleton coast Transfrontier Conservation Area (TFCA)
- By co-designing and implementing conservation monitoring technologies with communities and park management
- Transdisciplinary
- TFCA Treaty signed by Angola and Namibia in May 2018



SCIONA study area

TFCA

- Iona National Park
- Skeleton Coast Park
- Communal conservancies adjacent to northern Skeleton Coast

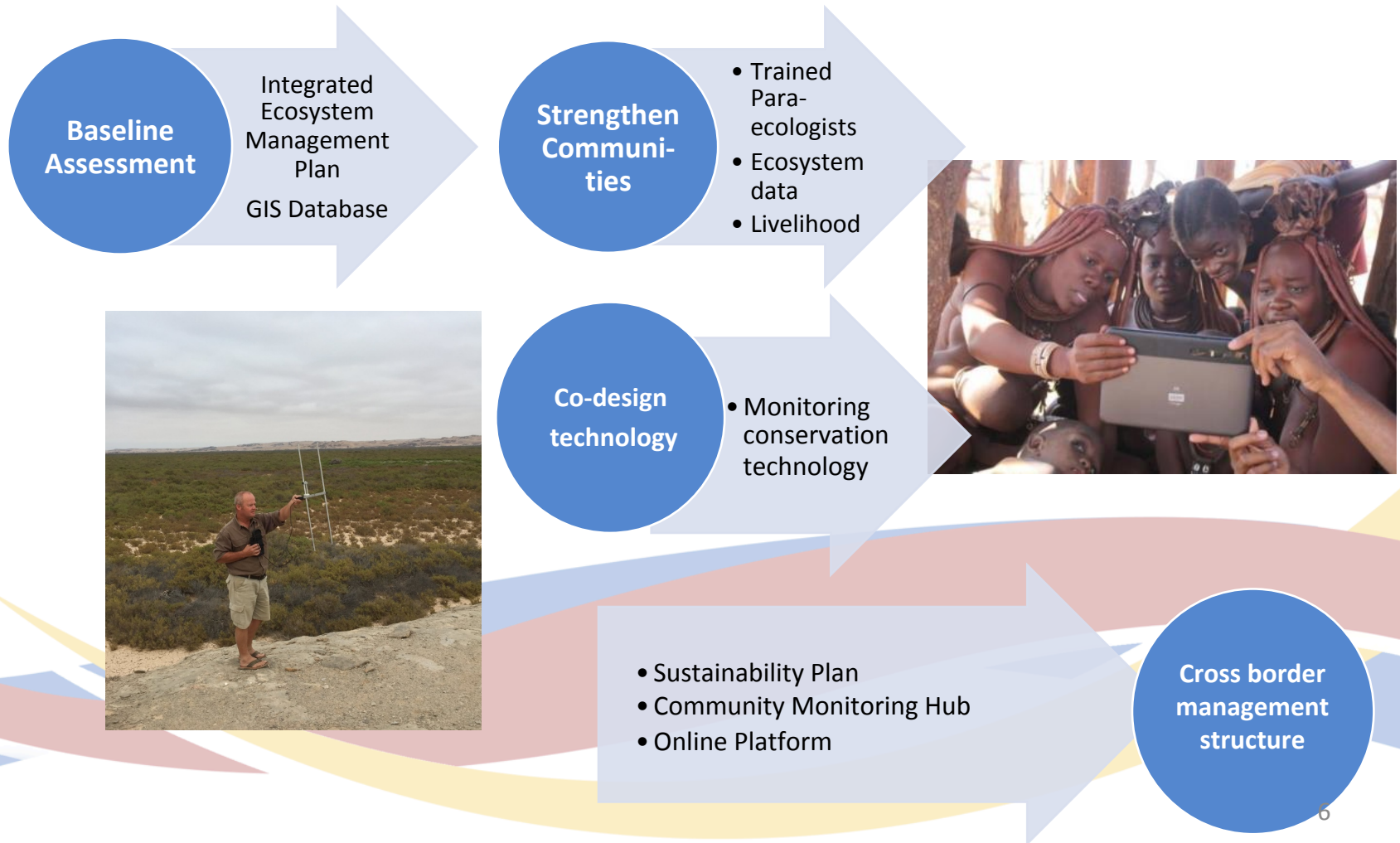


Study Area

Country	Conservation area	IUCN Category	Area (km ²)
Angola	Iona NP/Parque Nacional do Iona	II	15150
Angola	Mocamedes	IV	4450
Namibia	National West Coast Recreation Area	V	7800
Namibia	Skeleton Coast	II	16390
			43790

- Source: UNEP-WCMC, 2007, Global List of Transboundary Protected Areas
- Communal conservancies adjacent to northern Skeleton Coast
- Approximately 50,000 km²

Activities

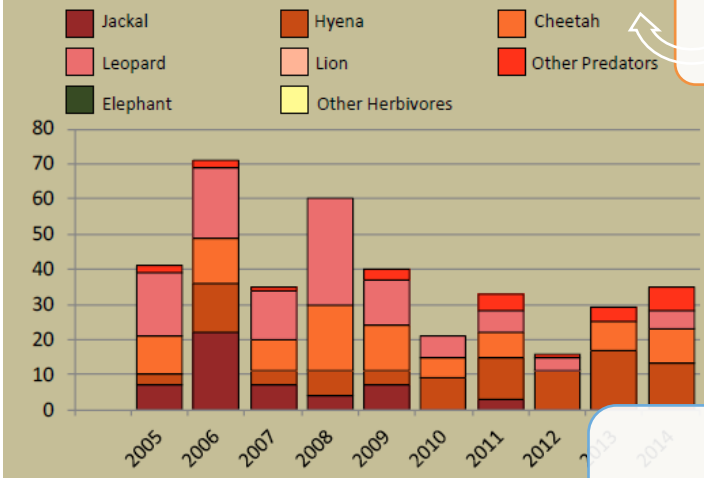




Conservation monitoring

Human wildlife conflict trend

the chart shows the total number of incidents each year, subdivided by species, grouped as herbivores and predators



- Predators

**Human -
Wildlife
Conflicts**

**Illegal
activities**

- Poaching
- Illegal collection of plants/ insects

**Ecological
indicators
/ Flagship
species**

Livelihood

- Plants
- Invertebrates
- Kunene reptiles
- Marine mammals

- Natural Resources: ecotourism, grazing livestock, plant uses

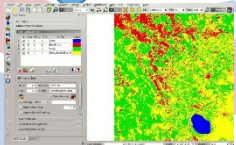


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Knowledge Fair

GIS Wildlife
Camera traps
Remote sensing





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Existing Technologies

- Camera trap grids with auto-detection of certain species:
 - Can pinpoint and monitor the distribution of species
- High resolution aerial imagery
- Mobile apps to monitor poaching – human wildlife conflict (like epicollect for para-ecologists)



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Epicollect app

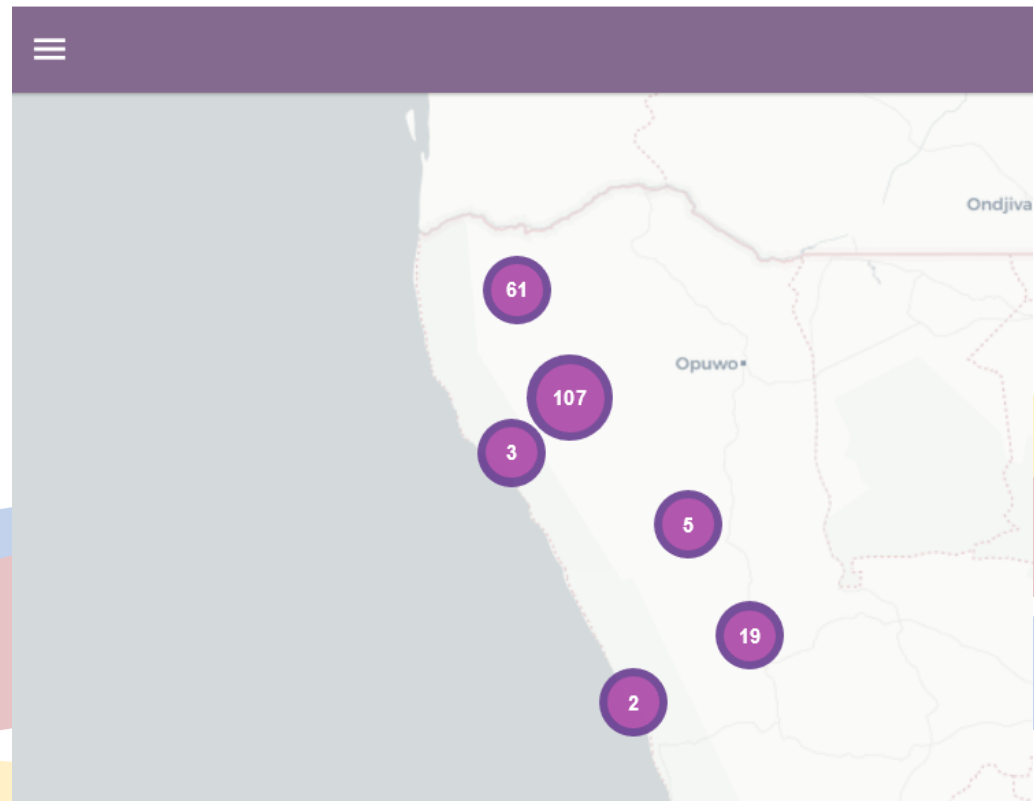
<https://five.epicollect.net/project/sciona-mammal-and-reptile-recording/data>



Skeleton Coast National Park, Namibia (Photo: De Cawuer, V.)



SCIONA mammal and... Mammal or important plant monitoring



Predators:

Monitor to determine:

- Human-wildlife conflict
- Tourism hotspots
- Secure vs risky areas

Integration with current monitoring processes:


- Conservancy game counts (June-July)
- SRT activities
- Namib Lion Project



Estimated large predator distribution

25 0 25 50 75 100 km

Legend

 Lion (low density)



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Aerial surveys for wildlife counts

- To estimate wildlife numbers and assess their distribution
- Flight height 430 m - Pixel resolution 4 cm
- Iona NP: Nov 2016 – Feb 2017 (Angola – UNDP)
- Northern Kunene: July 2018 (SCIONA – EU)

Main stakeholders – Advisory Board

- Namibian Ministry of Environment and Tourism
- Angolan Ministry of Urbanisation and Environment
- Namibian Association of CBNRM Support Organisations

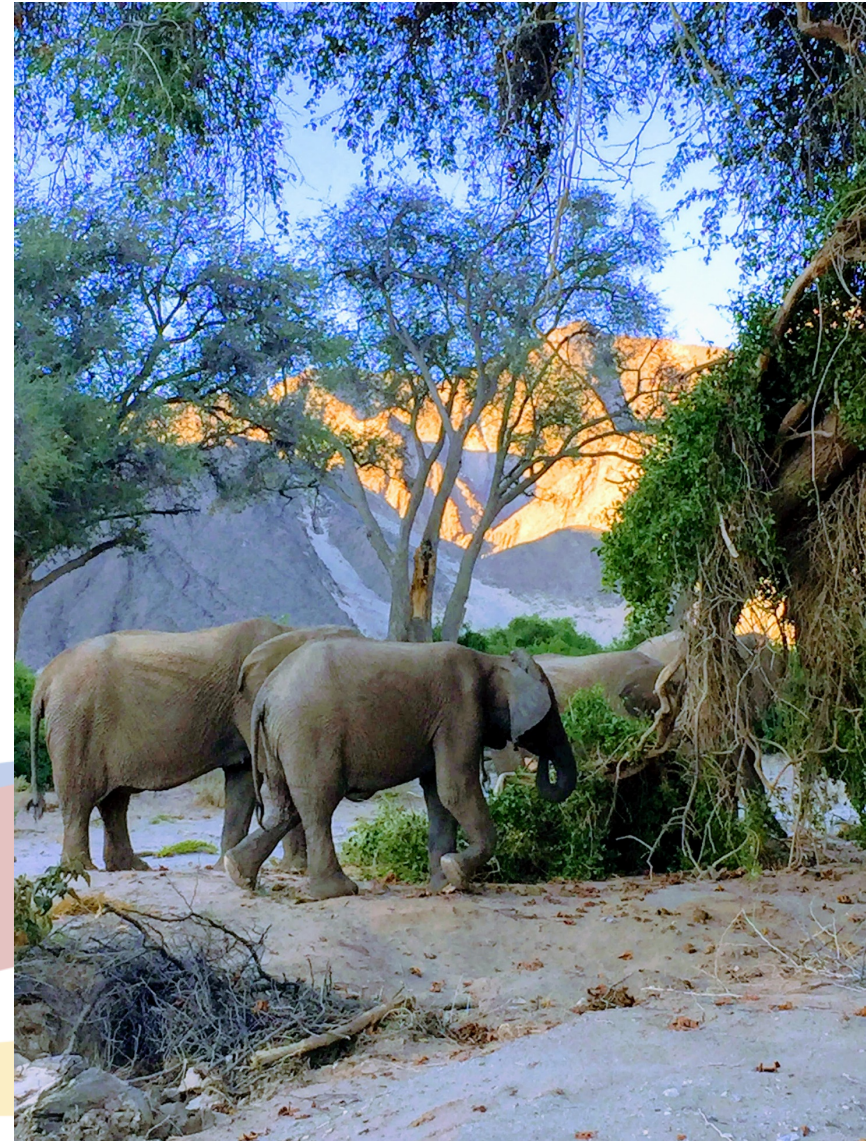


Ministério do Ambiente (MINAMB)



Intended Outputs

- Assessment status quo
- Iona-Skeleton GIS with ecosystem data
- **Integrative ecosystem management plan**
- Trained para-ecologists
- Community-based natural resources assessments
- Community equipped to engage in income generating activities
- Master and PhD theses
- Monitoring technology co-designed with community
- Stakeholders equipped to use new technologies
- Community monitoring hubs
- Management information platform
- **Integrated Community/Park ecosystem management**





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Inception workshop and Launch March 2018

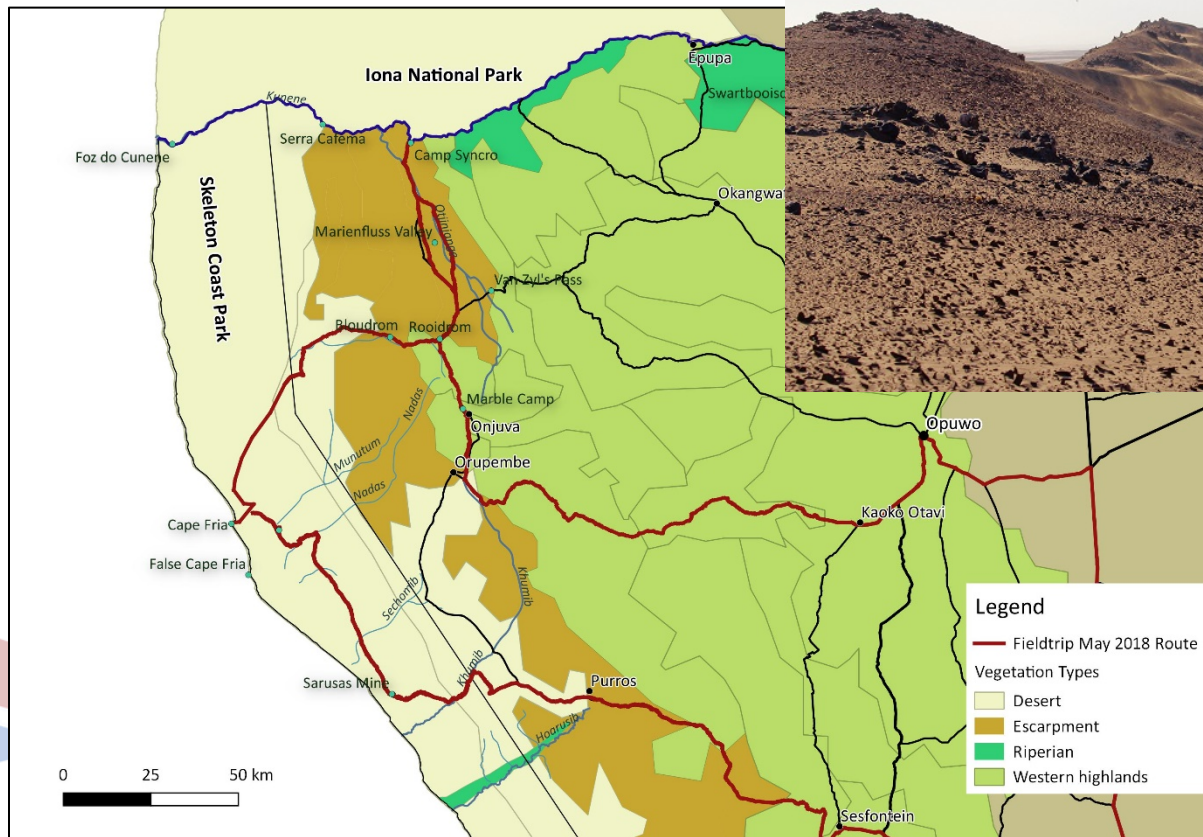


Professor Fernanda Lages (ISCED Principal Investigator) and Dr. Tjama Tjivikua (Vice-Chancellor of NUST) signing the agreement.



Her Excellency Jana Hybaskova (Ambassador of the Delegation of the European Union to Namibia), Professor Fernanda Lages (ISCED Principal Investigator), Dr. Tjama Tjivikua (Vice-Chancellor of NUST) and Honourable Pohamba Shifeta (Minister of Environment and Tourism Namibia) celebrating the signed agreement.

Biodiversity coping trip Namibia – May 2018



Route: 2300 km

Scoping trip to establish first community contacts in Namibia



Figure 7: Meeting at Office of the Governor of Kunene with Hon. Khamuseb (third from the right), Mr Kazombiaze (left), Elder (third from the left) – all standing





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Thank you



Kunene River at Epupa Falls , Angola – Namibia (Photo: De Cauwer V.)