



***Sustainable
Marine Park Financing
through Ecotourism***

Chumbe Island Coral Park, Zanzibar

***Case study presented to
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Zanzibar / Tanzania



- **Semi-independent state “Spice island”**
- **Ca 1.2 million inhabitants distributed over 2 islands**
- **High dependence on artisanal fishing**
- **After collapse of clove export industry opening up and liberalizing economy in early 1990’s**
- **Today tourism backbone of the economy, mostly marine & beach tourism**

Tanzanian coral reefs threatened by:



& Fish poisoning

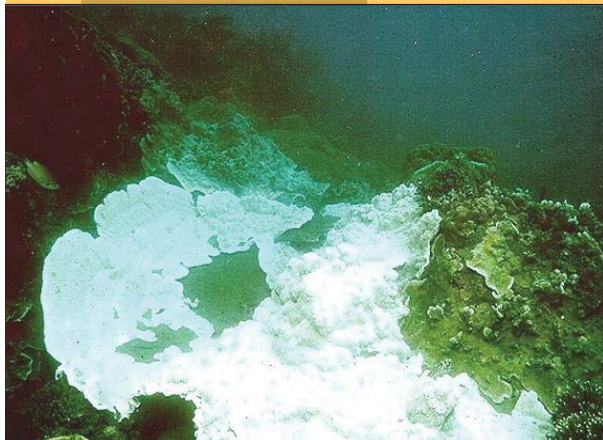
Global warming - bleaching

Overfishing

Coastal overdevelopment

Aquarium & Curio trade

Pollution, oil & gas



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Spotlight on: Dynamite fishing



Legend

- Coral Reefs
- Areas of Dynamite Fishing**
- Severe
- Moderate
- Low/None

Data provided by the Tanzanian Dynamite Fishing Monitoring Network, 2009. Map prepared at the World Resources Institute, November 2009.

- Daily along the Mainland coast, mostly at low tides
- Going on for decades, except 1997-2004 when Navy was deployed
- Highly organized networks provide explosives, employ fishers, trade catches
- Politically well-connected
- Enforcement ineffectual
- Laws exist, but judiciary not co-operative
- Main challenges corruption, lack of political will, not lack of funding

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Data SIO, NOAA, U.S. Navy, NGA, GEBCO
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Ecotourism - sustainable option for economic use of coral reefs



This Manta is one meal for few people only.



This Manta can provide income for many people over many years...

..if benefits are shared?

Private investment can directly support marine conservation



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Operators **are on the ground**, can build local alliances with other resource users;

- May invest directly in marine conservation, e.g. **private Marine parks** like Chumbe Island Coral Park,
- or **manage** small Marine parks, core zones under contract,
- also **support** Monitoring, surveillance, training, marketing.

Private investment into terrestrial parks is challenging...



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Terrestrial parks:

- Often ***exclude*** local people,
- ***'Spill-over'*** not beneficial, when harvesting wildlife is illegal;
- Instead ***human-wildlife conflicts***, e.g. danger to life & damage to crops & livestock;
- ***'Benefit sharing'*** not automatic & often controversial:
- ***Compensate*** local people for lost resource use from tourism revenues: ***source of conflicts***

...while it can more directly benefit local resource users of Marine Parks



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'No-take' Marine parks

- Also **exclude** local people
- But provide **fish nurseries & spawning grounds**
- **Re-stock** neighbouring areas,
- **'Spill-over effect'** increases catches after 3-5 years
- Fishers **benefit directly...**
- **No human-wildlife conflicts**
- Good potential for **alliance between fishers and tourism investors**

Chumbe Island

It all began in 1991...



Consultancy on Environmental Education in Zbr 1991:

- **Corals don't figure in school curricula**
- **Low public awareness on coral reefs**
- **No Kiswahili word for 'corals'**
- **No MPA in Tz**
- **No MPA policy, institutions, law**



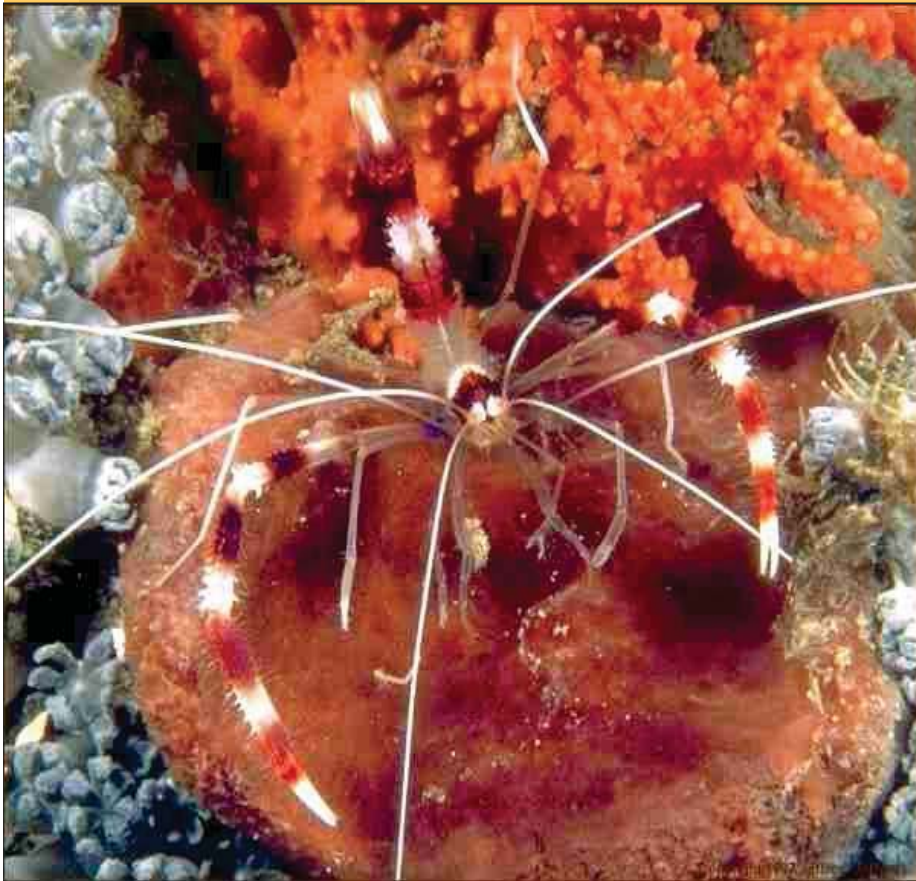
1 km x 200 m, 22 ha

Chumbe Island: window of opportunity in 1991



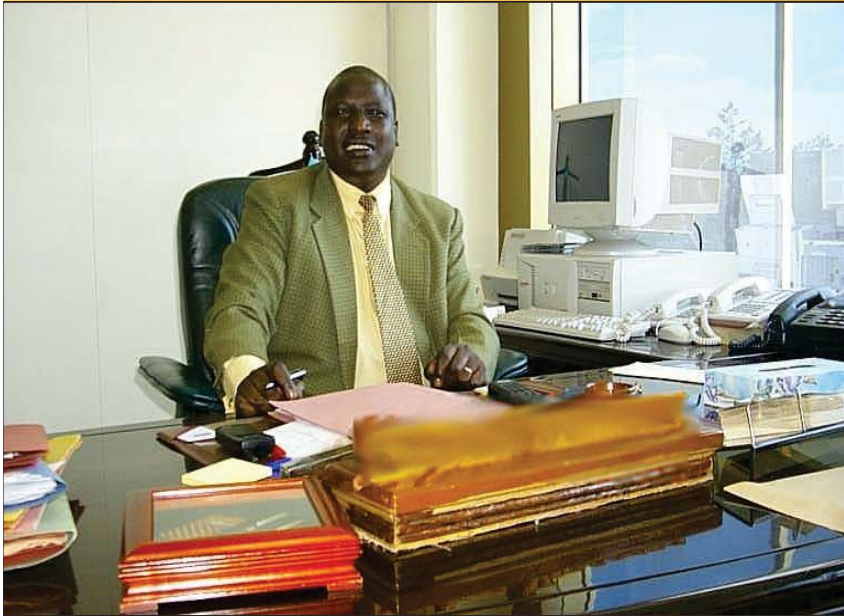
- **GoZ** eager for **tourism** investment
- Island **uninhabited**, minimal traditional exploitation, healthy shallow fringing reef, historic ruins, accessible for visitors...
- Adjacent villages **supportive** to project

CHICOP = social biz: PES based on a Marine Conservation Agreement (MCA)



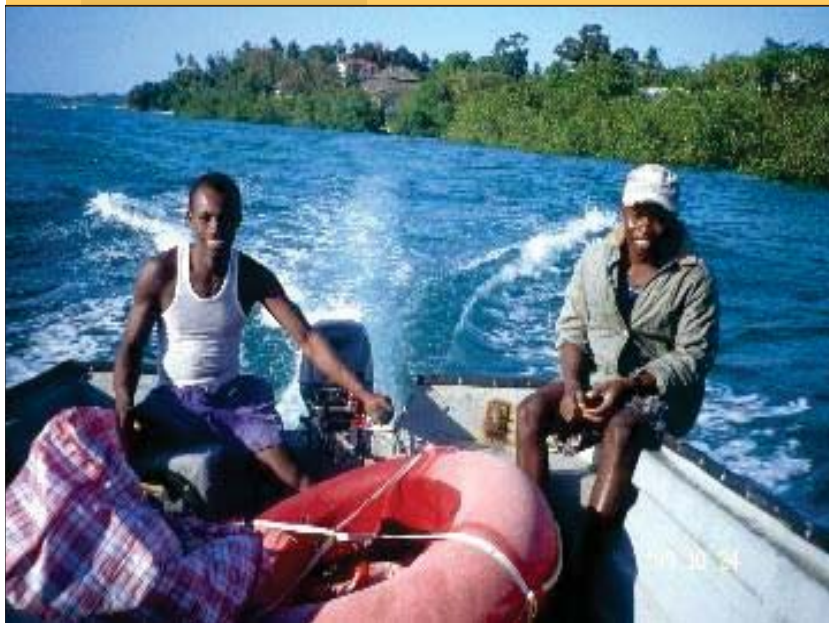
- ***“To manage, for conservation purposes, the Chumbe Island Reef Sanctuary and the Chumbe Island Forest Reserve. This includes educational and commercial activities related to the non-consumptive use of the above mentioned natural resources...”***
- ***Detailed in Management Plans 1995-2016***

Negotiation process 1991-94



- **Seven GoZ departments, challenge to find allies...**
- **Baseline surveys to establish **conservation value** of the island...**
- **While having to **present this as a “tourism investment”****
- **But based on **condition** that GoZ should designate the island for a **MPA and Forest Reserve to be developed and managed privately****

Winning community support for the Marine Park...



- ***Village meetings (1991/92)***
- ***Training fishers as Park Rangers (from 1992)***
- ***Informal on-the-job training by **volunteers*****
- ***Park Rangers “educate” fishers & help in emergency***
- ***Env. Education programs***
- ***Advisory Committee***
- ***Management Plans 1995-2005 & 2006-2016***

Marine Park & Forest Reserve ***(fully protected since 1994)***



***Protected by
Park rangers
(former fishers)***

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***Sanctuary for
endangered***
➤ ***Aders duiker***
➤ ***Coconut crab***



Photo: Frida Lanshammar



Photos: Oskar Henriksson

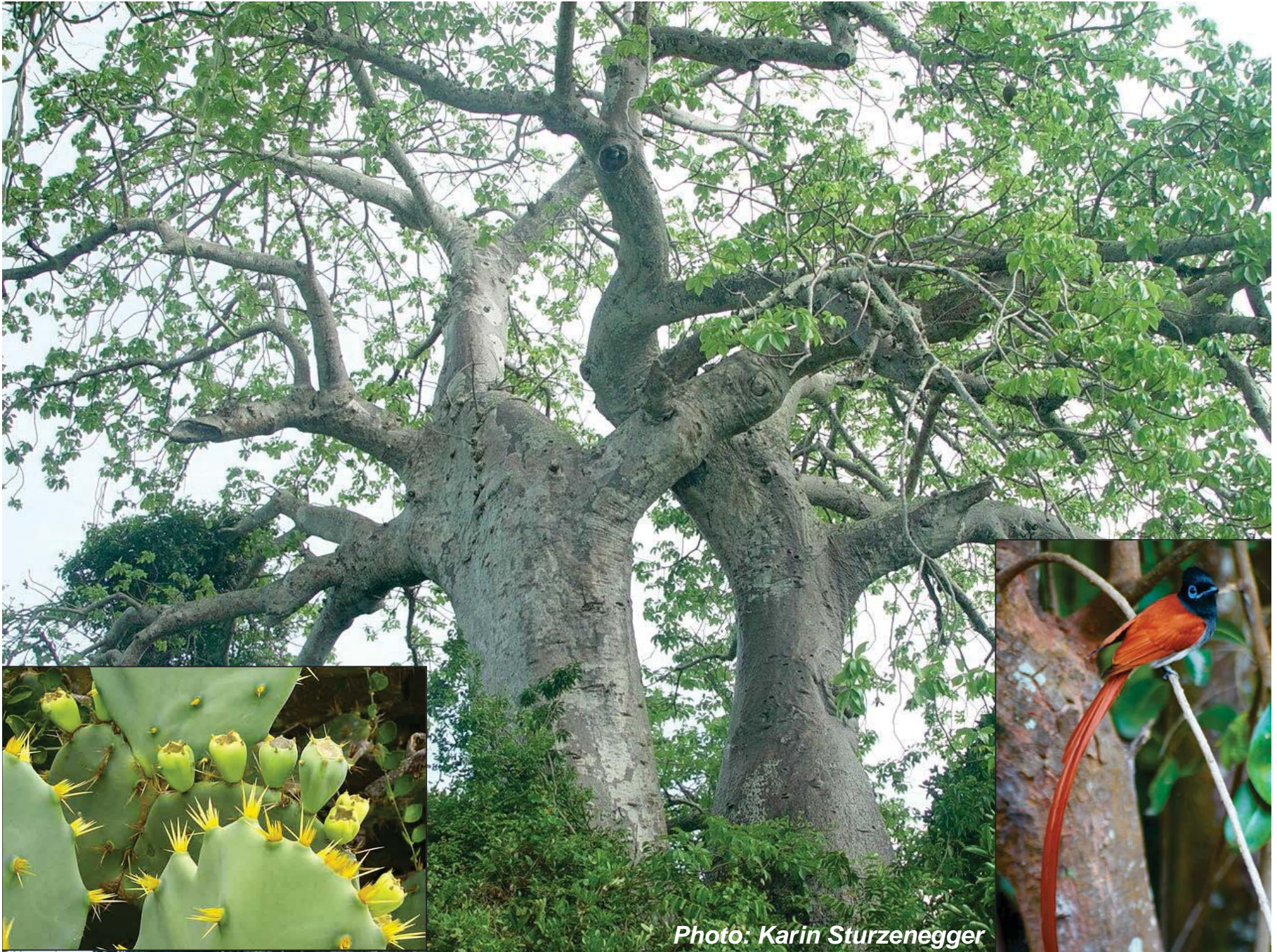


Photo: Karin Sturzenegger

Flagship species



Green & Hawksbill turtles

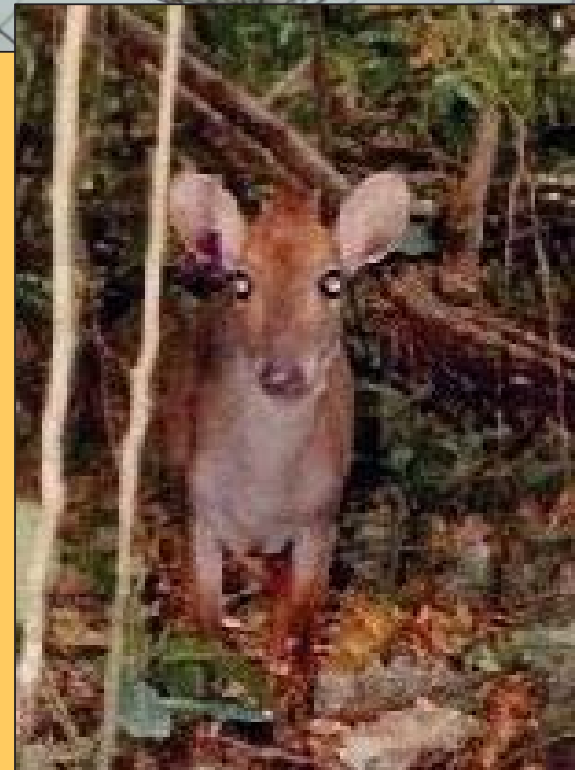


Roseate terns breeding in 1997 & 2007

Rare Coconut crabs



Endemic Aders duikers translocated in 2000



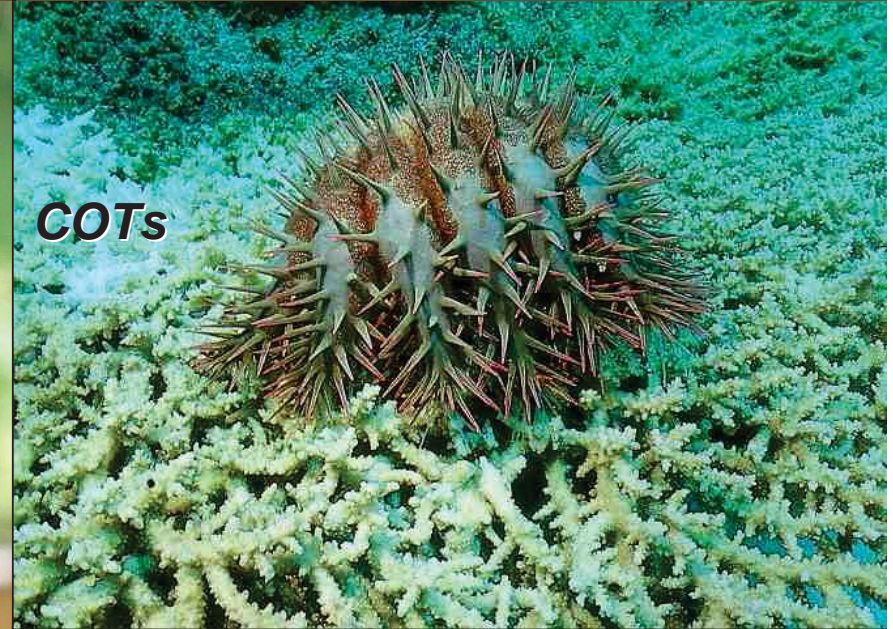
Invasive species & threats



Indian house crow



Rattus rattus eradicated in 1997



COTs



Diadema

Visitors' Centre & Nature trails



***Lowest impact
Eco-architecture***

***Guest management and
education (max 16
people per day)***

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Visitors' Center



Photo: Jimmy Livefjord

Eco-lodge (7 bungalows)

with state-of-the-art eco-technology

- ***Rainwater catchment***
- ***Composting toilets***
- ***Vegetative grey water filtration***
- ***Solar energy***

Photo: Manolo Yllera



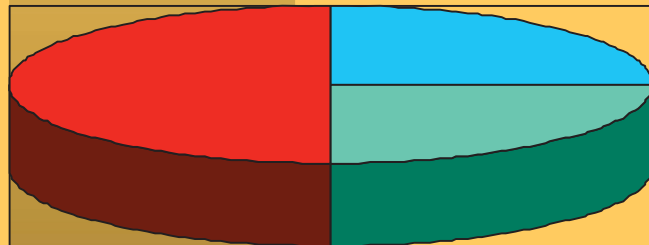
Environmental Education programs



- **Awareness tours for *Government officials***
 - **Workshops for *fishermen & “Enforcement through education”***
 - **Teacher training, teaching modules, *School excursions* for snorkelling & nature trails: up to mid 2013 ca. 5.600 kids, 980 teachers, 346 others**
- Critical issue:* are up-market guests disturbed by school children?**

Funding Marine Park development – Pre-operational phase 1991-98

Total 1.2 Mio US\$



■ Donor ■ Volunteer ■ Private

Sources of investment:

- **50% private funds FDI;**
- **25% ca 40 Volunteers (incl. Project initiator / main investor), individuals & agencies SES, BESO, APSO.**
- **25% Donor support for baseline surveys, nature trails, Visitors' Centre: GTZ, GTZ-CIM, GTZ-GATE, Forest Stamp Program, Netherlands Embassy, EC-Microfund, etc.**

Chumbe staff–room ratio: 3 x worldwide average of Eco-lodges



Staff: 3 expatriates, 41 Zanzibar.

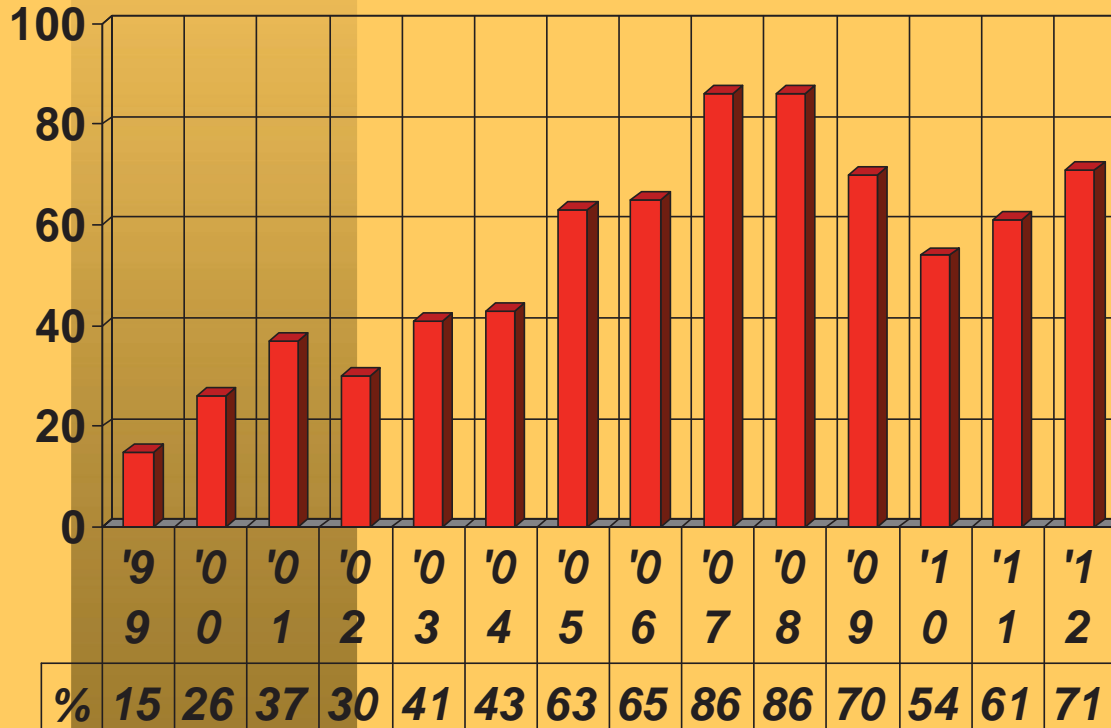
Ca. 30% directly employed for Park Management & Education programs:

- **Conservation Coordinator, Marine biologist, supervising Rangers and conservation & education programs;**
- **8 Park Rangers, former fishers, for enforcement, monitoring, guidance of visitors and EE programs;**
- **Education Coordinator for EE programs.**



Ecolodge - what worked best in marketing?

Occupancy rate 1999-2012



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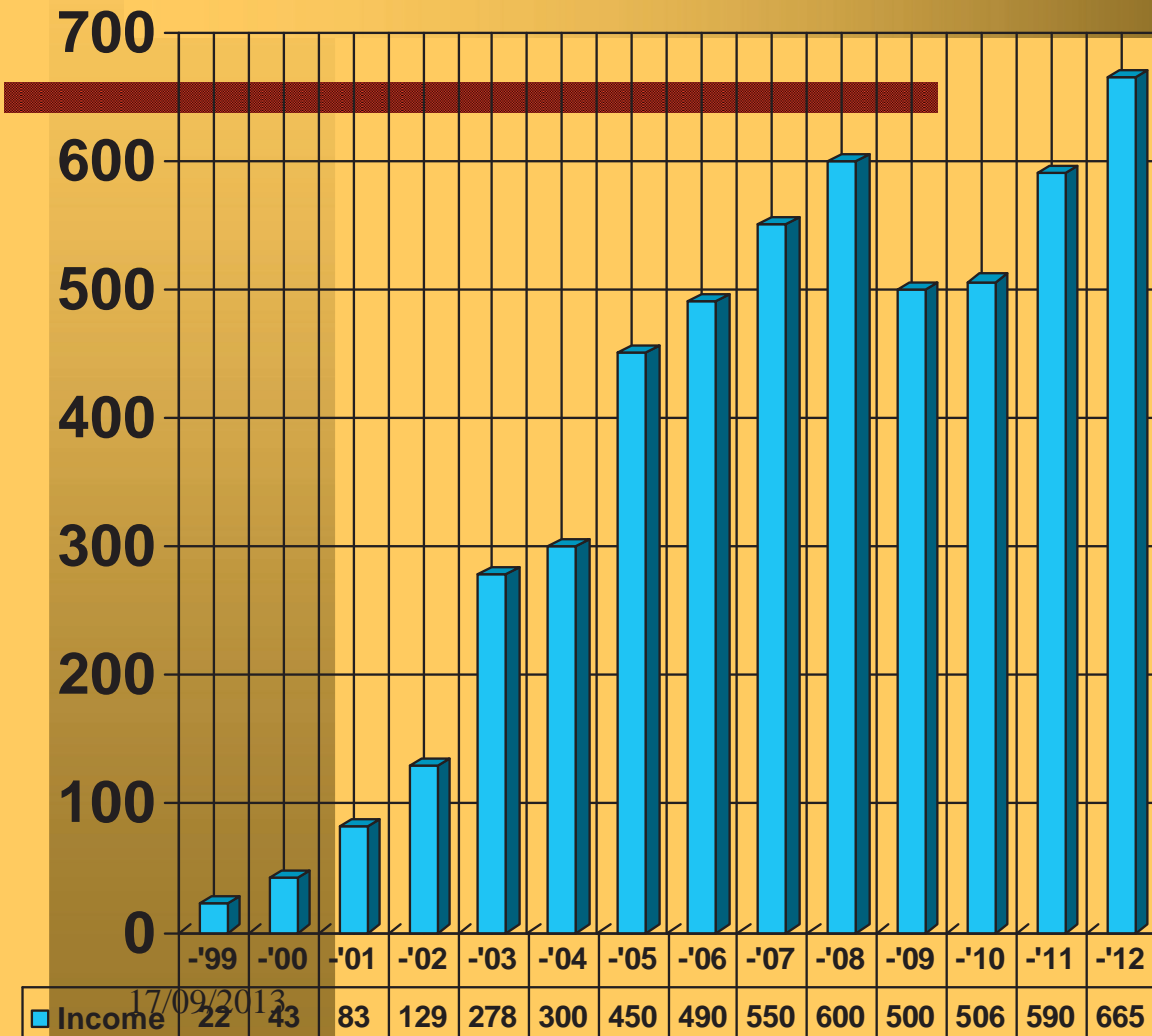
International Awards, e.g.

- 1999 British Airways Tourism for Tomorrow Global Award
- 2000 UNEP Global 500
- 2004 World Legacy Award NatGeo
- 2006 Responsible Tourism Award
- 2010 BBC World Challenge Award
- **Certified** as 'Long Run Destination' by Jochen Zeitz Foundation

TripAdvisor.com - No.1,
travel writers, Press, TV
& Radio documentaries,
Word of Mouth

Income from visitors 1998-2012

(in 1,000 US\$)



Ecotourism –

Now only source of income

Direct donor support:

- Aders' duiker Sanctuary
- EE Program

Indirect support:

- Volunteer work
- **TripAdvisor & Awards are free PR through TV documentaries & travel writers, 1998-2008 worth ca. 10 Million US\$**

Sustainability: Operations fully covered by Eco-tourism proceeds from 2000



Ca 30% of revenue used for conservation & education

Min. budget needed ca 250.000 US\$/year, ca 30% occupancy.

Partnerships & Cost control:

- ***GoZ, NGOs & Zoos for protected species sanctuaries***
- ***Volunteers & University researchers for R & M***

Lessons learned:



- **Red tape** & corruption delayed operations and multiplied investment costs (x 3)
- **Eco-technology** costly
- Need to go **up-market**
- ...and for **innovative marketing**
- ...but **there is a market** for genuine Ecolodges running strict nature reserves
- **Critical:** volatile tourism market, but **not threatening sustainability** so far...

