



Sustainable Wildlife Utilization: Hunting as a Conservation Tool

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US Fish & Wildlife Service
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Washington-DC, USA



Presentation Outline

1. Self Introduction
2. Why this Presentation?
3. Sustainable Wildlife Conservation & Community Development
4. Benefits of Hunting in Botswana
5. Hunting Ban & Results
6. Conclusion.....wayforward!!



A Bit About Me...

- ✓ BA & MSc (Environmental Science), UB
- ✓ PhD (Parks, Recreation & Tourism Sciences) Texas A&M Univ, USA.
- ✓ Postgrad Dipl in Education, UB
- ✓ Postgrad Cert in Proj Management, BAC
- **Research interests:** How can tourism be used as a tool to achieve conservation and community development.
- **Research site:** the Okavango Delta
- Mixed method approach



*Professor of Tourism Studies,
University of Botswana*

*Director of the Okavango Research
Institute, University of Botswana*



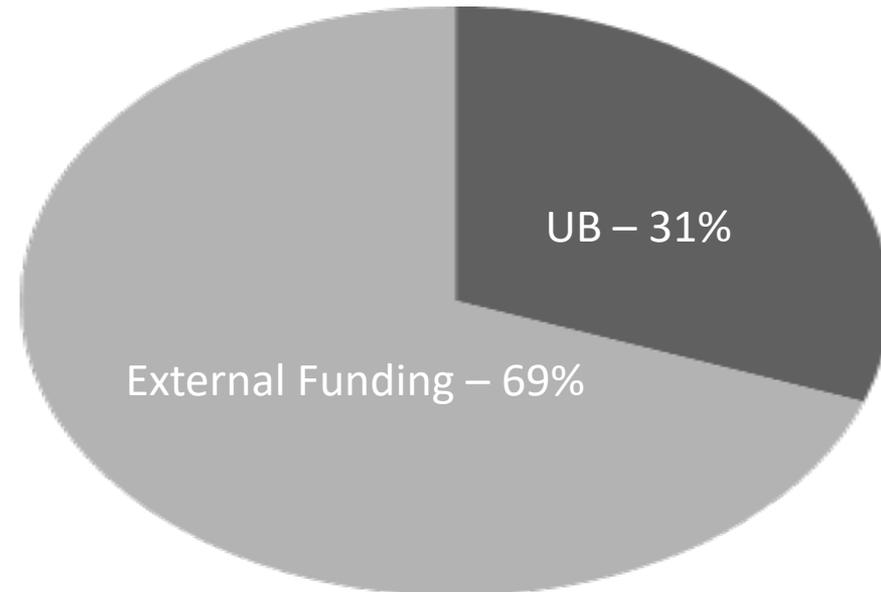
Where I Work - ORI, UB!

ORI Research Themes/Programmes

1. Ecosystem Dynamics
2. Ecosystem Services
3. Water Resources Management
4. Sustainable Tourism
5. Climate change
6. Graduate Studies (M.Phil. and PhD)

- ✓ Conduct multi-disciplinary research.
- ✓ **ORI Motto**: Excellence in Wetland & Adjacent drylands Research
- ✓ 33 academic staff
- ✓ About 50 support staff
- ✓ Laboratories, library, field station etc

Funding at ORI



External funding is from foundations and foreign and used to fund the following:

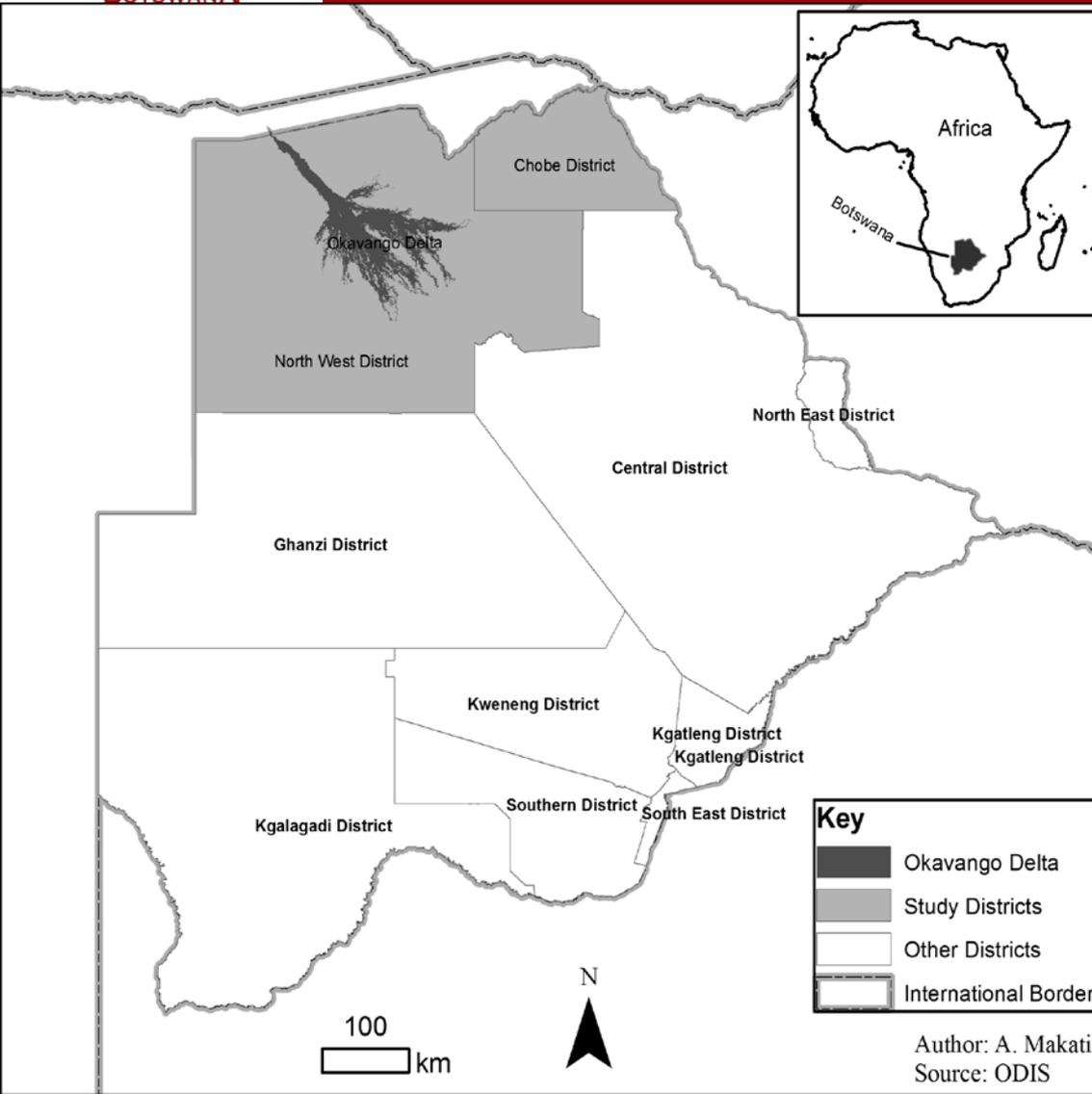
- ✓ Research e.g. wildlife mgt, tourism etc
- ✓ M.Phil. and PhD programme
- ✓ Equipment e.g. vehicles, laboratory etc
- ✓ Much of funds come from EU, German Govt etc

Why this Presentation?

- ✓ Invited by the US Fish & Wildlife Service to present at the IWCC, Sept 2018
- ✓ Asked to talk about Sustainable wildlife conservation and community Development;
- ✓ Asked to give an analysis of how legal hunting is compatible and beneficial to both conservation and community development
- ✓ I will add and discuss the effects of no hunting in an area with high wildlife popn?
- ✓ Finally I will argue that Hunting is a Conservation Tool when used scientifically.



Where is Botswana?



Located in Southern Africa

British Prot until 1966.

Pop of 2.2 million people.

Democracy, every 5 years there is an election

Few Facts about Botswana



- Size: 581,730 square km....
Size of Texas, France or Kenya
 - ✓ 17% is p.a.,
 - ✓ 22% is WMAs.
 - ✓ 39% kept for wildlife use.
- Tourism is second largest economic sector
- Tourism contributes 4.5% to GDP.
- Hunting was mostly done in northern parts of Botswana



Why people hunt?

People hunt for many reasons...Loveridge et al (2006) identify 3 **different types of hunters, based on motivation:**

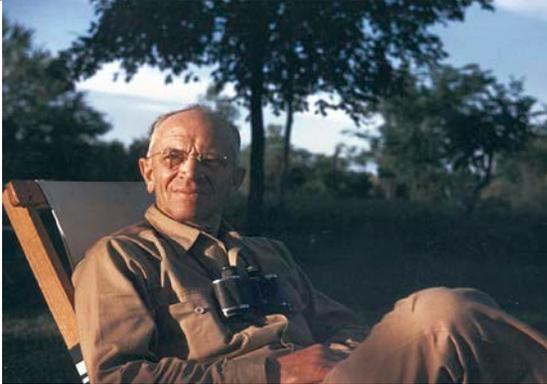
- 1. Subsistence hunters**, who seek to acquire food & other useful products for themselves & their immediate families;
- 2. Market or commercial hunters**, who seek to acquire animal products to sell for profit; and,
- 3. Recreational hunters**, who enjoy the practice of hunting as a sport or leisure activity, albeit harvesting products such as meat or trophies.



Hunting debate!!!!

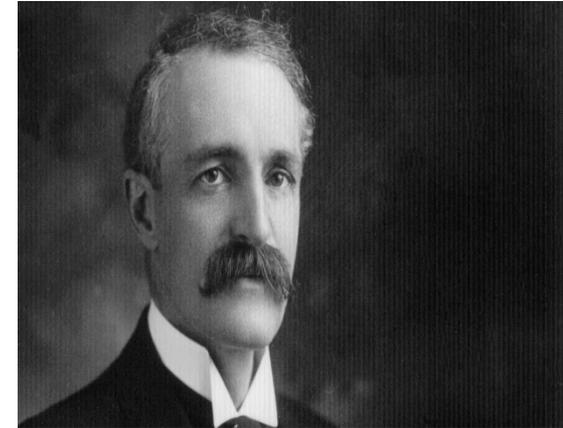
- Animal rights & welfare groups oppose hunting due to a rejection of the concept of “*killing animals for sport*” (Finch, 2004).
- Conversely, proponents of hunting argue that hunting is controlled, has more financial benefits than photographic tourism, and that selective hunting of overpopulated herds is a form of culling that is imperative to biodiversity conservation (Baker, 1997).
- The discussion concerning trophy hunting is polarized, with animal rights groups and protectionists on one side, & hunters and conservationists on the other.
- However, there is inadequate scientific data to support each other's claims

Is Hunting a problem?



“The problem of game management is not how we shall handle the deer...the real problem is one of human management. Wildlife management is comparatively easy; human management is difficult” – Aldo Leopold

To begin with, I had to know something about the people, the country, & the trees. And, of the three, the first was the most important” – Gifford Pinchot



“Change happens by listening & then starting a dialogue with the people who are doing something you don't believe is right” – Jane Goodall



Hunting and community development



Policy Development

- Botswana is one of the few African countries still endowed with a variety of natural resources, of which wildlife are a major component.
- Communities were/are made to have access to wildlife by the following policies:
 - ✓ Tourism Policy of 1990 (under review)
 - ✓ Wildlife Conservation Policy of 1986 (under review)
 - ✓ CBNRM Policy of 2007

Hunting, Community & Conservation???

- Idea of Hunting, community development & conservation began in the late 1980s in East & Southern Africa. Trophy hunting became aligned with conservation and rural development policies e.g. CAMPFIRE, CBNRM etc.





Brief Background of CBNRM

Introduction of hunting into community development and conservation was informed by 3 conceptual foundations, namely:

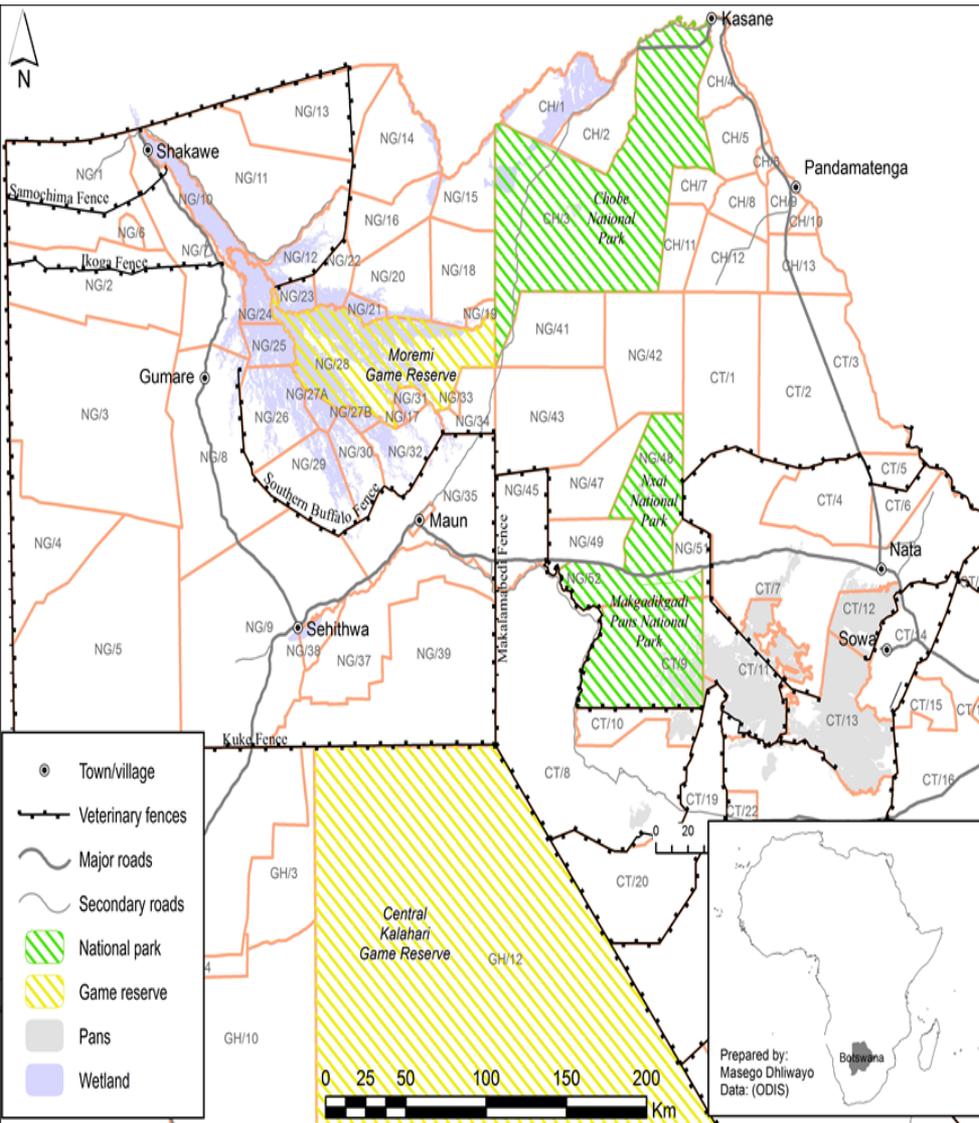
- **Economic value**, giving a resource such as wildlife, a focused value that can be realized by the community or land owner;
- **Devolution**, emphasizing the need to devolve management decisions from the government to the community or local land users in order to create positive conditions for sustainable wildlife management; and,
- **Collective proprietorship**, whereby a group of people are jointly given user rights over resources, which they are then able to manage according to their own rules and strategies.



Brief Background of CBNRM

- In Botswana, CBNRM was perceived as a paradigm shift:
 - that integrates conservation & rural development (Tywman 2000, Tsing et al 1999; Leach et al 1999)
 - from a centralised preservationist & protectionist to sustainable use (discourages top-down and promotes bottom up approaches in resource use).
- CBNRM is built on Common Property theory - it promotes decentralization of resource management to local communities.

1. Hunting done in CHAs



Hunting in Botswana is/was done in CHAs....

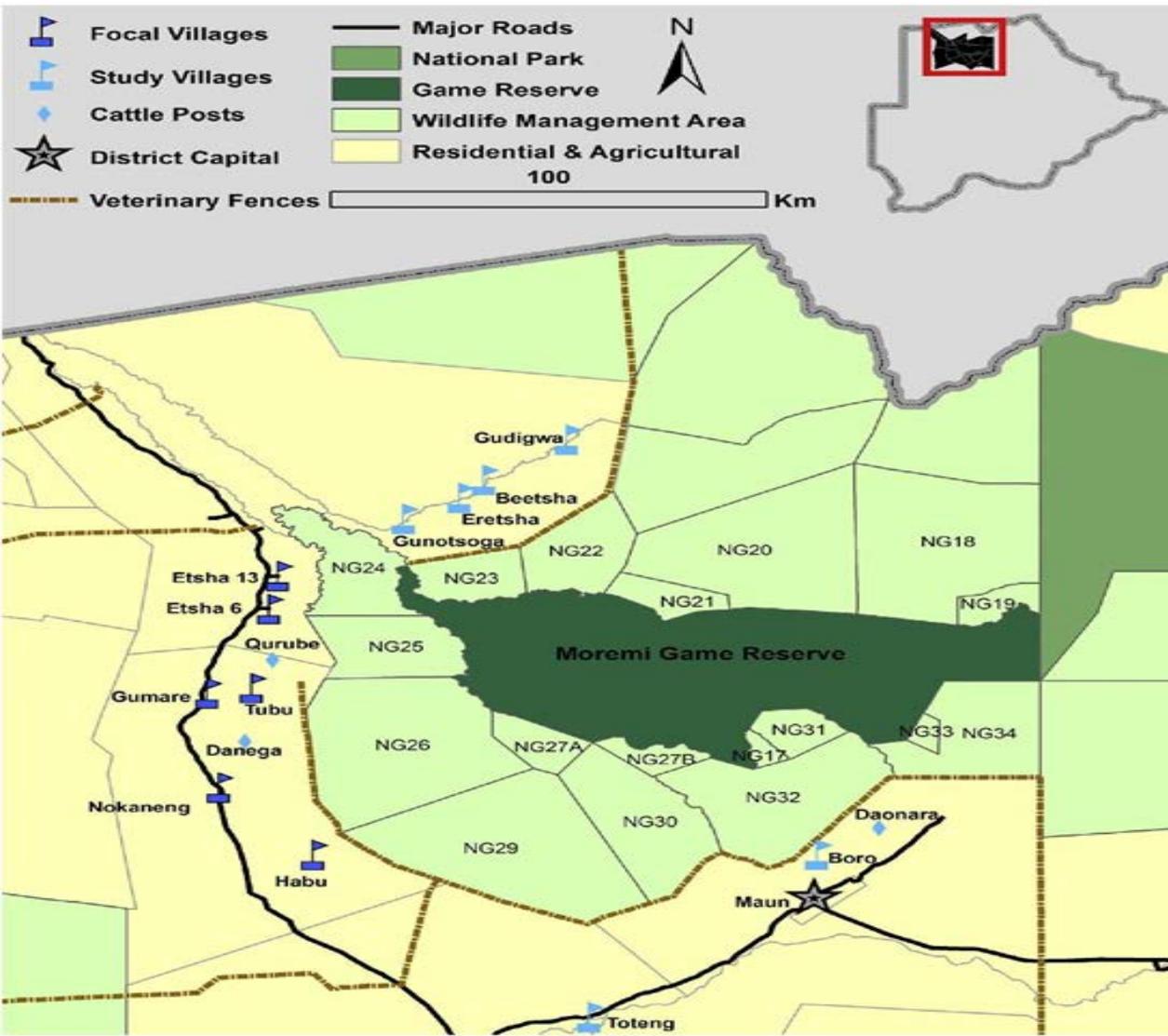
CHAs are small land units popularly known as concession areas

Non-Consumptive CHAs act as **buffer zones** betw community areas and wildlife zones

No hunting is/was allowed in core areas such as Moremi Game Reserve, Chobe National Park, Makgadikgadi/Nxai Pan National Parks

Expectation is that wildlife should be remain in core areas

2. Hunting done in CHAs that are Marginal Areas



In Botswana, trophy hunting was done in marginal areas which were others considered not suitable for photo-tourism

Low off-takes and high prices mean that trophy hunting can play a role in creating incentives for the conservation of threatened and endangered species (Leader-Williams et al., 2005)



3. Trophy Hunting & Conservation

- In Botswana, for sometime trophy hunting was controlled using the quota system
- Quota System eliminated hunting of lions after it was reported that they are on decline
- Where trophy hunting is well managed, it involves low off-takes and is sustainable (Bond et al., 2004).....
- Hunting is management tool.....not a menace!!!

3. Hunting done based on hunting Quota!!

SPECIES	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Buffalo	12	40	12	40	38	38	38	38	37	29	38	20
Elephant	24	78	24	78	78	86	94	94	101	109	132	103
Gemsbok	0	60	3	26	26	26	26	26	24	28	25	0
Hyaena spotted	20	80	6	13	11	9	11	12	11	10	4	3
Impala	110	274	90	223	219	219	219	219	217	171	168	40
Kudu	30	195	20	58	58	58	58	58	55	29	20	10
Lechwe	40	272	60	93	93	93	85	85	53	48	43	10
Leopard	7	20	4	9	9	8	8	8	7	5	0	0
Lion	2	6	0	0	0	8	8	7	0	0	0	0
Ostrich	6	65	7	52	50	50	50	51	43	22	15	0
Reedbuck	4	0	0	0	0	0	0	0	0	0	0	0
Sable antelope	1	4	0	0	0	0	0	0	0	0	0	0
Steenbok	15	525	45	198	198	167	129	133	140	69	55	0
Tsessebe	40	113	45	103	102	99	80	80	51	31	26	0
Warthog	15	207	20	74	74	71	74	74	70	37	31	10
Wildebeest	9	35	9	29	29	29	30	29	30	18	13	10
Zebra	2	13	4	14	14	14	14	14	14	12	10	10

Trophy hunting in Botswana was controlled using the quota system

Where trophy hunting is well managed, it involves low off-takes and is sustainable (Bond et al., 2004).....

Hunting is management tool.....not a menace!!!





Changes - Positive Attitudes towards species conservation

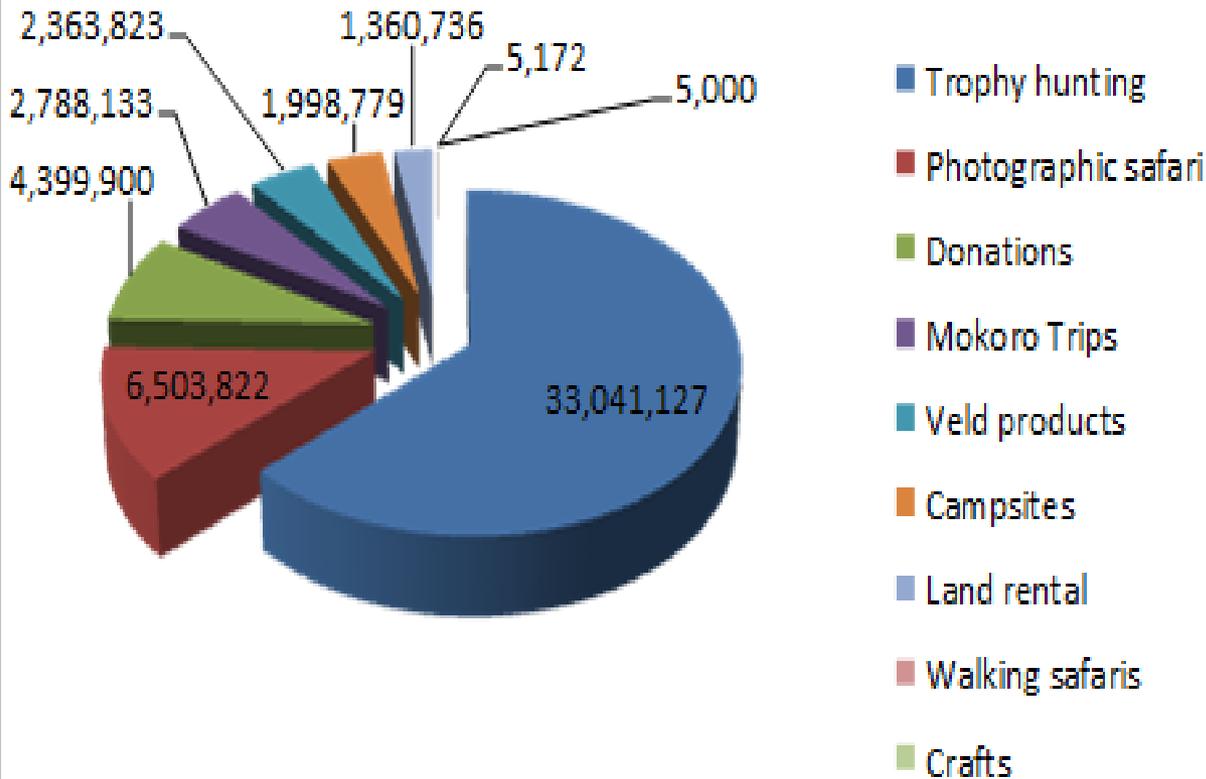
- With introduction of CBNRM, negative attitudes towards wildlife conservation were reversed to positive.
- Positive attitudes are the stepping stone towards achieving conservation and sustainable development.
- Mwenya *et al* (1991) argue that successful wildlife conservation is an issue of "who owns wildlife" and "who should manage it". If local people view wildlife resources as "theirs" because they realize the benefits of "owning" wildlife resources, and understand that wildlife management needs to be a partnership between them and the government, there is a higher potential for them to conserve wildlife species in their areas.



BENEFITS OF HUNTING

Improved Livelihoods e.g. CBNRM Villages

Betw 2009 to 2010, P33m or 75% of the CBNRM revenue came from hunting



CBNRM & livelihoods



Reported Benefits include:

- better housing
- Water reticulation
- Income to households
- Better diets
- Infrastructure –Lodge, offices
- Transportation



Benefits to local livelihoods



TABLE SOCIAL SERVICES FUNDED BY CBNRM INCOME

- Assistance to funerals (P200 to P3, 000 per household).
- Support for local sport activities (P5, 000 to P50, 000 per village).
- Scholarships (P7, 000 to P35, 000 per village).
- Services and houses for elderly people (150 to P300 per month per person).
- Assistance for orphans (P40, 000 per Trust).
- Assistance for disabled people (P15,000 per village).
- Household dividends (P200 – P500) per household
- Provision of communication tools such as radios
- Transport services particularly in the use of vehicles.
- Installation of water stand pipes in households





Hunting Revenue

- Revenues from trophy hunting have resulted in the following:
 - a) Improved rural livelihoods;
 - b) improved attitudes towards wildlife among local communities;
 - c) Increased involvement of communities in Conservation programs thru CBNRM;
 - d) Requests to have land included in wildlife management projects;
 - e) Increased social capital and decision making over tourism development and land use management
 - f) Increasing wildlife populations.



HUNTING BAN & ITS RESULTS

Safari Hunting Ban

- Since January 2014, the Botswana Government stopped hunting.

“What are the Implications of on Hunting ban to wildlife conservation and rural livelihoods in Botswana”



What Motivated Hunting ban?

Species	1994	1995	1996	1999	2012
Elephant	67,446	79,480	100,538	120,604	207 545
Buffalo	26,893	18,381	40,041	93,766	61 105
Eland	15,792	22,563	21,834	15,163	34 735
Gemsbok	126,514	163881	131,950	127,143	133 249
Hartebeest	47,992	40,775	31,593	31,114	62 569
Kudu	26,070	27,891	25,759	19,514	23 038
Giraffe	12,028	12,036	14,050	14,698	8 976
Impala	61,510	95,560	59,627	45,183	114 900
Lechwe	70,274	57,231	77,876	78,330	26 322
Sitatunga	816	2,065	1,128	1,234	63
Roan	1,357	1,570	1,327	884	615
Sable	3,138	2,923	3,309	2,052	1 989
Springbok	120,546	110,441	73,833	51,792	35 688
Wildebeest	42,865	60,292	36,958	46,741	53 159
Tsessebe	10,015	10,487	14,198	113,89	2 138
Waterbuck	1,071	1,291	967	428	2 048
Ostrich	55,778	71,940	37,171	32,499	55 916
Steenbok	72,400	71,940	41,167	33,282	41 531
Duiker	33,183	43,400	17,919	8,991	21 608
Zebra	33,738	54,372	39,817	55,406	99 077

11 species have declined by an **average of 61%** since a 1996

Causes of Wildlife decline: hunting, poaching, human encroachment, habitat fragmentation, drought, and veldt fires.

Neil Fitt, Permanent Secretary - MEWT

Red – declining species

Green – increasing wildlife species



1. Revenue & Job Loss to CBOs

NAME OF CBO	REVENUE GENERATED			JOBS LOST
	2013	2014	2015	
Sankuyo Tshwaragano Management Trust	2,046,629.00	669,639.00	128,422.00	35
Khwai Development Trust	5,967,824.00	6,083,734.00	2,619,287.50	
Mababe Zokotsama Comm. Development Trust	3,546,939.00	658,713.34	790,995.00	30
Chobe Enclave Conservation Trust	6,500,000.00	????	3.5 million	15
Okavango Kopano Mokoro Community Trust	4,685,712.85	2,621,603.00	1,924,668.00	40
Okavango Community Trust	4,127,508.00	4,396,381.00	4,866,855.00	

Ngamiland CBNRM Forum reports: “a total **of P7 million and 200 jobs** were lost due to the hunting ban”



2. Livelihoods affected due to loose of income

Ecosurv (2014) reports the following in Boteti:

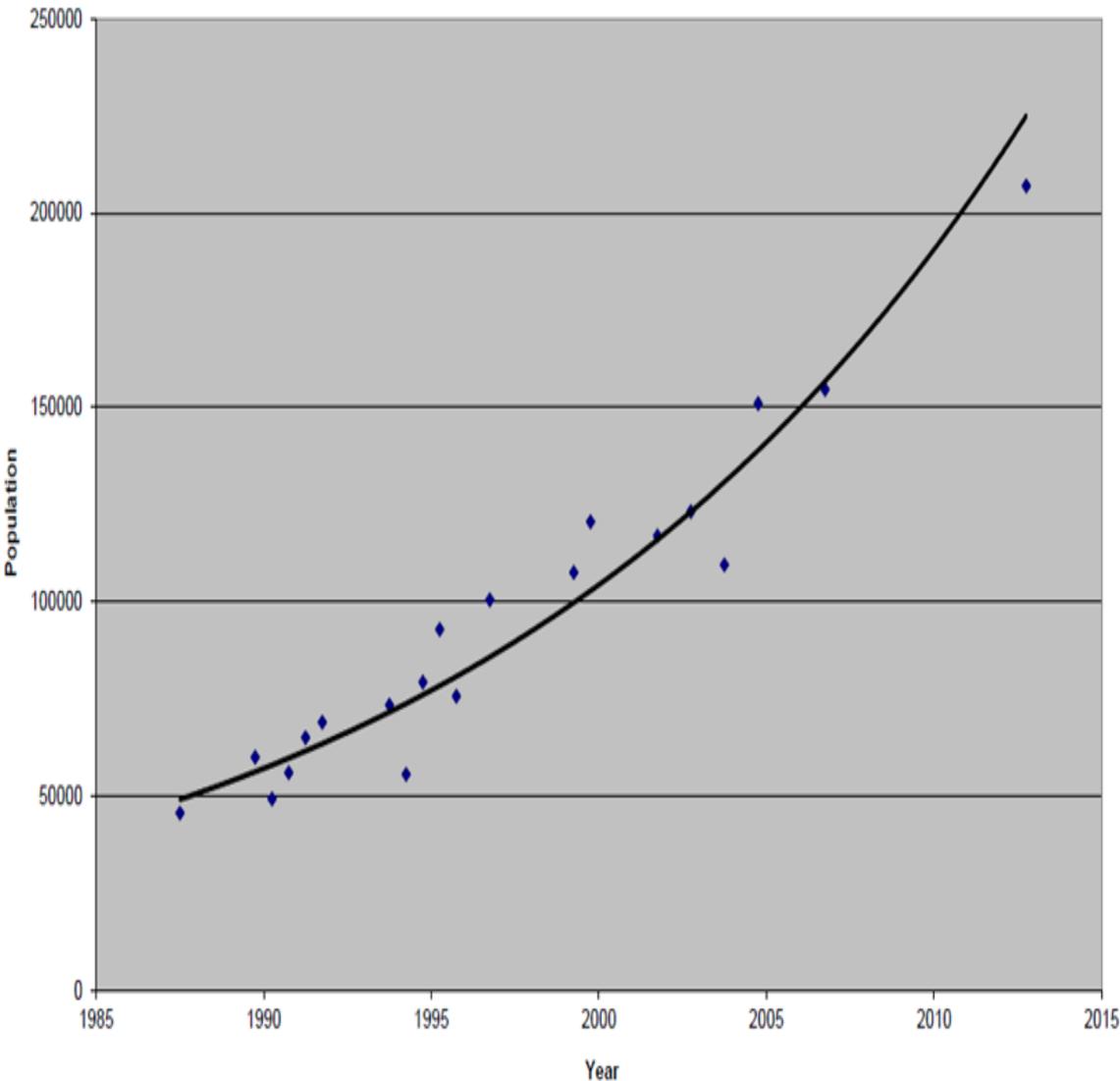
- a) social: 4800 livelihoods affected; loss of meat supply from hunting and photographic in marginal areas has not replaced lost jobs;
- b) **Economic**: in excess of P40 million lost annually (over 6 months) by communities; in excess of 600 jobs lost;

3. Implications to Rural Livelihoods

- Reduction of income generated by CBOs over the years.
- When income generated by CBOs goes down, rural livelihoods (i.e. employment opportunities, income generation, community projects financed by CBNRM revenue etc) will be affected and will go down.
- Therefore, the gains made in CBNRM over 30 years are being affected - with reversal.

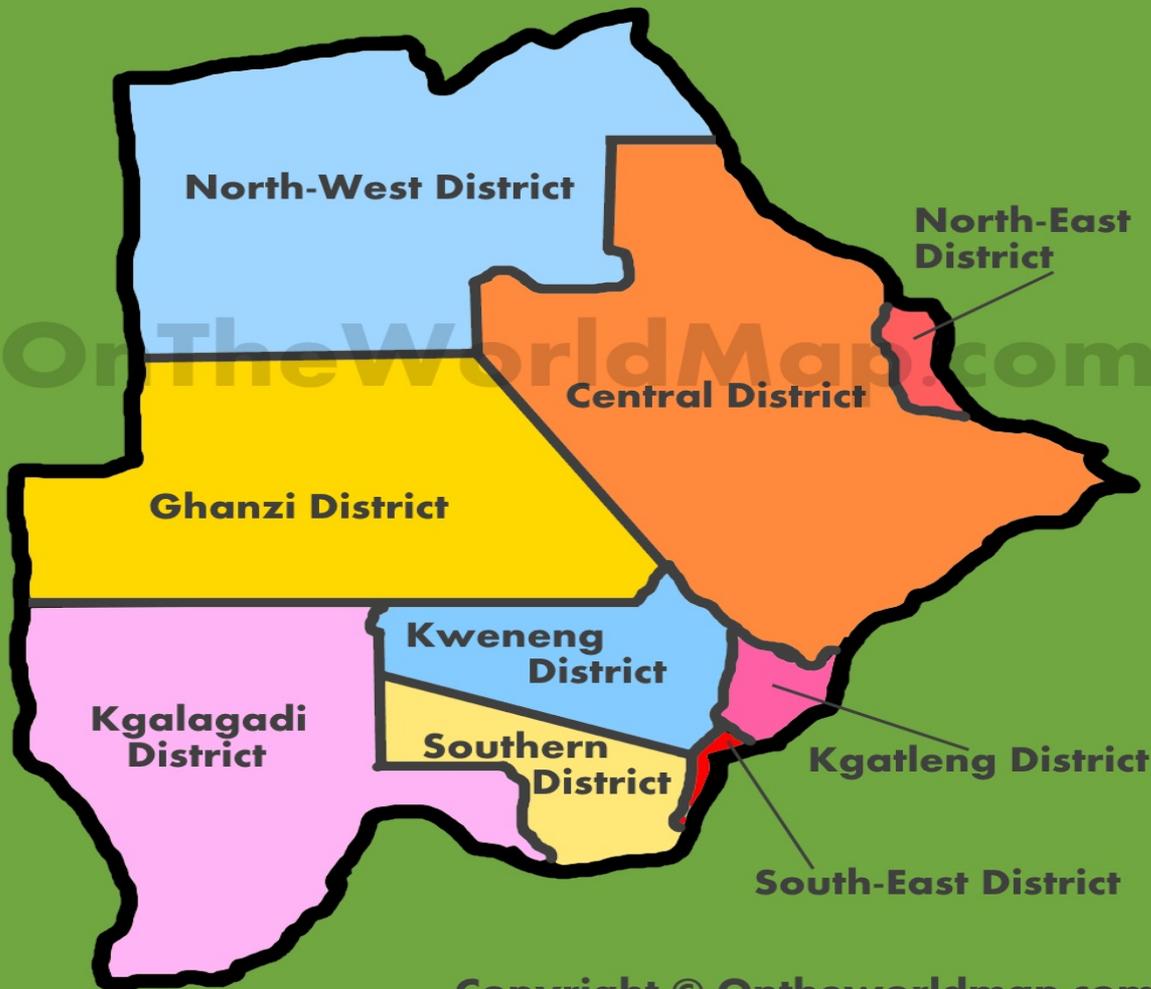


4. Elephant popn Increasing



- It is estimated that there are 207 545 (+/- 10%) elephants in Botswana.
- The elephant population in Botswana is growing at around 5% per annum

Elephant Expansion in Botswana



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Elephants in Botswana continue to expand their range both westwards and southwards.

Botswana is experiencing herds of elephants coming from Zimbabwe, Namibia and Zambia continue

5. Increased elephant Numbers, HWC, Vegetation Destruction



Elephant cause crop damage,
vegetation damage etc





5. Elephant Damage to crops- Conflicts

At Kumaga, a 91 year old man noted: “*since that devil called elephant came to our land no one has ever harvested here in Kumaga...we are dying of hunger because of elephants crop raiding, we have grown without that creature on our land since it came we are always on fear and scared of walking on our own land*”.

An old lady remarked: “*we plough, elephants harvest*”

A 36 year old woman at Kumaga noted, “*how can I like something that is not created by God. God cannot create something of that kind. Elephant was made by Satan*”

Elephant Crop Damage

One agro-farmer cited that: *“After all the seeds are from Government, the tractors are from Government, nowadays they have even bought us cell phones to call them when there is crop-raiding and after crop-raiding the Government pays us, I believe we are cultivating our fields to feed Government elephants”*.





Draft Elephant Management Plan - 2011

- In 1990, concerns that a greater number of elephants could not be sustained led to a decision to keep the elephant population at 60,000. At the time there were approximately 55,000 elephants.
- The 1991 Conservation and Management of Elephants in Botswana Plan proposed the removal of about 3,000 elephant per year as a way of achieving this.

6. Poaching increases

No role in D-M, No Benefits

DWNP reports that “poaching incidents increased to 323 in 2014 from 309 in 2012”.





Poverty & Environment

- Chambers (1986) notes that poverty is untenable in human terms and it is also an enemy of the environment.
- Chambers argues that in many parts of the world, growing numbers of poor people have inevitably led to the degradation of the environment each day just to make ends meet.
- Poverty thus result in a constant conflict between local people & government over natural resources – this leads to resource degradation.
- It is unlikely, therefore, that people living in poverty to promote conservation.....!!!



CONCLUSIONS



Conclusion

- In Sub-Saharan Africa, safari hunting generates 15% of tourism revenues from only 1% of tourist arrivals, making it one of the lowest impact forms of tourism (Lindsey 2010).
- Safari hunting typically focuses on male animals and results in the removal of 2-5% of ungulate populations and generally has minimal impact on the viability of wildlife populations, indicating that the quotas for most species are sustainable.



Conclusion

Note: revenue from sustainable trophy hunting in community areas resulted in the following:

- ✓ improved attitudes towards wildlife conservation by communities,
- ✓ increased involvement of communities in CBO programs,
- ✓ requests to have land included in wildlife management projects,
- ✓ in some cases increased wildlife populations

Ref: (Mbaiwa 2018; Lewis and Alpert, 1997; Child, 2000; Weaver and Skyer, 2003; Baldus and Cauldwell, 2004; Child, 2005).



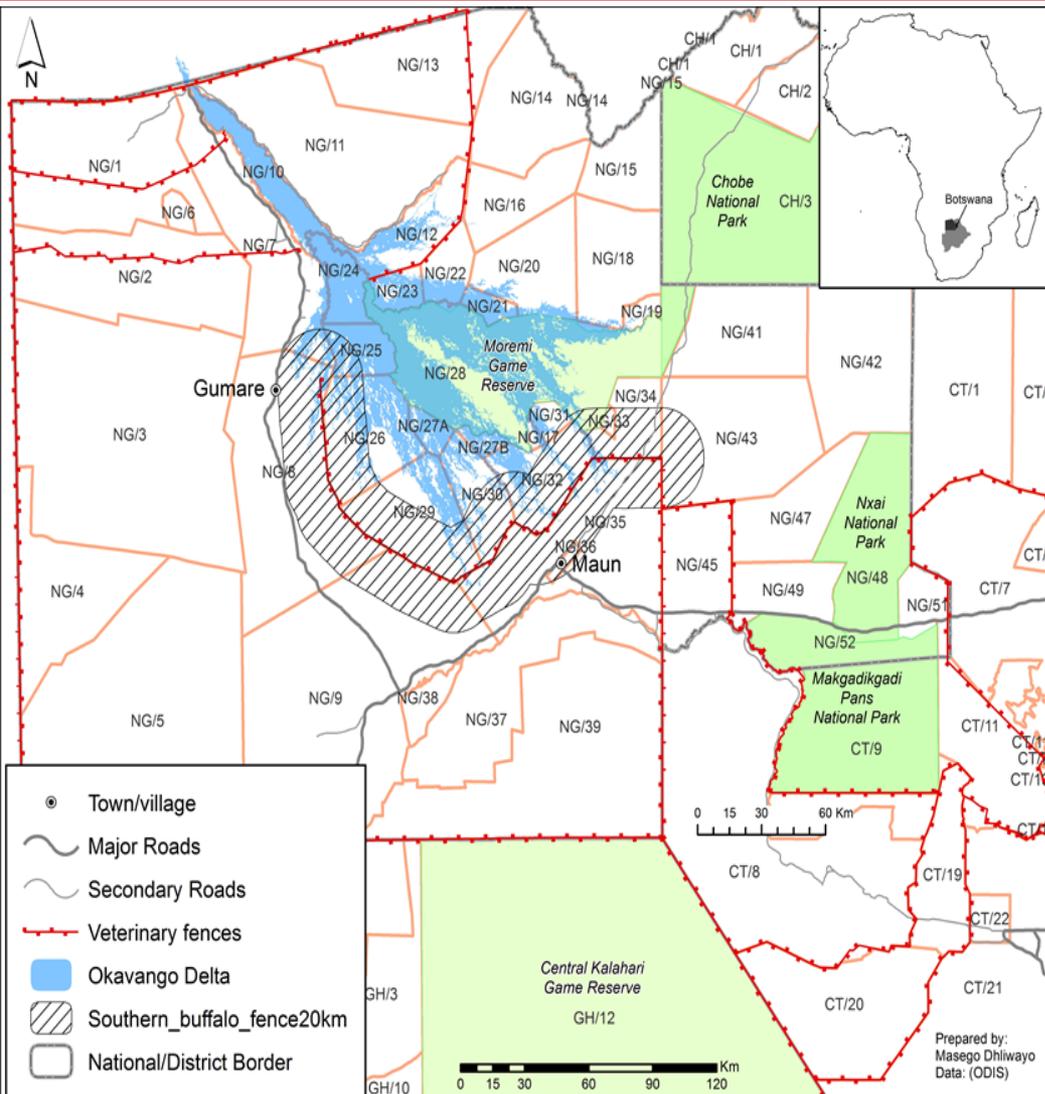
Selective Hunting – Elephant, Buffaloes

Elephant and buffalo are the two key species that can bring in much revenue for hunting. Their population numbers are very large in Botswana and are not declining.

At a conservative rate of increase of 5% per year of the elephant or buffalo hunting would not do a daunt to these species

Considering that annual quotas for these species were around 400 per year, trophy hunting could not possibly have any impact on elephant and buffalo populations.

Maintain Buffer Zones & Animal Corridors



Maintain the concept of buffer zones to manage human wildlife conflicts

Hunting in buffer zones will halt elephant movements into agricultural land

Keep wildlife corridors open, do not allocate agricultural activities in these areas

Consider – Socio-ecological Aspects

- It is well established by theory and scientific best practice that sustainable conservation of wildlife must consider a socio-ecological framework, not just an ecological framework.
- Conservation cannot succeed in the long term if local communities are alienated from wildlife benefits.



Militarisation of Conservation



The Command-control is not the best approach in wildlife conservation and it failed to yield better results prior to CBNRM development.



As a result, ensure communities benefit from wildlife in order for them to support conservation

Hunting ban in Kenya

- Kenya banned hunting in 1977. Between 1977 and 1996, Kenya experienced a **40% decline in wildlife populations**, both within and outside of its national parks (Scott, 2013).
- Kenya's wildlife numbers have continued to fall with wildlife numbers today being less than half of that which existed before the ban (Scott, 2013).
- Therefore, a ban on safari hunting does not necessarily halt decline in wildlife populations, instead it can escalate it.



**Burning of elephant tusks
in Kenya**



Conclusion

- Photo-tourism is an important contributor to GDP and to conservation efforts but it is not a **PANACEA** to rural development and conservation challenges in Botswana.
- Photo tourism is **generally only viable in areas with very high densities of visible wildlife**, and/or spectacular scenery
- Sustainable wildlife conservation requires an **integrated land use planning approach** that respects...photographic, hunting tourism and agricultural uses.



Thank you

