

Financial and economic values of bushmeat in rural and urban livelihoods in Central Africa: Inputs to the development of public policy

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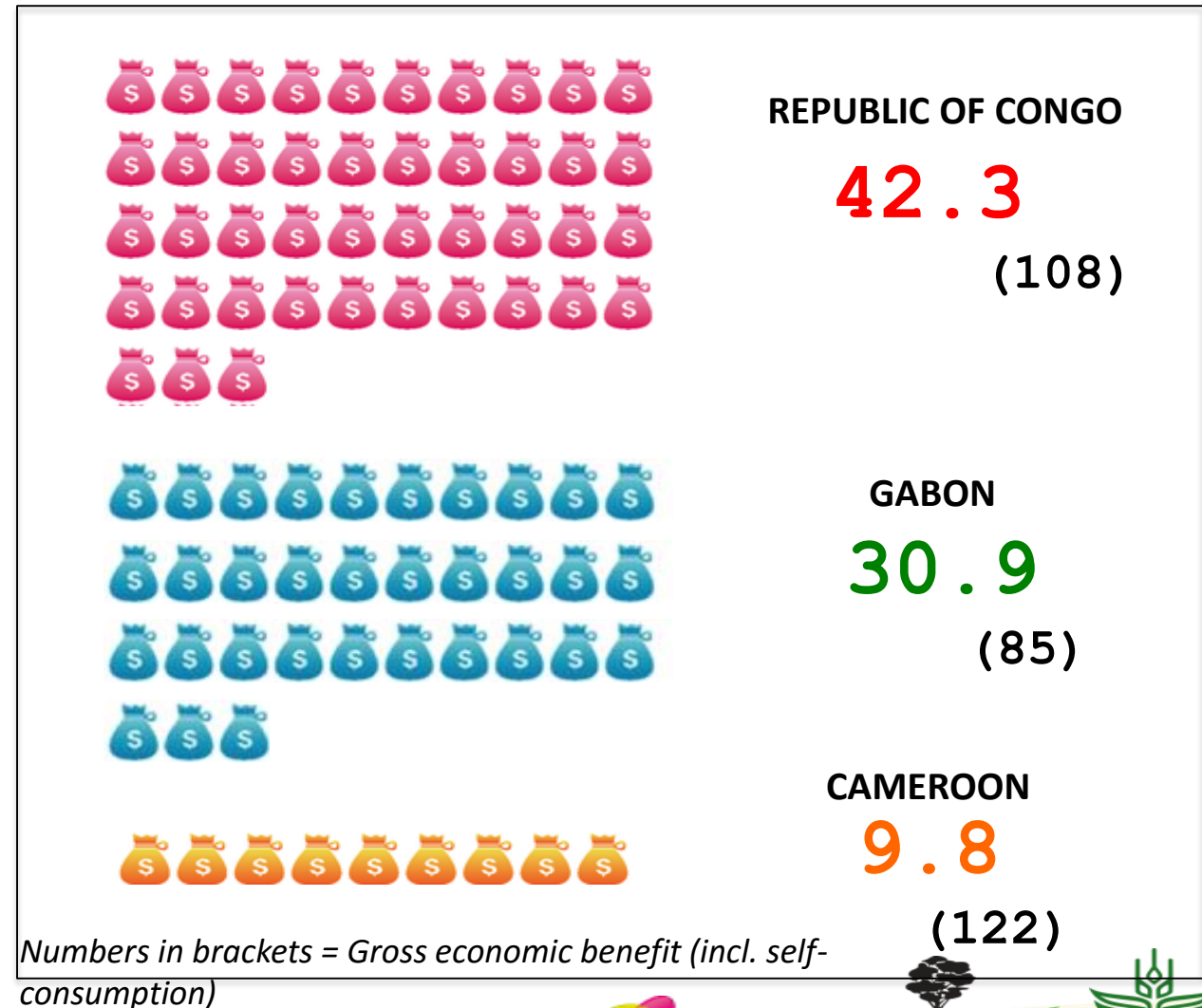


Hunting in the Congo basin

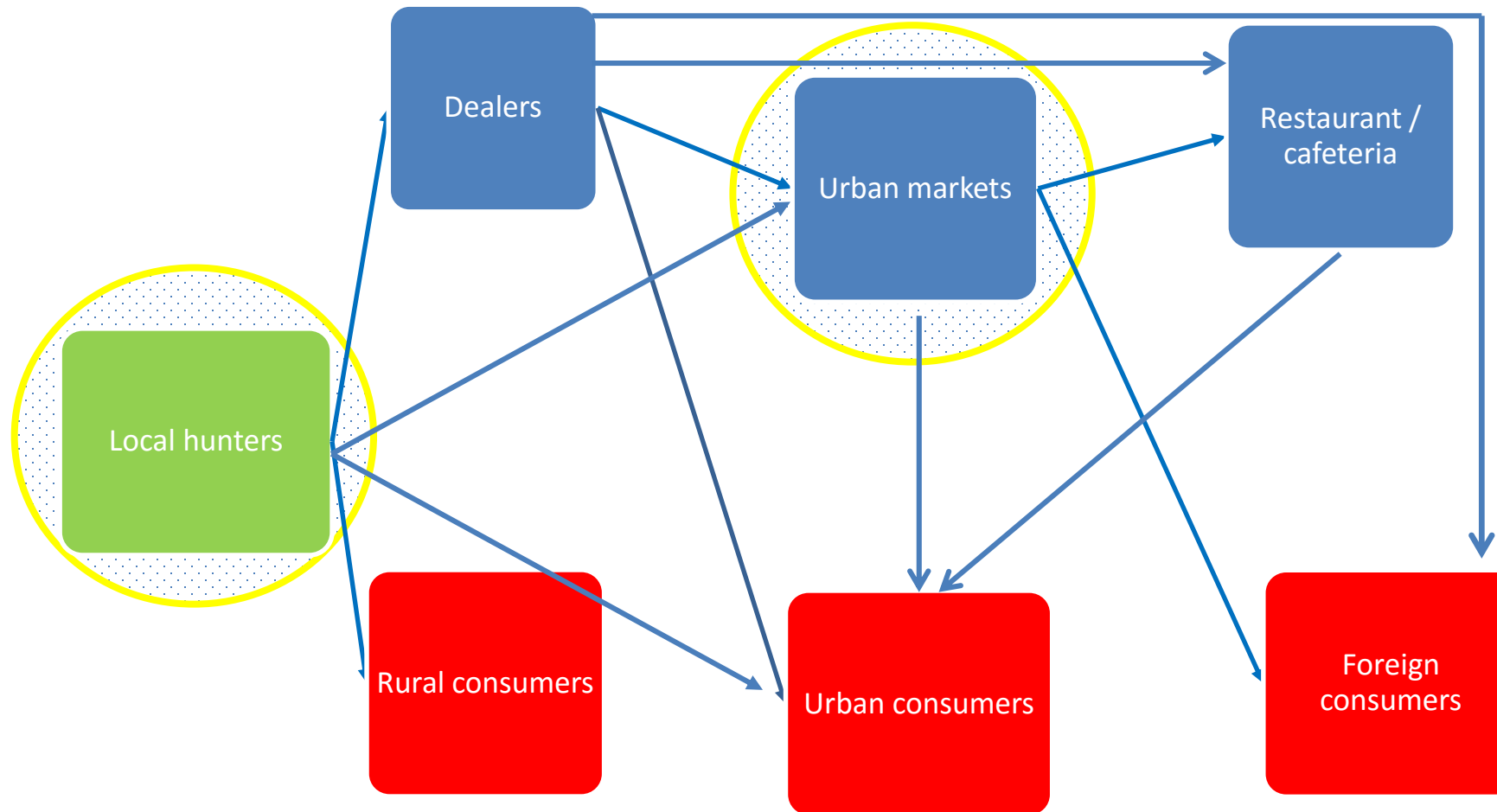
- 60% of the hunted species are overexploited (Fa et al. 2002)
- Increasing pressure on game: rural and urban demographic growth, development of road network, improved hunting techniques
- A complex activity: multiplicity of animal species (with much differentiated connotations) and multiplicity of uses (from raw material to luxury item)
- Attention of the international community but with a conservation-oriented approach (Brown & Williams, 2003)
- Attention of researchers, but with a focus on rural practices and on urban consumption

Hunting in the Congo basin

- Little information on the financial and economic benefits from the full value chain:
 - Requirement to design sustainable harvesting of bushmeat
 - Argument to convince decision makers on the importance of the chain
 - Need to improve national statistics



A simplified commodity chain



Methods used

- 3 foci of analysis: rural, urban, exports
- Financial benefit (revenue streams) \neq economic benefit (contribution to livelihoods = streams + self-consumption)
- Net benefit = gross benefit – cost

	Rural	Urban	Exports
Financial analysis	X	X	X
Economic analysis	X		

- Based on secondary data collected from scientific and technical publications to set average values

Financial benefits in rural areas

■ Key assumptions:

- Regions with humid forest (60% of adult men, 552 000 individuals)
- Two types of hunters: regular versus occasional

■ Gross financial benefit:

- Annual income of € 80 per hunter
- Annual turnover of € 44.2 million for 19 200 tons of bushmeat

■ Operating costs:

- Free access
- Equipment (cartridges and wire): € 54/yr/hunter
- Remuneration of carriers: 0.3€/kg

■ Net financial benefit:

- € 18.16/yr/hunter, around €10 million at national scale
- Profit margin of 22%



Financial benefits in urban areas

■ Key assumptions:

- Inflows of 6 tons a day in Yaoundé
- Average consumption: 4g/pers/day
- Average price of bushmeat (slightly processed): € 4.6/kg

■ Gross financial benefit:

- Annual turnover of € 50 million for 10 950 tons of bushmeat sold in urban markets

■ Operating costs:

- Bushmeat price in rural areas: € 2.3/kg
- Middlemen travel once a week with public and local transport to meet hunters
- Waste of game: 10%

■ Net financial benefit:

- € 12.7 million per year



Financial benefits from exports

(from Chaber et al. 2010)

■ Key assumptions:

- 3.67 tons of bushmeat arrive in Paris per week
- Selling price in Paris: € 16/kg

■ Gross financial benefit:

- Annual turnover around € 3 million for Paris, for 190 tons
- Similar flows in London and in the USA

■ Operating costs:

- Purchase of game in urban markets of Cameroon
- Payment of the conveyor: € 9/kg
- 10% of exported bushmeat is seized

■ Net financial benefit:

- Net financial benefit: € 6/kg, i.e. € 1.13 million for France



Economic benefits in rural areas

■ Key assumptions:

- Individual consumption of bushmeat in Cameroon: 20kg/yr for the rural areas of the forested regions (3.43 million adults)
- Reduction by 22% to account for the lower consumption levels of children and the elderly
- Total consumption of 68 600 tons / year

■ Gross economic benefit:

- Average selling price of bushmeat: € 2.3/kg
- Gross economic benefit: € 142.7 million / yr

■ Operating costs:

- Same operating costs as of the financial analysis
- Time spent in hunting (with a daily remuneration of € 1.5)

■ Net economic benefit:

- € 24 million /year



Financial and economic appraisals of the bushmeat sector in Cameroon

€/yr	Rural areas	Urban areas	Export	Total
Gross financial benefits	44 160 000	50 152 672	3 053 440	97 366 112
Net financial benefits	10 023 206	12 761 069	1 130 472	23 914 747
Profit margin	23%	25%	37%	
Gross economic benefits	142 671 756			142 671 756
Net economic benefits	23 982 290			23 982 290

- The production and the consumption of bushmeat are poorly integrated in the public accounting system, 36% under our appraisal
- The final consumption of bushmeat was estimated at €44.3 million in the public accounts in 2010 , 69% below our assessment

Bushmeat contribution to national Economies: a few examples

- DRC: 5% of the GDP
- Republic of Congo: 2% of the GDP (not including oil products)
- Cameroon: 0.17% to the GDP

Insights for public policy

■ Food security in rural areas:

- Difficult to reduce the dependence of rural populations on bushmeat due to a lack of alternatives sources of proteins
- Major challenge: improve local management of the wildlife resource, for instance by setting out some principles for sustainable hunting and then allow communities to establish and enforce their own rules of access and use

■ Poverty alleviation in rural areas:

- Hunting is a significant source of cash for rural populations, but it remains a secondary source of income in rural areas
- Farming constitutes a financially attractive activity for the rural poor that might deter young individuals from commercial hunting

■ Nutrition of urban populations:

- Where food security may be ensured through access to other sources of proteins, the policy goal should be to limit the consumption of vulnerable species by the upper class,
- while guaranteeing that bushmeat provides irreplaceable nutrients to consumers of the middle and lower classes



Insights for public policy

- **Dissociate poaching and species extinction with wildlife extractions for nushmeat?**
 - Studies in Kisangani show that 2/3 of the species hunt for bushmeat are rodents and ungulates
 - Rodents and small antelopes (Kumpel et al., 2010), persist sustainably even in agricultural landscapes around cities, where there is high hunting pressure.
 - Of the 18 species hunted one was an endangered species
 - Current legal framework almost criminalize all forms of hunting

<http://www.ingentaconnect.com/content/cfa/ifr/pre-prints/content-LescuyerandNasi>

**Thank you for
your attention**



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This research was carried out by CIFOR as part of the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA). This collaborative program aims to enhance the management and use of forests, agroforestry and tree genetic resources across the landscape from forests to farms. CIFOR leads CRP-FTA in partnership with Bioversity International, CIRAD, the International Center for Tropical Agriculture and the World Agroforestry Centre.

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