

The Impact Of Wildlife Conservation Policies On Rural Welfare In Zambia

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OUTLINE

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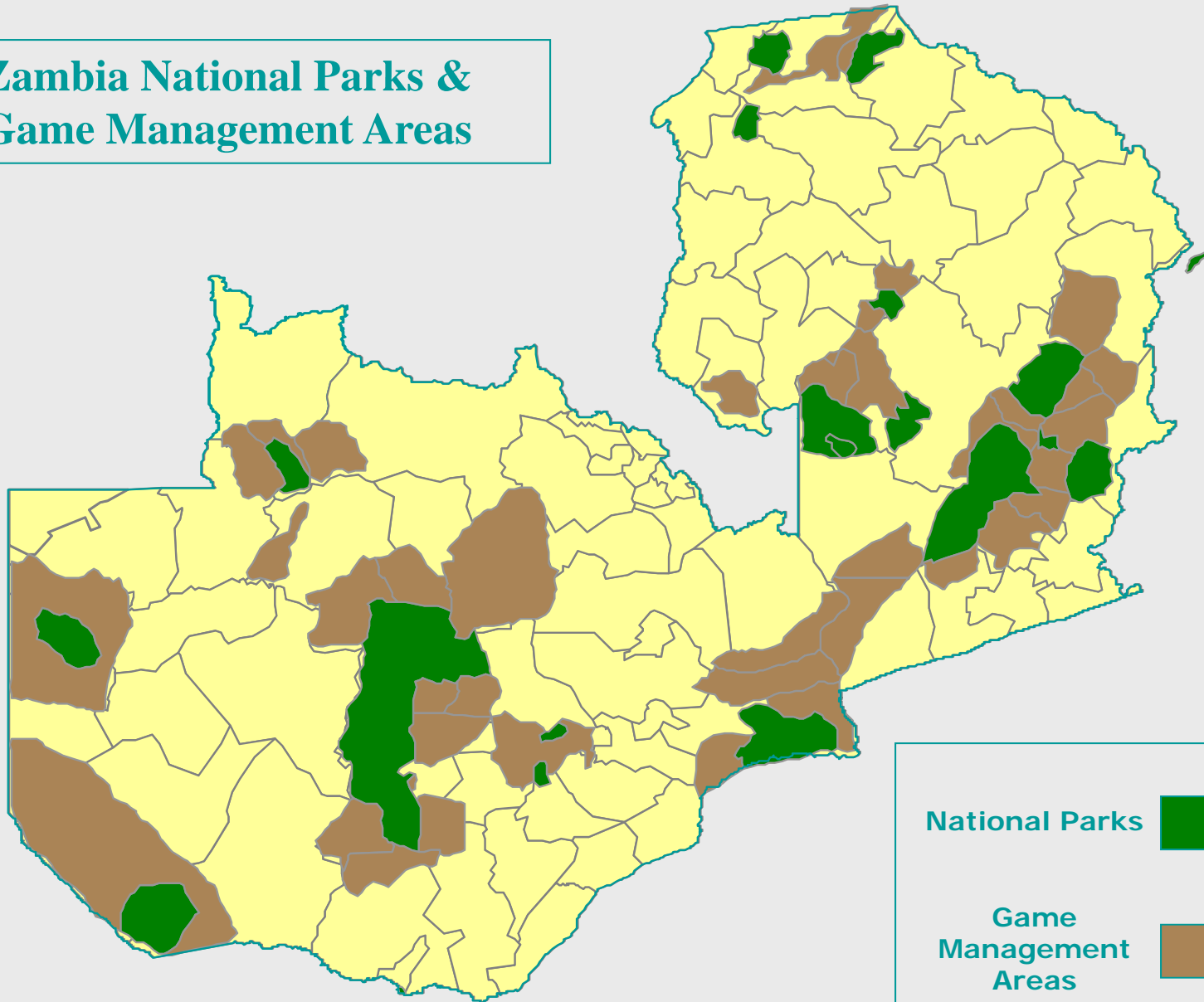
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Zambia National Parks & Game Management Areas



National Parks 

Game Management Areas 

Game Management Areas

- ◆ Zambia Wildlife Authority (ZAWA)
- ◆ Shares hunting license revenues and wildlife management responsibilities with communities
 - Community Resource Boards (CRBs)
 - Village Action Groups (VAGs)
- ◆ CBNRM: dual objectives of wildlife conservation and rural development
 - Employment of village scouts
 - Development projects

Impact of Game Management Areas

- ◆ Benefits
 - Rural employment
 - Revenue sharing
 - Meat distributed after hunting
 - Development projects
- ◆ Crop damage
- ◆ Opportunity cost of alternative land uses



Three Research Questions

1. What is the effect of GMAs on household income?
2. What are the *sources* of income that generate the GMA effect?
3. What are the effects of GMAs on crop losses from wildlife damage?



Data and Methods

- ◆ Rural household survey
- ◆ 139 statistical enumeration areas (SEAs) adjacent to four national park systems
- ◆ 2,800 households selected
 - About half GMA and non-GMA (control)
 - Only about 32 non-response (1.1%)
- ◆ Two statistical methods
 1. Ordinary least squares (OLS) regression (determinants of household income)
 2. Double-hurdle regression (probability and value of employment, crop losses)

1. GMA Effect on Income

- ◆ What is the effect of GMAs on household income?
- ◆ Ordinary least squares regression to estimate the determinants of household income
 - Function of household and community characteristics (such as education, size of household, assets, infrastructure)
 - Included a variable representing whether the household lives in a GMA

1. GMA Effect on Income

(continued)

- ◆ GMA households have lower average income
 - Also more remote, less education, fewer assets
- ◆ Households in prime GMAs have 17% higher income than households in other rural areas, controlling for other factors
 - The presence of a tourist lodge in the SEA contributes another 18% of household income
- ◆ Gains from living in a prime GMA accrue to wealthiest 40% of the population

2. Sources of Income

- ◆ What are the *sources* of income that generate the GMA effect?
- ◆ Double-hurdle regression to estimate
 1. the probability of earning income from wage employment
 2. the determinants of wage income
- ◆ Same approach for self-employment income

2. Sources of Income

(continued)

- ◆ Households in prime GMAs are 7.8% more likely to be employed
 - Households in secondary or specialized GMAs are 7.4% more likely to report wage income
 - Households in communities where there is a tourist lodge are 6.6% more likely
- ◆ Households in prime GMAs can be expected to earn 116% more on average from wage employment

2. Sources of Income

(continued)

- ◆ Households in prime GMAs are 6.9% more likely to report income from self employment
 - Effect is less than for wage income
 - Household size (number of children and adults) and infrastructure also contribute to self-employment income



3. GMA Effect on Crop Losses

- ◆ What are the effects of GMAs on crop losses from wildlife damage?
- ◆ Double-hurdle regression to estimate
 1. the probability of incurring crop losses from wildlife damages
 2. the determinants of the value of crop losses

3. GMA Effect on Crop Losses

(continued)

- ◆ Households in prime GMAs are 16.1% more likely to experience crop damages
 - Households in secondary or specialized GMAs are 12.2% more likely to report crop damages
- ◆ Households in GMAs are expected to incur greater losses from crop damage (average = Kw 30,079)
 - Effect is greater in prime GMAs

Conclusions

- ◆ Prime GMAs and tourist lodges contribute positively to rural household income
 - Gains accrue primarily to non-poor households
 - GMA effect is positively associated with income from wage and self employment
 - Policies to build capacity for participation by poor households?
- ◆ Households in prime GMAs are positively associated with both probability and value of crop damage losses
 - Suggests broader role for village scouts to curb crop damage
 - Mechanism for compensating farmers for losses?

Next Steps

- ◆ From ADMADE lessons-learned paper “CBNRM Institutions in Zambia: Building on a Decade of Experience (2000)” ...lack of evidence of success of CBNRM programs because:
 - Policies constrain resource benefits and use rights for local land owners
 - Poverty and food security not adequately addressed
 - Institutional organizations limit household participation

(African College for CBNRM, 2000)