

Short communication

An assessment of local people's participation in natural resources conservation in southern Zimbabwe

Edson Gandiwa^{1*}, Patience Zisadza-Gandiwa², Clayton Mashapa³, Elias Libombo⁴ and Never Muboko¹

¹School of Wildlife, Ecology and Conservation, Chinhoyi University of Technology, Private Bag 7724, Chinhoyi, Zimbabwe

²Transfrontier Conservation Areas Unit, Zimbabwe Parks and Wildlife Management Authority, P.O. Box CY 140, Causeway, Harare, Zimbabwe

³Department of Natural Resources and Wildlife Management, Faculty of Agriculture and Natural Resources, Africa University, P. O Box 1320, Mutare, Zimbabwe

⁴Scientific Services, Gonarezhou National Park, Zimbabwe Parks and Wildlife Management Authority, Private Bag 7003, Chiredzi, Zimbabwe

Accepted 18 February, 2014

We assessed the participation of local people in community-based natural resources management under the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in southern Zimbabwe. We focused on four randomly selected CAMPFIRE communities surrounding Gonarezhou National Park. Data were collected in October 2013 through semi-structured questionnaires administered through interviews. Our results showed that there were significantly more men than women in the CAMPFIRE committees. Surprisingly, we recorded that no youths, those below the age of 25 years, were part of the CAMPFIRE committees. CAMPFIRE committee members across the study area were within the age range of 25–60 years. We therefore recommend that: (i) youths should be deliberately included in management committees focussing on natural resources conservation, and (ii) conservation awareness and education needs to be streamlined and enhanced to improve attitudes of both the elderly and youths toward community-based natural resources management initiatives.

Key words: CAMPFIRE, community-based natural resource management, Gonarezhou National Park, local people, sustainable utilization

INTRODUCTION

The role of government and the peoples' demographic pattern in regulating community-based natural resources management is being questioned, both from pragmatic and ethical viewpoints of sustainability of enhancing natural resources management (Muchapondwa, 2003; Mugabe, 2004). Devolution over local natural resource management is clearly crafted in the case of wildlife in Zimbabwe, through the Communal Area Management Programme for Indigenous Resources (CAMPFIRE) (Jones and Murphree, 2001; Muboko and Murindagomo, 2014), a programme which grants appropriate authority to rural district councils underpinned by Zimbabwe's Parks

And Wildlife Act (1975) and its subsequent amendments. CAMPFIRE aims to ensure that revenue derived from wildlife, i.e., hunting concessions, trophies, safaris and eco-tourism, directly reaches rural communities, rural district councils and not just the central national treasury (Hasler, 1999; Alexander and McGregor, 2000).

Under Zimbabwe's Parks and Wildlife Act of 1975, hunting and ranching of non-endangered wildlife is allowed in both communal and commercial farming areas, under the logic of sustainable utilization philosophy (ZPWMA, 2011). CAMPFIRE seeks to have national government, primarily through the Zimbabwe Parks and Wildlife Management Authority, work in conjunction with local communities and rural district authorities to broaden local ownership and management of wildlife and other natural resources (Logan and

*Corresponding authors: E-mail: egandiwa@gmail.com

Moseley, 2002). The CAMPFIRE program also stipulates about 55% of benefits which result from local custody and exploitation of natural resources should accrue to the local community directly (Hasler, 1999; Jonga, 2011). The institutional structure for the management of wildlife and other natural resources is centred on rural district councils, ward development committees, village development committees and local traditional leaders (Murphree, 2001). CAMPFIRE, as described by its supporters, is targeted at financially aiding local people who live in constant contact with potentially dangerous, albeit potentially lucrative, wildlife (Bond, 2001; Muir-Leresche et al., 2003).

Under CAMPFIRE, all community members become shareholders in the cooperative. Ideally, they receive benefits from income, employment, production and community development generated by tourism, ivory culling, meat marketing and problem animal control. Our study aimed at examining the nature and extent of local people's participation in natural resources management, i.e., CAMPFIRE in southern Zimbabwe. Recent studies in southern Zimbabwe suggest that the active involvement of local people in decision making regarding community-based natural resources management is important in the perceived effectiveness and success of CAMPFIRE programs (Gandiwa, 2013; Gandiwa et al., 2013). Therefore, one possible hypothesis is that the CAMPFIRE program could be less attractive to the youths, i.e., those aged between 15 and 24 years. If such a hypothesis holds, then what are the chances for the youths to provide an efficient, innovative and productive labour force for rural development, food security and livelihoods restoration through sustainable natural resources management within the CAMPFIRE program in Zimbabwe and elsewhere in sub-Saharan Africa?

MATERIALS AND METHODS

Study area

Our study focused on four randomly selected CAMPFIRE communities (i.e., Chibwedziva, Muhlangueni, Chibhava/Hlengwe, and Ndali) adjacent to Gonarezhou National Park in southern Zimbabwe. The four study sites are all communal areas under Chiredzi District. CAMPFIRE programs were implemented in the study area in the early 1990s. More details about the administrative structure of CAMPFIRE are provided by Gandiwa (2013). Gonarezhou National Park (lying between 21° 00'–22° 15' S and 30° 15'–32° 30' E) is the second largest protected area in Zimbabwe, with a spatial extent of 5,053 km². Gonarezhou National Park borders Mozambique and South Africa, and is part of the Great Limpopo Transfrontier Conservation Area. The park is endowed with diverse animal, plant, bird and fish species (ZPWMA, 2011; Gandiwa et al. 2012).

Data collection

Within the four randomly selected communities, following the method outlined by Gandiwa et al. (2013), interviews with the aid of a semi-structured questionnaire were conducted with CAMPFIRE committee secretaries in October 2013 since these had good knowledge of CAMPFIRE programs. Pre-testing was conducted in two CAMPFIRE committees, outside of the study communities to ensure that all questions were clear, and a final version of the questionnaire was prepared for sampling. Interview dates were communicated to the four selected CAMPFIRE committees one or two days in advance. Before conducting the interviews, the general purpose of the study was explained. Interviews were conducted in English language. We specifically addressed the following topics: (i) number of people in the CAMPFIRE committee, (ii) gender composition in the CAMPFIRE committee, (iii) ages of the CAMPFIRE committee members, (iv) reasons for the involvement or non-involvement by the youths, and (v) suggestions for further improving the involving of the youth in natural resources management. Interviews took approximately 35 minutes to complete.

Data analysis

Descriptive statistics were used to summarize the property of the interview response data. The median as a measure for central tendency and the range to represent the variability in response data were computed for some of the interview response data. We used Chi-square goodness-of-fit tests to analyse data on the (i) number of people in the CAMPFIRE committees, and (ii) gender composition in the CAMPFIRE committees using STATISTICA version 7 for Windows (StatSoft, 2001). A *P* value < 0.05 was deemed significant. Moreover, data on the reasons for the involvement or non-involvement by the youths, and suggestions for further improving the involving of the youth in natural resources management were qualitatively analysed.

RESULTS

Our study showed that there were no significant differences in the number of CAMPFIRE committee members across the four study communities (median = 9, range = 7–10; $\chi^2 = 0.77$, *df* = 3, *P* = 0.857). There were significantly more men (median = 6; range = 5–7) than women (median 2.5; range = 2–4) in CAMPFIRE committees across the four study communities (Table 1; $\chi^2 = 4.12$, *df* = 1, *P* = 0.042). Moreover, CAMPFIRE committee members across the study area were within the age range of 25–60 years. (Table 1)

Table 1: Composition of the CAMPFIRE committees across the study area

Attribute	Community				Total
	Chibwedziva	Muhlanguleni	Chibhava/Hlengwe	Ndali	
Number of CAMPFIRE committee members	10	7	10	8	35
Number of men in CAMPFIRE committee	7	5	6	6	24
Number of women in CAMPFIRE committee	3	2	4	2	11

Our results showed that no youths were part of the CAMPFIRE committees in the four study communities. This was attributed to the following: (i) a higher proportion of the youths were engaged and/or preferred employment in which they got a monthly salary mostly outside their rural communities, and (ii) youths were not mostly voted for and/or elected by local people. Apart from being left out in CAMPFIRE programs, the local readily available youths were reported to be pre-occupied by educational activities, cross-border trading, and sporting activities.

Interestingly, the respondents suggested that: (i) there was need for communities to involve the youths through selecting them in the CAMPFIRE committees, and (ii) local CAMPFIRE constitutions needed to be amended to ensure that youths participate in CAMPFIRE committees through having a set quota the number of youths. However, it was highlighted that the youths benefit from CAMPFIRE program proceeds since these are directed to family groups and/or community infrastructural developments.

DISCUSSION

We recorded fewer women than men in the four sampled CAMPFIRE committees in southern Zimbabwe. This situation can be explained by two main reasons. First, community-based natural resources management is relatively more easily fitted into African men's daily chores. Second, as stated by Goodwin (2009), men in African households dominate natural resources management activities because they continue to bear primary responsibility for household sustenance and well-being. It is important for rural communities in natural resources management and development programs like CAMPFIRE to promote gender equality so that both men and women have an equal opportunity to benefit from and contribute to economic, social, cultural, and political development (United Nation, 2013). This means that the local people involved in CAMPFIRE ought to take into consideration: (i) how the different roles, responsibilities, and status of men and women affect the work of natural resources management; and (ii) how the expected CAMPFIRE outputs and impact affect men and women. Similarly, in some socially conservative communities, particularly in Africa, men and women participation in developmental projects is heavily influenced by social norms (Beach, 1980). It is well-understood that men have

more access to and control over natural resources and decision making largely due to traditional and/or cultural values, and societal expectations (Berry, 1989). Addressing these concerns takes into account not only the different roles of men and women, but also the relationship between men and women, and the broader institutional and social structures that support them (Berkes, 2004).

Our study revealed that CAMPFIRE committees in southern Zimbabwe is founded on a gender and age-based division of labour, reminiscent of what is found throughout sub-Saharan Africa, wherein the middle-aged and elderly men and women (25–60 years) are actively involved in community-based natural resources management activities than their youth counterparts (Gumbo, 1993; Matowanyika, 1997). This is likely linked to the fact that youth unemployment have developed into a cultural phenomenon, i.e., many of the unemployed urban youths are in fact of rural origins, and are hanging on in the cities to avoid returning to their villages, where they will be expected to help in agriculture and natural resources management, and experience subordination to the older generations (White, 2012). Fundamentally, it appears as if the diversifying modern economy in the African context, makes community-based natural resource management under CAMPFIRE less attractive as an economic pursuit, and makes dwelling in rural areas less desirable as a lifestyle choice for the youth. Honey (1999) articulated best practices and guiding principles of ecotourism, one of which was the need for communities to genuinely benefit from the ecotourism activity and to be provided a means of influencing protected area management to embrace the youth. To do the latter, Phillips (2003) argued that protected area managers in mostly developing countries must be skilled in engaging local communities in dialogue, and identifying win-win management scenarios for protected areas, and the youthful local people. Previous research has demonstrated the success of such community-based natural resources management participation in numerous developing countries around the world, including Ecuador (Becker et al., 2005), Cameroon (Bauer, 2003), and South Africa (Farrell and Marlon, 2002). These benefits range from economic opportunity for the youth, and the wider population structure to mutual appreciation for protected areas and community-based natural resources management.

In 2011, the Australian Government announced an Indigenous Ranger Cadetship Programme targeting the youths (DEEWR, 2011). The aim of the programme was to provide indigenous young people with the necessary skills and knowledge to become rangers. This government initiative has the potential to significantly influence youth engagement within the natural resources management sector. Zimbabwe and other African countries could take a leaf from the Australian Indigenous Ranger Cadetship Programme that empowers the youth towards community-based natural resources management. Thus, the lack of engagement of youths in natural resources management is a priority concern that needs to be addressed. This engagement is vital to meeting the demands of the natural resources management sector given the emerging international environmental issues and modern technological developments (Aslin and Brown, 2004). Importantly, greater youth's engagement could gradually replace the 'ageing' group of natural resources management practitioners in some communities, where a strategic approach to succession planning is necessary. Moreover, engagement in natural resources management is also seen as a means of improving youth's self-esteem and an alternative to less desirable social activities.

While indigenous youth engagement is seen as a priority, it cannot be assumed that indigenous youths are readily attracted to a career in natural resources management. In a study of employment outcomes for the Indigenous Ranger Cadetship Programme in Australia, a majority of graduates of the programme subsequently gained employment in other industries (Fordham et al., 2010). It is essential to acknowledge that this does not detract from the importance of these programmes; indeed it emphasises the value of investing in youth engagement to enhance job readiness for indigenous youth across a range of employment opportunities. Rather than focusing solely upon contemporary wildlife science, training should recognise and incorporate indigenous ecological knowledge as an integral part of the overall set of skills and knowledge that can be applied to land management by indigenous youths. These complementarities of contemporary science and indigenous ecological knowledge in natural resources management have been well documented in the literature (e.g., Henry, 2006; Fordham et al., 2010; DEEWR, 2011; Gandiwa, 2012). In view of the ongoing rural poverty, the relatively high levels of unemployment in Zimbabwe (ZimVac, 2012), and 'ageing' local people involvement in community-based natural resources management, the African governments could be urged to advocate for policy enactments that should pay more attention to promote attractive viable relationships among women, young people, and community-based natural resources management (Berkes, 2004). Benefits like direct income including roadwork, entertainment centres, college buildings, and other rural modern infrastructure

improvements related to CAMPFIRE programs which enhance rural life, provide employment, and entrepreneurial opportunities for youths could be a pull factor for the active young workforce to play their role as anticipated in community-based natural resources management within the CAMPFIRE program.

CONCLUSION

Our study recorded that the youths and women in southern Zimbabwe like elsewhere in Africa, have a low level of participating in community-based natural resources management. The African youths workforce tends to prefer to engage in formal employment where individual income are guaranteed as compared to family group and/or community benefits derived from CAMPFIRE programs. The transaction costs of institutional set-up and operations for community-based natural resources management may be high with little direct individual benefit disbursement, to the point where the CAMPFIRE program could be less attractive to the youths. Moreover, our results show that there is a gender bias in preference of men over women in CAMPFIRE committee membership selection. Thus, for the women and youths to provide an efficient, innovative and productive labour force for rural development, and food security through sustainable community-based natural resources management within CAMPFIRE programs, we recommend the following: (i) decisions and actions regarding community-based natural resources management need to include the women and youths in management structures, and (ii) conservation awareness and education need to be streamlined and enhanced to improve attitudes of both the elderly and youths towards collective appreciation linked to attractive benefits of community-based natural resources management initiatives.

ACKNOWLEDGEMENTS

We are grateful to the Zimbabwe Parks and Wildlife Management Authority, Chiredzi Rural District Council, and CAMPFIRE committees in communities adjacent to Gonarezhou National Park for supporting this study. We also thank an anonymous reviewer for the constructive comments and suggestions, which helped improve the manuscript.

REFERENCES

- Alexander J, McGregor J (2000). Wildlife and politics: CAMPFIRE in Zimbabwe. *Dev. Change* 31(3): 605-627.
- Aslin HJ, Brown VA (2004). Towards Whole of Community Engagement: A Practical Toolkit. Murray-Darling Basin Commission, Canberra.

- Bauer H (2003). Local Perceptions of Waza National Park, Northern Cameroon. *Environ. Conserv.* 30(2): 175-181.
- Beach DN (1980). The Shona and Zimbabwe, 900-1850: an outline of Shona history. African Publishing Company, New York.
- Becker CD, Ana A, Evelynng A, Melina C, Pascual T (2005). Community-based monitoring of fog capture and biodiversity at Loma Alta, Ecuador enhance social capital and institutional cooperation. *Biodivers. Conserv.* 14(11): 2695-2707.
- Berkes F (2004). Rethinking community-based conservation. *Conserv. Biol.* 18(3): 621-630.
- Berry S (1989). Social institutions and access to resources. *Africa* 59: 41-55.
- Bond I (2001). CAMPFIRE and the incentives for institutional change. In: Hulme D, Murphree M (eds.). African Wildlife and Livelihoods: The Promise and Performance of Community Conservation. James Currey, Oxford. pp. 227-243.
- Department of Education, Employment and Workplace Relations (Cited as DEEWR) (2011). Indigenous Ranger Cadetships to start at School, Media Release. Accessed 24 January 2014. Available at <http://www.deewr.gov.au/Ministers/Garrett/Media/Releases/Pages/Article_110516_135329.aspx>.
- Farrell T, Marlon J (2002). The protected area visitor impact management (PAVIM) framework: A simplified process for making management decisions. *J. Sust. Tourism* 10(1): 31-51.
- Fordham A, Fogarty W, Corey B, Fordham D (2010). Knowledge foundations for the development of sustainable wildlife enterprises in remote Indigenous communities of Australia. CAEPR Working Paper No. 62, ANU, Canberra.
- Gandiwa E (2012). Local knowledge and perceptions of animal population abundances by communities adjacent to the northern Gonarezhou National Park, Zimbabwe. *Trop. Conserv. Sci.* 5(3): 255-269.
- Gandiwa E, Zisadza-Gandiwa P, Mutandwa M, Sandram S (2012). An assessment of illegal fishing in Gonarezhou National Park, Zimbabwe. *E3 J. Environ. Res. Manage.* 3(9): 0142-0145.
- Gandiwa E (2013). The Numbers Game in Wildlife Conservation: Changeability and framing of large mammal numbers in Zimbabwe. PhD Thesis. Wageningen University, Wageningen, The Netherlands.
- Gandiwa E, Heitkönig IMA, Lokhorst AM, Prins HHT, Leeuwis C (2013). CAMPFIRE and human-wildlife conflicts in local communities bordering northern Gonarezhou National Park, Zimbabwe. *Ecol. Soc.* 18(4): 7. <http://dx.doi.org/10.5751/ES-05817-180407>.
- Goodwin H (2009). Reflections on 10 years of pro-poor tourism. *J. Pol. Res. Tour. Leis. Events* 1(1): 90-94.
- Gumbo D (1993). Is there traditional management of indigenous forest resources in the communal lands of Zimbabwe? In: The ecology and management of indigenous forests in southern Africa. Forestry Commission, Harare.
- Hasler R (1999). An overview of the social, ecological and economic achievements and challenges of Zimbabwe's CAMPFIRE Programme. Evaluating Eden Discussion Paper No. 3. International Institute for Environment and Development, London, UK.
- Henry B (2006). Aboriginal Junior Ranger Programs in Canada: Best practices and implementation. First Nations Forestry Program, Proceedings of the Engaging Aboriginal Youth Forestry Workshop, 17-18 January, Winnipeg, Manitoba.
- Honey M (1999). Ecotourism and Sustainable Development: Who Owns Paradise? Island Press, Washington, D.C.
- Jones B, Murphree M (2001). The evolution of policy on community conservation in Namibia and Zimbabwe. In: Hulme D, Murphree M (eds.). African Wildlife and Livelihoods: The Promise and Performance of Community Conservation. James Currey, Oxford, UK, pp. 38-58.
- Jonga C (2011). CAMPFIRE Association revenue report, 2011. CAMPFIRE Association, Harare.
- Logan BI, Moseley WG (2002). The political ecology of poverty alleviation in Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE). *Geoforum* 33(1): 1-14.
- Matowanyika J (1997). Resource Management and the Shona People of Zimbabwe. In: IUCN Inter-Commission Task Force on Indigenous People, Indigenous Peoples and Sustainability. International Books, Cases and Actions, Utrecht.
- Muboko N, Murindagomo F (2014). Wildlife control, access and utilisation: Lessons from legislation, policy evolution and implementation in Zimbabwe. *J. Nat. Conserv.* <http://dx.doi.org/10.1016/j.jnc.2013.12.002>.
- Muchapondwa E (2003). The economics of community-based wildlife conservation in Zimbabwe. PhD dissertation. Göteborg University, Göteborg, Sweden.
- Mugabe P (2004). Is community based natural resources management a possible resettlement option? The case for the south eastern lowveld of Zimbabwe. Commons Southern Africa Occasional Paper Series No. 2 of 2004, Centre for Applied Social Sciences, University of Zimbabwe, Harare.
- Muir-Leresche K, Bond I, Chambati W, Khumalo A (2003). An analysis of CAMPFIRE revenue generation and distribution: the Worst decade (1989-2000). WWF-SARPO, Harare.
- Murphree M (2001). Community, council and client: a case study in ecotourism development from Mahenye, Zimbabwe. In: Hulme D, Murphree M (eds.). African Wildlife and Livelihoods: The Promise and Performance of Community Conservation. James Currey, Oxford, UK, pp. 177-194.
- Phillips A (2003). Turning Ideas on Their Head: The New Paradigm for Protected Areas. *George Wright Forum* 20(2): 8-32.
- StatSoft (2001). STATISTICA for Windows, version 6, StatSoft Inc. 2300 Tulsa.
- United Nations (2013). The Millennium Development Goals Report. United Nations, New York.
- White B (2012). Agriculture and the generation problem: rural youth, employment and the future of farming. In: Sumberg J, Wellard K (eds.). Young people and agriculture in Africa. IDS Bulletin 43, pp 9-19.
- Zimbabwe Parks and Wildlife Management Authority (cited as ZPWMA) (2011). Gonarezhou National Park General Management Plan 2011-2021. Zimbabwe Parks and Wildlife Management Authority, Harare.
- ZimVac (2012). Zimbabwe Vulnerability Assessment Committee, Zimbabwe Rural Livelihoods Assessment May 2012 Report. Food and Nutrition Council. SIRDIC, Harare