



COMMUNITY-BASED CONSERVATION USING WILDLIFE MANAGEMENT AREA MODEL IN THE RUVUMA LANDSCAPE IN TANZANIA: ENTREPRENEURIAL MYTH OR REALITY?

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ABSTRACT

Wildlife Management Areas (WMAs) under Tanzania WMA Regulations are entrepreneurial entities with the target to generate income to be shared with local communities forming the WMAs. This target has remained largely unrealized in the WMAs in the Southern Tanzania and hence entrepreneurial apprehensiveness amongst the WMAs. The objective of this study was to assess this economic anticipation and entrepreneurial performance of WMAs in the Ruvuma landscape. Five WMAs from Ruvuma region were involved in the study; Mbarang'andu and Kisungule WMAs from Namtumbo District; and three WMAs namely Chingoli, Kimbanda and Tunduru Tunduru District. From each WMA two villages were selected making a total of 10 villages. A sample of 100 households was randomly selected from a population of 35,063 households in 10 villages. A semistructured questionnaire was used to collect quantitative data and Focus Group Discussion (FGD) was used to collect qualitative data. Quantitative data were analyzed descriptively in which t-test was performed. Qualitative data were analyzed using content analysis. Revenue records of the WMAs showed only Mbarang'andu and Tunduru WMAs have been generating income through trophy hunting since establishment. The actual income was found to be significantly different from the projected income in the business plan for both Mbarang'andu WMA and Tunduru WMA. The situation is desperate for Kimbanda, Kisungule and Chingoli WMAs with no income-generating activities since establishment. That is contrary to the economic anticipation putting a paradox, is this form of wildlife management an entrepreneurial myth of reality to these communities? Over-ambitious resource management plans, lack of proper marketing and business plans, and low entrepreneurial capacities are the responsible factors for the economic shortfall of the WMAs in the Ruvuma landscape and recommendation is for deliberate efforts to address these underlying factors.

Keywords: WMAs, Entrepreneurship, Income-generation, Tanzania

1.0 INTRODUCTION

Wildlife Management Areas (WMAs) in accordance to Tanzania Wildlife Management Areas Regulations operate as entrepreneurial entities generating income through wildlife tourism activities such as wildlife hunting, game viewing, cultural tourism activities, accommodation

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investments like eco-lodges and campsites, and cultural tourism activities (URT, 2012). This anticipation has remained apprehensive in many WMAs particularly in WMAs in the Southern Tanzania where tourism industry largely has inclined to hunt which have a very marginal income generation (Economists at Large, 2013) and hence limited entrepreneurial realization.

WMA involve co-management of wildlife and habitat between government and local communities which represents a new paradigm of wildlife management in Tanzania that has its roots in the late 1980s. This form of Community Based Wildlife Management (CBWM) is an effort of reforming the colonial and post-colonial experiences which excluded the local communities (Nelson, Nshala and Rodgers, 2007) and generally has gained positive response across Africa (Galvin, Beeton and Luizza, 2018). This approach seeks to achieve both conservation goals, and local communities involvement and economic empowerment through some forms of entrepreneurial initiatives.

Southern Africa has a long record in experiencing community-based wildlife conservation, pioneered by the well known Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe, subsequently implemented in various countries in the Sub-region under different names and with slightly different approaches and variable results (Balduz, 2009). In CAMPFIRE Rural District Councils, on behalf of communities on communal land, are granted the authority to market access to wildlife in their district to safari operators; selling hunting and photographic safaris to mostly foreign sport hunters and eco-tourists and a share of the revenue goes to the local communities (Frost and Shag, 2008). In Namibia CBWM, communal conservancies have gained international commendation for rural poverty alleviation through ecotourism enterprise development through the generation of community revenues (Hoole, 2010). In Kenya, CBWM takes in some group ranches or conservancies which have formed Community Wildlife Conservancies (Williams, Thorne, Sumba, and Murithi, 2017) which are communal lands with registered property title to families of largely pastoralist origin. Enterprises in these conservancies like ecolodges, tented camps and cultural *manyattas* (Maasai housings designated for tourism) have been generating revenue which is shared to the communities and also provide direct employment to community members, directly economically benefiting individual community members (Mureithi, Verdoodt, Njoka, Olesarioyo, and Van Ranst, 2019).

2.0 REVIEW OF WILDLIFE MANAGEMENT AREA MODEL

The Wildlife Management Area Model (WMA- Model) is defined by various scholars. For instance, Organ, Geist, Mahoney, Williams, Krausman, Batcheller, Decker, Carmichael, Nanjappa, Regan, Medellin, Cantu, McCabe, Craven, Vecellio, and Decker (2012) defined the North American Model of Wildlife Conservation as a set of principles that collectively applied, has led to the form, function and successes of wildlife conservation and management in the United States and Canada. Further, Siamundele (2011) defined community-based wildlife management model approaches as the approaches that embrace human development and conservation. Similarly, Olsen, Ekwoje, Ongie, Acworth, O’Kah and Tako (2001) defined community wildlife management model as the establishment of how biodiversity on Mount Cameroon can be

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maintained and the livelihood of local resource users is improved. In this study, therefore, WMA Model is referred to the approach that is aimed at empowering the local community surrounding protected areas to utilize profitably and sustainably the wildlife resources according to the regulations in Tanzania.

Tanzania adoption of WMA model transpired following the apparent failure of past, traditionally centralized wildlife management policies and practices which was witnessed with the decline of rhino and elephant population as well as other wildlife (Nelson, Nshala and Rodgers, 2007). The crisis facing wildlife at that time provoked changes in government thinking about wildlife policy and management. WMAs, therefore, emerged during the reform process in the 1990s as the new framework for communities to manage and benefit from wildlife (Baldus, Hahn, Kaggi, Murphree, Mahundi, Roettcher, Siege and Zacharia., 2001; URT, 2007). WMAs implementation formally began in 2003, following WMA Regulations first issued in 2002, with the establishment of sixteen pilots WMA. The first WMA gazetted in 2006 and up to 2015, 38 WMA had been established (Williams, 2017). Among the first gazetted WMAs are Mbarang'andu and Tunduru WMAs in Namtumbo and Tunduru Districts in the year 2006 and 2007 respectively. Some of the other WMAs in Ruvuma landscape are Kimbanda and Kisungule WMAs in Namtumbo, and Chingoli WMA in Tunduru WMA all gazetted in 2012 (WWF, 2012).

The underlying principle of WMA as a Community Based Conservation is to devolve the management of wildlife from the central government local communities (Murphree, 2000) and so giving them the contractual power with investors in the WMA. In that way, WMAs are the emerging market and business platforms aiming at improving local people livelihood through wildlife utilization like trophy hunting, game viewing, camping, and accommodation in the areas and other permitted forms of natural resources utilization in areas. WMAs as business platform unlike traditional entrepreneurship do not only focus on measuring profit but also social and environmental benefits, that way can be considered a form of environmental entrepreneurship.

The fact that the number of WMAs have increased from 16 pilot WMAs in 2002 to 38 WMAs in 2015 (Williams, 2017) and more underway to be formed is an indication of conservation effectiveness of WMA concept (Lee, 2018; Lee & Bond, 2018) but slightly progressing as rural entrepreneurship initiative as an engine for socio-economic change (ESPA, 2017). From the onset, WMA concept was clouded with mythical perceptions overwhelmed with promises for improved local communities income and livelihood through the utilization of wildlife resources, a compelling and convincing rationale (Hulme & Murphree, 1999; Kelert *et al.*, 2000). Income generation in the five WMAs in the Ruvuma landscape has not been very promising since their establishment. Only Mbarang'andu and Tunduru WMAs are generating income mainly through trophy hunting and marginally from beekeeping in Mbarang'andu WMA. Chingoli, Kimbanda, and Kisungule WMAs have not been generating any substantial income since the establishment in 2012 creating an entrepreneurial and socio-economic crossroad state of mind among the local communities. However, the entire Ruvuma landscape area is of high economic potential but has remained unexploited deserving entrepreneurial attention.



WMAs managerial operations are uniformly guided by WMA Regulations, but the actual entrepreneurial and socio-economic success vary across the country (WWF, 2012). Similarly, business types vary with WMAs in the Southern Tanzania relying on trophy hunting as the main business while the Northern and Western Tanzania WMAs operating with a combination of trophy hunting and game viewing safaris together with accommodation and associated activities (WWF, 2012) bringing an entrepreneurial synergy. The Northern WMAs e.g. Ikona, Burunge, Enduimet and Makame WMAs are on high-income end among the WMAs in Tanzania. This indicates the significance of diversified tourism products in WMAs entrepreneurship, socio-economic (Sulle *et al.*, 2011) and biodiversity conservation (Kiss, 2004) but not necessarily outright success (Moyo, 2018; Moyo *et al.*, 2016; Mwakaje *et al.*, 2013; Salerno *et al.*, 2016) since the realized benefits are marginal (Schroeder, 2008; Galvin, Beeton and Luizza, 2018). Trophy hunting narrowly benefits the local communities, only by 3% of the gross revenue from hunters (Economists at Large, 2013) hence the limited entrepreneurial opportunity to WMAs. This polarization and type of business in WMAs, unfortunately, extends to the advertisement of opportunities in WMAs where the Southern WMAs are not sufficiently promoted as in the case of Tanzania Tourist Board (TTB) advertising investment opportunities in all WMAs in Tanzania only focusing on five WMAs namely Enduimet, Ikona, Randiren (in Northern Tanzania), Ipole and Mbomipa WMAs (TTB, no date). Therefore, this study examines economic anticipations and entrepreneurial performance of Mbarang'andu, Tunduru, Kimbanda, Kisungule and Chingoli WMAs in the Ruvuma landscape in Southern Tanzania.

2.1 Theoretical Framework

The framework for assessing WMA as an entrepreneurial entity was based on WMA Regulation set up (URT, 2012) in particular section V, VI, and IX. Section V guides resources utilization e.g. fish product, beekeeping, forest products, wildlife and mining in the WMAs and includes a tendering process for getting investors to the WMAs. Section VI provides guidelines on means of doing business in the WMAs including investments and developments and that way reflecting WMA as an entrepreneurial entity. Section IX of the regulations provides a guideline on benefit-sharing of the annual gross revenue from the WMA, further emphasizing the WMAs to operate as entrepreneurial entities in the sense of generating income. Furthermore, the expectations big picture as was created on the introduction of the concept and establishment of the WMA formed the background against the entrepreneurial success or shortfall of the WMAs in the Ruvuma landscape to date.

3.0 RESEARCH METHODOLOGY

3.1 The Study Area

The study was conducted in Namtumbo and Tunduru district in Ruvuma landscape in Southern Tanzania. Ruvuma landscape is part of the Selous-Niassa wildlife corridor connecting Selous

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Game Reserve in Tanzania and Niassa Reserve in Mozambique which is the largest extensive Miombo woodland and is considered to be one of the few remnant wilderness areas and home of the second-largest elephant population in Africa (WWF-CEAI, 2014). The area extends from Northern Mozambique crossing Ruvuma River, covering southeastern coast of Tanzania with upper limits being southern parts of Morogoro Region in Tanzania. The area offers extensive entrepreneurial opportunities including hunting, intact forest for beekeeping and other forest products, heritage sites, rivers for fish farming developments, attractive sceneries for walking safaris and camping in various places. The area which was once the best wilderness and the least populated has become one of the fastest-growing regions in Coastal East Africa due to the vast discovery of natural resources (WWF-CEAI, 2014). Developments due to the discovery of natural resources pose threat to livelihoods of local populations found in the landscape and WMAs is conservation entrepreneurial initiative to address the growing threats.

3.2 Data Collection and Analysis Methods

Data were collected from 15th to 27th November 2018 involving five WMAs which were purposefully selected, Mbarang'andu and Kisungule WMA each formed by seven and five villages respectively in the Namtumbo District; and three WMAs namely Chingoli, Kimbanda and Tunduru with four, three and ten members' villages respectively from Tunduru District. From each WMA two villages were selected randomly making a total of 10 villages out of 36 villages in five WMAs; the selected villages were Nambecha and Kitanda in Mbarang'andu WMA; Milonji and Ligunga in Kimbanda WMA; Amani and Sasawala in Kisungule WMA; Kajima and Namwinyu in Tunduru WMA; and Misyaje and Malumba in Chingoli WMA. The criteria for selecting these villages were AA recommendations, accessibility and representation of administrative wards and districts. Twenty (20) households were selected from each village making a total sample size of 100 subjects which was selected from a population of 35,063 villagers. The sample was randomly selected from the lists of households in village register books and the criteria for selection were gender and age for those with 18 years old and above. Focus Group Discussions (FGDs), semi-structured questionnaire and secondary data collection methods were deployed in this study. FGDs were organized for the District Natural Resources Advisory Boards (DNRAB) of Namtumbo and Tunduru Districts, village leaders and the WMA leaders of Mbarang'andu, Nakika, Chingoli, Kimbanda, and Kisungule WMAs. The DNRAB members' composition is stipulated in WMA regulations (URT, 2012), not exceeding 12 individuals. FGD Attendance was 11 and 7 individuals for Namtumbo and Tunduru Districts respectively. The FGDs for the WMAs leaders ranged from five to eight individuals, while FGDs for village leaders ranged from four to six depending on their availability. In total 17 FGDs were conducted, 7 in Namtumbo and 10 in Tunduru Districts.

The semi-structured questionnaire was administered to 20 randomly selected households in each of the two villages selected for the study from each WMA. Only one of the available adult individuals from each of the household was involved in the study. In case of more than one individual available on the knock-knock to the household, the option was for one individual to voluntarily participate in the study. The sample size of 100 was based on client requirement for this assignment.

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Conservation Business Plans for Tunduru and Mbarang'andu WMAs (2005-2010), income and expenditure records (2011-2018) for the two WMAs were collected as secondary data from the WMAs offices and Namtumbo and Tunduru District Councils. The focus was on income and expenditure records for each WMA, store and registry records for investments, existing business plans (if any) and records of disbursements of funds. Data were analyzed descriptively using MS Excel while T-test using Statistical Package for Social Sciences (SPSS) Ver. 23 software was used to analyze the projected and actual income of the two WMAs. Further, qualitative data obtained from FGD was analyzed using content analysis where they were sorted out, transcribed and later relevant themes were formulated. Finally, discussion and arguments of qualitative findings were carried out and also findings were matched with the literature elsewhere.

4.0 FINDINGS

4.1 Income Generation Activities

Trophy hunting is the only prominent income-generating activity in the Ruvuma landscape, however actively operating only in Mbarang'andu and Tunduru WMA. Mbarang'andu WMA income since establishment (2010 – 2019) summed up to Tshs. 1,525,479,981 and has been varying over the years reflecting different contractual phases with different hunting companies with the pick income in between 2014 and 2017(Fig 1). Other income for Mbarang'andu WMA is sales of bee honey and wax but this account for infinitesimal contribution to the WMA income. Tunduru WMA income since establishment (2009-2018) summed up to Tshs. 148,811,000 however, with gap years in income (2014 & 2015) where the WMA entered into contractual conflict with the investor and opted to terminated the contract and hence zero income from trophy hunting which was the sole source of income to the WMA. Generally, Tunduru WMA shows increasing income trend except for the contractual gap years (Fig. 2). Chingoli, Kimbanda, and Kisungule WMAs have no record of income generation activities since establishment; the records indicated insignificant income from the collection of fines and penalties from poachers, which cannot form the entrepreneurial basis.

Findings from FGDs with Villages' leaders, WMAs' leaders and DNRABs of Namtumbo and Tunduru districts showed the WMAs are generating very low in Mbarang'andu and Tunduru WMAs and no income generation in Chingoli, Kimbanda, and Kisungule WMAs) than expected during the establishment of the WMAs. The situation has brought the sense that the process of the establishment was overemphasized with sweet promises and hence making the WMA initiative rhetoric. The low and/or no income generation has left the communities less appreciative to the socio-economic benefit of the WMAs and hence undermining the entrepreneurial initiatives.

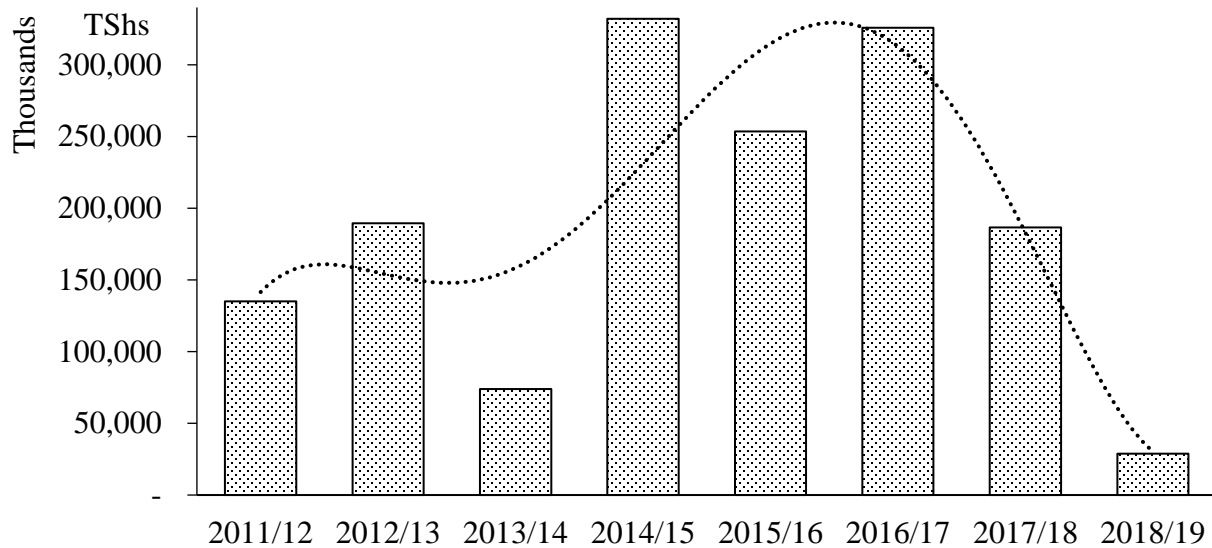


Fig. 1. Income generation in Mbarang'andu WMA from 2011 to 2019

Source: Mbarang'andu WMA Financial Reports (2011-2019)

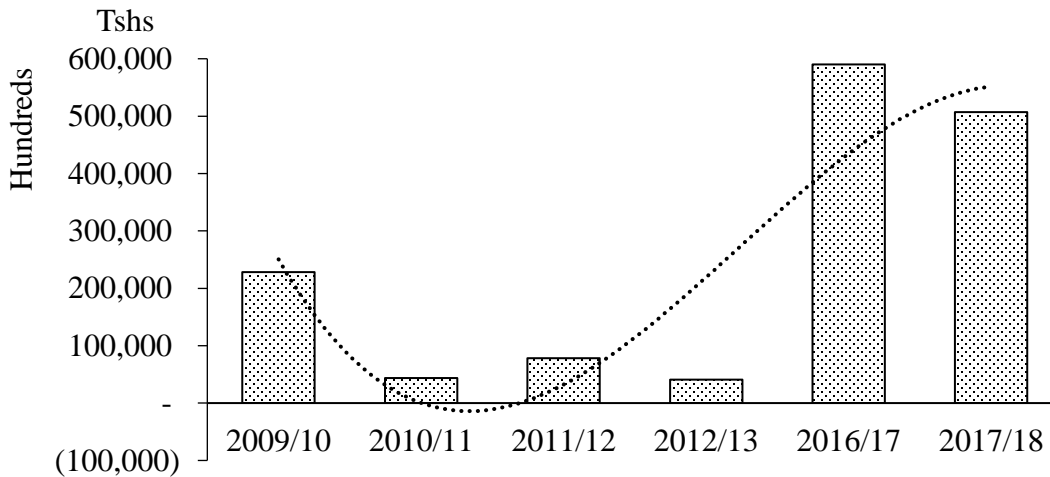


Fig.2. Income generation in Tunduru WMA from 2009 to 2018

Source: Tunduru WMA Financial Reports (2009-2018)

4.2 Wildlife Business Development

Wildlife Management Regulation (URT, 2012) requires at least 15% of the WMA gross income to be used for the development of the WMA, as an investment in the area. In this view

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Mbarang'andu and Tunduru WMAs were expected to have used Tshs. 228,821,997 and Tshs. 22,321,650 in investment activities respectively since their establishment. Of the two WMAs, only Mbarang'andu WMA has been investing back to the WMA mainly in the development of beekeeping and fish farming projects, which are yet to be full-fledged to generate substantial income to the WMA. However, the expenditure on WMA development has been lower than the recommended 15% of the gross WMA income with variation over the years (Fig. 3). Mbarang'andu WMA expenditure in investing back to the WMA summed up to Tshs. 53,891,950 which is 24 % of the expected amount. The highest expenditure on investment was Tshs. 16,800,000 in 2012/13 and the lowest was Tshs. 150,000 in 2015/16 which is 59.07% and 0.39% respectively of the expected investment to the WMA based on the recommended threshold in the WMA regulations. The trend of investing back to the WMA in the reflection of WMA regulations recommended level showed an inverse relation (Fig.3). The recommended amount peaked between 2015 and 2017(solid trend line) but in contrary, the expenditure for investing back to the WMA was the lowest around the same period (dotted trend line) and similar inverse relationship is observed in year 2012/13 (Fig.3).

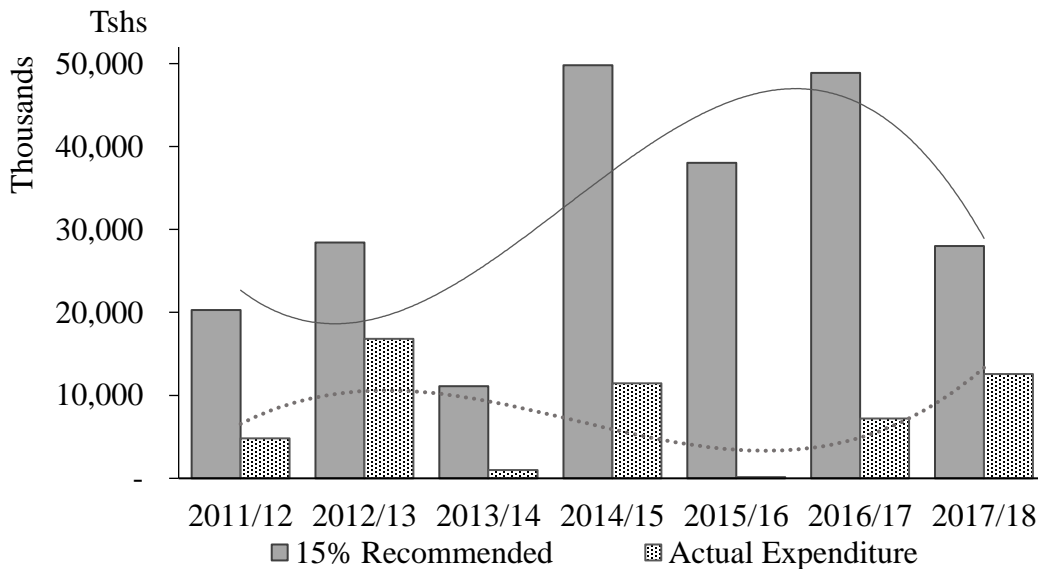


Fig. 3. Expenditure on investment in Mbarang'andu WMA from 2011 to 2018

Source: Mbarang'andu WMA Financial Reports (2011-2018)

Investments in various aspects in the WMA as an entrepreneurial entity is a necessity for business advancement, guided by a business plan. Of the five WMAs, only Mbarang'andu and Tunduru WMAs had developed business plans that became obsolete in 2015. On the other hand, during the period of the business plans (2010-2015), in both Mbarang'andu and Tunduru WMAs, the conservation business was not in line with the business plans. Mbarang'andu and Tunduru WMAs

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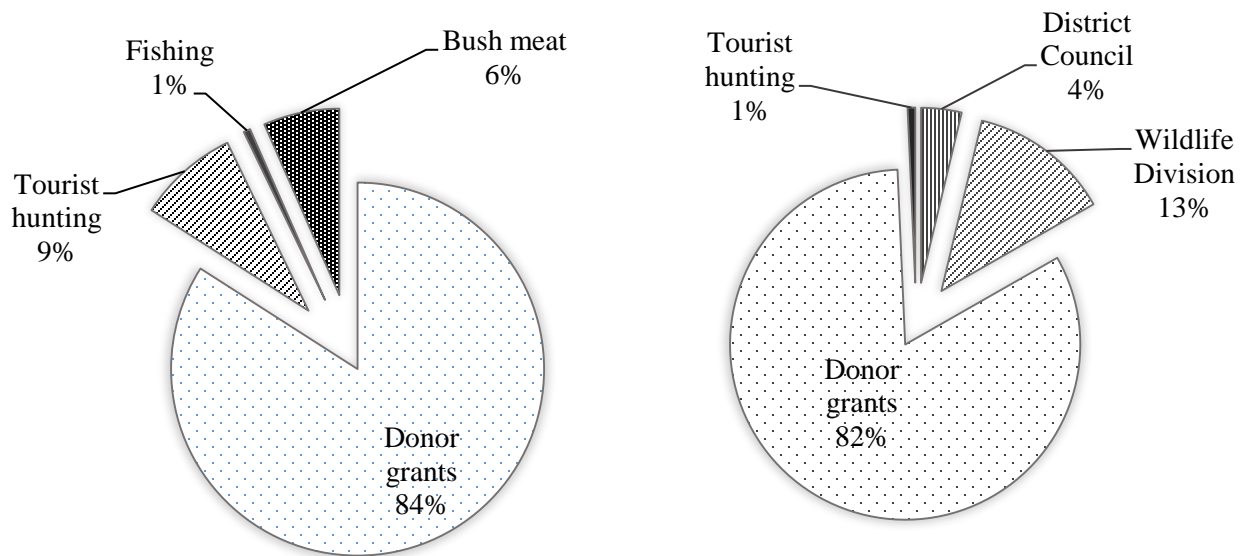
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implemented only a few of the various identified business activities like trophy hunting, fish farming, beekeeping, camping, photographic tourism, walking safaris, etc. Mbarang’andu WMA implemented trophy hunting, beekeeping and fish farming while Tunduru WMA implemented only trophy hunting. Mbarang’andu WMA estimated a business start-up capital of Tshs. 436,867,000 while Tunduru estimate was Tshs. 563,225,815. Start-up capital in the business plans indicated both Mbarang’andu and Tunduru WMA dependence to external support in starting up and running the business for more than 80% (Fig. 4a and b). Comparison of actual income and the expected income as projected by the business plan showed Mbarang’andu WMA to be slightly taking off (Fig. 5) while Tunduru WMA with non-taking off a situation where the highest actual income was less than Tshs 10 million. The actual income trend for Tunduru WMA was found to asymptote to zero (Fig. 5.). The difference in actual and projected income for Mbarang’andu WMA was found to be statistically significant ($t=4.974$, $p=0.0076$) and also significantly different for Tunduru WMA ($t=4.643$, $p=0.0097$).

FGDs with the WMAs’ leaders and DNRABs of Tunduru and Namtumbo districts findings showed the WMAs are not self-sufficient in funding to run profitable business entities. The business start-up funding for both Mbarang’andu and Tunduru WMAs in accordance to the business plans were in the deficit with the expectation of the donor funding and income from trophy hunting to offset the deficit which was never realized. Investment back to the WMAs was also not realized and hence restricting the business growth in both Mbarang’andu and Tunduru WMAs while in Chingoli, Kimbanda and Kisungule WMAs the business remained at an embryonic stage.



a) Mbarang’anduWMA

b) Tunduru WMA

Fig.4. Sources for a business start-up in 2010 for Mbarang’andu and Tunduru WMAs

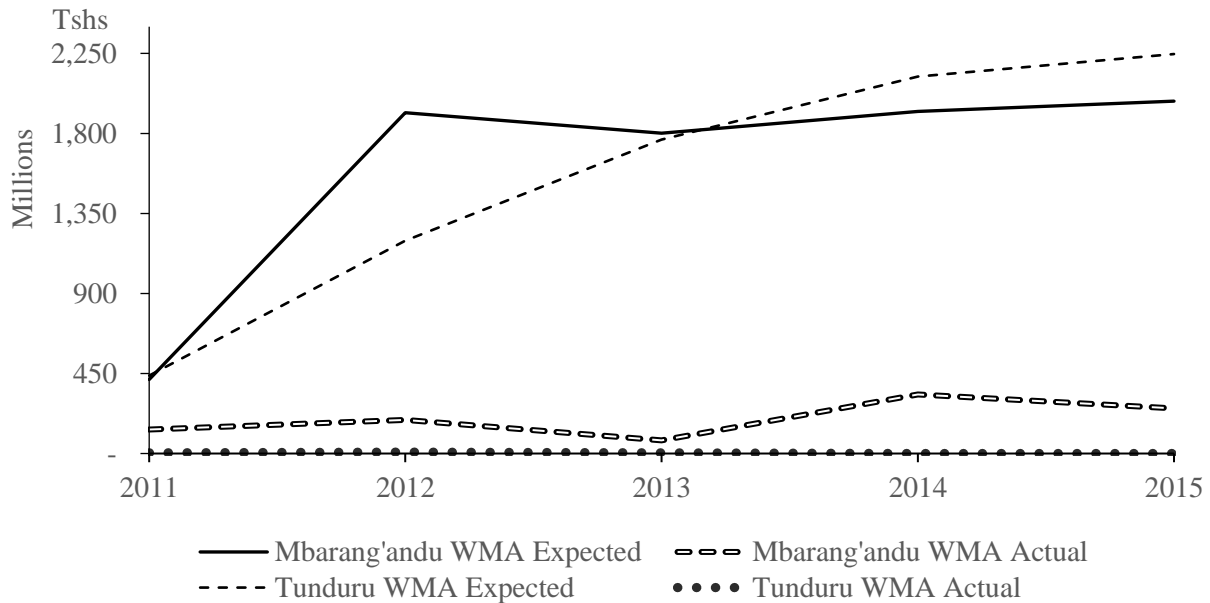


Fig.5. Actual and expected income for Mbarang'andu and Tunduru WMAs (based on business plan)

5.0 DISCUSSION

5.1 WMA Revenue Generation

While Mbarang'andu and Tunduru WMA appear on income upper-scale compared to other WMAs in the Ruvuma landscape, this actual income is infinitesimal compared to the WMAs in northern Tanzania (Sulle, Lekaita and Nelson, 2011). This situation also extends to other WMAs across Tanzania. Only six of the gazetted seventeen WMAs in 2015 were generating revenue with a workable budget and only Burunge and Ikona WMA, which generate revenue meaningful to realize entrepreneurship in the WMAs and support to the member villages (Williams, 2017). Low revenue generation in Mbarang'andu and Tunduru WMA suggest lack of adequate entrepreneurship in the WMA despite the pretentious representation of the WMA concept. While Mbarang'andu WMA appear struggling to take off in the business, Tunduru WMA is entrepreneurially stagnant, and its business performance is unrealized. Chingoli, Kimbanda, and Kisungule WMAs entrepreneurially embryonic, as they have no record of engaging into business though gazetted and issued with Wildlife User Right enabling them to get into a contractual agreement with investors. Generally, in traditional entrepreneurship the business performance of the five WMAs is poor, but in consideration of triple bottom line accounting, the WMAs are somewhere performing business. Triple bottom line accounting, unlike traditional accounting (measuring profit), combines measurements of social and environmental benefits (Santini, 2017). While Mbarang'andu and Tunduru WMAs have been sharing part of the generated revenue with



member villages, the amount is far minimal to be considered tangible considering the numerous villages forming the WMAs. It is hard for such benefit trickle down to individual community members, and in that way shrinking the realization of environmental entrepreneurial benefits of the WMA.

5.2 WMA Business Development

From the initiation of the WMAs and subsequent development of enabling regulations for operation the WMAs, the government intention is clear aiming at sustainable conservation of wildlife resources and socio-economic development of local communities through operation of WMAs as business entities. WMA as business venture obeys traditional entrepreneurship laws such as the correlation between risks and profit, the right timing for market entry and the need for adequate financial and human capital (Linnanen, 2005). Songorwa, *et al.*, 2000 identified one of the underlying assumptions for Community Wildlife Management is “Communities can manage wildlife”. The capability in this assumption is the reflection of adequate financial and human capital. This assumption appears to have been overlooked in the establishment of WMAs. The WMAs are overly depending on grants funding creating an entrepreneurial vacuum in the absence of donor support leaving them nonfunctional and merely entrepreneurial myth. Linnanen (2005) argues to be successful, environmental entrepreneurship should be fast, motivative and the process risks taking anticipating to supply what large numbers of people want. Reflecting the time lapse since the establishment of the WMAs in the Ruvuma landscape there is no indication of “fast movement and motivation” and the expectations of the community members are fading away. Chingoli, Kimbanda and Kisungule are merely a business name, having done no business since establishment while Mbarang’andu and Tunduru WMAs battling hard with the donor dependence. The WMAs in the Ruvuma landscape are sleeping giants awaiting success in dreams. This situation is entrepreneurially mythical. To break this entrepreneurial myth, conservation marketing approach along with triple bottom line accounting is ideal in WMAs where the focus is the development of a business that sells a product or service in a setting where conservation (protect and conserve biodiversity), socio-economic equity (promote equitable livelihoods for people are priorities) and business (maximize profit) are the underlying principles. Existing opportunities like hunting, beekeeping, aquaculture; and untapped opportunities like camping, walking safari, bushcrafting, nature adventure, etc. should be explored in that approach to realize the entrepreneurship in the WMAs.

6.0 CONCLUSION AND RECOMMENDATIONS

The reality on the ground is, on the traditional accounting, the WMAs in the Ruvuma landscape are entrepreneurial mythical and as described by Williams (2017) such a situation has a direct and adverse impact on the WMAs social license to operate. There are numerous business opportunities in the WMAs in the Ruvuma landscape such as beekeeping, aquaculture, camping, walking safari,



bushcrafting, nature adventure and heritage tourism which are untapped. Conservation marketing approaches need to be adopted where conservation and development professionals should facilitate the WMAs in choosing business opportunities (products and services) which conserve the wildlife biodiversity while reducing poverty among the community members through established nature enterprises and market linkages. Sustainability of the WMAs in the business relies on deconstructing the WMA entrepreneurial myth by introducing a high-end market, cautiously enough not to introduce a new myth in the reflection of the low business and marketing knowledge of the local communities.

Local communities cannot afford the high-end market and should get into joint-venture with the private sector (the investors), together with a neutral third party. The third-party will play the role of business negotiation, business capacity building, marketing and where necessary fundraising for the WMAs. This joint-venture model should be a pick-up for the business ventures identified through the conservation marketing approaches to harness the untapped attractions. Furthermore, consideration should be made in establishing economically viable natural resource-based projects in the reflection of the local communities' characteristics to facilitate the success and realization socio-economic benefit among the local communities.

The contribution of the study findings to the knowledge is that entrepreneurship should be integrated into the management of WMAs in Tanzania so that to make them profitable and sustainable. Integrating entrepreneurial approaches in WMAs will catalyse creativity and innovation in exploiting business opportunities in WMAs and giving WMA leaders a high level of commitment in the exploitation of such opportunities.

Recommendations

Recommendations made here for reversing the entrepreneurial mythical situation in the Ruvuma landscape WMAs: Firstly, to the Ministry of Natural Resources and Tourism (MNRT), Tanzania to review WMA Regulations to include preparation of the business plan and marketing strategy as a prerequisite for WMA operation since they are business enterprise by nature. The WMA Regulations review should also target to broaden the scope of investments through joint venture involving a third neutral party who will facilitate capacity building to the communities, carry out fundraising, seek investors and provide entrepreneurial technical support to the local communities. Secondly, the local communities are urged to actively use business working tools such as business plans and marketing strategies to guide the WMAs entrepreneurial activities daily and provide the benchmark for business monitoring.

To academicians and researchers, the study suggests that another study need to be conducted in future to compare the level of exploitation of business opportunities between WMAs from the Ruvuma landscape and those from other parts of Tanzania by using a large sample size.



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