

Research Article

Conservation of Majang Forest Biosphere Reserve: An opportunity through Community based Ecotourism Programme in Majang Zone, Gambella, South West Ethiopia

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(Received: December 25, 2020; Revised: July 27, 2021; Accepted: July 30, 2021)

ABSTRACT

The study conducted to develop the potential ecotourism programs and to generate awareness regarding importance of biodiversity conservation among local community. The purpose was to find out alternate job opportunities through non-farm income based on environmental calendar and cooperative system. The study employed mix methods of research and has used an exploratory research design. Data were collected through in-depth interviews and focus group discussion besides to field observations. Interviews were held with indigenous communities, officials, tour operators, lodge and resort operators, visitors and Non-Governmental Organisations. The study suggests implementable government policies and ecotourism framework that would have both social and environmental implications which would further help in Participatory Forest Management and community based conservation activities. Ecotourism has been identified as an stimulator for minimising the dependency of local community on Majang Forest Biosphere Reserve.

Key words: Cooperative, Conservation, Community Based Ecotourism Programme, Ecotourism, Gambella, Majang Forest Biosphere Reserve

INTRODUCTION

Ecotourism has become one of the vital socio-economic and environmental activity for the nation which believes in poverty alleviation and sustainable development. Ecotourism not only helps in conservation of natural resources of that area but also supports cultural conservation activities which is required to protect ecology and environment. Majang zone in Gambella, south west Ethiopia is endowed with unique wildlife and geomorphological structures which is unparalleled in the Africa and the world. The main reason behind its rich biodiversity is Mazang culture which obey the nature rules. But due to shifting patterns of migrants from outside and lack of knowledge regarding farming in local community has posed a big risk of deforestation of MFBR. Ecotourism has capacity to decrease dependency of local people on forests by providing alternative livelihood options. Urbanisation due to global trade and migration patterns of local people has posed a big threats on the existence of biosphere reserves and forests, but at the same time has created opportunities for many eco-friendly industries including of ecotourism (Choudhary'2020).

Ethiopia is known with an ever increasing international tourist flow, the country is one of the lowest tourist flow benefit recipient countries in Africa, with a share of only 0.58% arrivals in 2003 (89.95US\$) and this can be compared with about US\$ 650 million for Tanzania in the same year (UNWTO,2006). Ecotourism is one of the important socio-economic and environmental sustainable non-farming activity that focuses on improving livelihood options of communities and conservation of natural resources. Majang Forest

Biosphere Reserve(MFBR) in Gambella, south west Ethiopia has its own potentials in terms of ecological balance and maintaining biodiversity. And to sustain it, programs like Ecotourism becomes vital need to protect this beautiful biosphere reserve from illegal activities such as deforestation and poaching of animals. Ethiopia has five UNESCO certified Biosphere reserves and Majang Forest Biosphere Reserve is one of them as avital part of MAB (Man And Biosphere) network in Ethiopia.

In Ethiopia, the total contribution of Travel & Tourism to GDP was ETB78,676.4mn (USD3,620.6 mn), 5.7% of GDP in 2016, and is forecast to rise by 7.1% in 2017, and to rise by 6.5% pa to ETB158,300.0mn (USD7,284.8mn), 5.8% of GDP in 2027 (WTTC,2017). This primarily reflects the economic activity generated by industries such as hotels, travel agents, airlines and other passenger transportation services (excluding commuter services). But it also includes, for example, the activities of the restaurant and leisure industries directly supported by tourists. Regardless of the presence of the tourism resource both in the national and regional level the development of tourism in Ethiopia is still an infant stage. Gambella has more potential to compete with country like Kenya, Tanzania and Gambia in terms of eco-cultural, wildlife. And Majang zone could contribute a lot in regards to economic development and biodiversity conservation due to its intact natural and cultural resources.

Statement of the Problem

Ethiopia holds a massive ecotourism development potential. But, ecotourism is still in its infancy in Ethiopia.

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However, the development of Ecotourism in Ethiopia is getting increasing interest attention. Because, the country has a unique biodiversity, spectacular topographic features and rich cultural resources. In Ethiopia; Protected Areas/National Parks, Biosphere Reserves, Natural Forests, Game Reserves, Wildlife Sanctuaries are most suitable for ecotourism development (SDPASE, 2008). Likewise, the MFBR & its surrounding areas in Gambella Region (Ethiopia) has good potential to attract: eco-tourists, ecologists, environmentalists, naturalist, explorers (type of ecotourist) and other segment of tourists towards its unique biodiversity by developing ecotourism programmes in the specified zone. However, limited studies were conducted to identify ecotourism potentials, constraints to develop *Community Based Ecotourism Programme (CBEP)* and alternative livelihood option to ensure sustainability of the MFBR. Besides to this, human encroachment and unwise utilization of the biodiversity may result in reduction of ecotourism potentials as well as local species extinction. Realizing these situations, developing CBEP in the Majang zone can be remedy to contribute for the stated problem.

Objectives of the Study

The General objective of this study is to carry out inventory of Ecotourism Potentials, identify major constraints/challenges and opportunities for Developing CBEP in MFBR and Surrounding areas.

Specific Objectives:

- To conduct inventory of the Ecotourism Potentials of the Majang Zone (MFBR) and Surrounding areas;
- To identify major challenges for developing Community Based Ecotourism Programmes in MFBR and surrounding areas; and
- To realize Community Based Ecotourism programmes as an alternative livelihood option for the sustainability of the MFBR and surroundings.
- To develop recommendations on stepwise actions with roles and responsibilities of stakeholders to develop and run full-fledged feasible ecotourism enterprise for Majang.

Significance of the study

The findings of the study plays significant role in the promotion of the ecotourism potentials of the MFBR & surroundings, vital for the sustainable benefit of the local community living in and around Majang zone through developing CBEP. The paper also shows the importance of local people involvement in order to become advocates and ambassadors of conservation of rich cultural and natural resources, motivates government, tourism bureau, park and other tourism stakeholder to participate in sustainable conservation.

LITERATURE REVIEW

The decline in biodiversity is one of the main environmental problems of our time, the consequence of which can be the destabilization of the biota, as well as the loss of the integrity of the biosphere. Thus, the preservation of the diversity of living systems on Earth is becoming a necessary condition for human survival and sustainable development of civilization (Arnautova and Yaroslavtseva, 2021).

Ecotourism is a form of tourism that connects people to their real ecology and environment in a sustainable way without compromising with scarce resources and prevailing ecological conditions from guest to host area. It helps in breeding Affection and Dynamism towards nature, culture, and environment among people. It improves living standard of both host and visitor due to learning and visualization of flora-fauna and natural environment in their real habitat situation and condition respectively and generates consciousness about conservation for getting pleasure, peace and purpose solved. It takes into account present and bothers about future life (Kumar, 2016).

Economic incentives play a major role at number of locations leading to partial success of eco-tourism and leaving much scope for socio-cultural betterment and environmental conservation". Involvement of the local people through alternative livelihood generating programs and creating awareness will develop their interest in policies of conservation and they will consider themselves as genuine stakeholders (Patricia et al. 2021).

Community Based Development and Nature Based Planning is the main objective of Eco-tourism and the core objective and benefits of eco-tourism is education to tourist and host as well as conservation of cultural, natural and other endangered resources. Man and the Biosphere Programme of UNESCO reflect a shift towards more accountable conservation. Biosphere Reserves attempt to reconcile environmental conservation with sustainable development (Deprez, 2011a); they explicitly acknowledge humans, and human interests in the conservation landscape while still maintaining the ecological values (Blom, Sunderland and Murdiyarsa, 2010).

Community based conservation provides economic benefits such as the need to incentivize the protection or use of species, resources, or sustainable habitats such as the possibility of indirect use (e.g. ecotourism), compared to direct use in communities that are highly integrated with economic markets incentives for over-harvesting (Emilkamayana and Husen, 2020).

Ecotourism focuses on responsible travel to natural areas that conserves the environment and improves the well-being of local people. It obtained the attention of developing countries due to both its importance in promoting conservation and its significance in economic development (Kumar, and Choudhary, 2015). Nature based tourism is newly emerging industries and increasingly important source of income and wealth in many countries. It has been emerged as one of the effective tool in eradicating poverty (UNWTO, 2013; Blom, Sunderland and Murdiyarsa, 2010). Ecotourism is a conservation tool around protected areas and biosphere reserves that were building environmental awareness and allows the major proportion of the benefits to remain within the community (Bushell, and Eagles, 2006). In case of Ethiopia because of the majority of its population are engaged in agricultural activities instead of on off-farm activities like ecotourism, natural resources are exposed to extreme degradations (Sintayehu, Afework and Balakrishnan, 2012). Ecotourism could be alternative income generation and off-farm activities which benefit local communities while achieving the conservation goals of natural resources (Kumar, 2017; Fetene, 2012). Gambella Region is one of the beautiful ethnic cultural

destinations which have marvelous ecotourism potential to attract tourist from various part of Ethiopia and World (kumar, 2016). It has more ecotourism potential to compete with country like Kenya, Tanzania and Gambia in terms of eco-culture, wildlife watching, bird watching, mountain climbing, forest walking and eco-trekking (MoCT, 2012).

Ecotourism could become one of the best tools to fight against global warming, climate change and could further lead to sustainable development. UN General Assembly passed a landmark resolution on 22nd December 2012 recognizing ‘Ecotourism as a key to eradicating poverty, protecting environment and promoting sustainable development (UNWTO, 2013). Ecotourism, as a form of alternative tourism, become a viable development option for all countries around the world and this newly emerging thought attempts to safeguard human and ecological conditions, while at the same time activating economic opportunities for individuals and communities in destination areas (Fennell, 1999).

Tourism has increasingly been center of attention

as an alternative strategy of economic development in the world (Binayew and Yiheyis, 2016). Like many other countries, Ethiopia has also taken tourism as an effective instrument for poverty alleviation and to its integration into the world economy (MoCT, 2012). Currently, tourism is one of the largest, leading and increasingly recognized growing industries globally that make significant contribution for economic development (Ketema, 2015b; UNWTO, 2013). Ecotourism is a recent concept that emerged in the 1980s, as an alternative form of tourism to reduce the deterioration at the tourism destinations caused by mass tourism, and to maintain the sociocultural and environmental condition of the attraction areas (Aynalem, and Simane, 2016).

MATERIALS AND METHODS

The following conceptual framework was developed for conducting research to conduct the survey and preparing the roadmap.

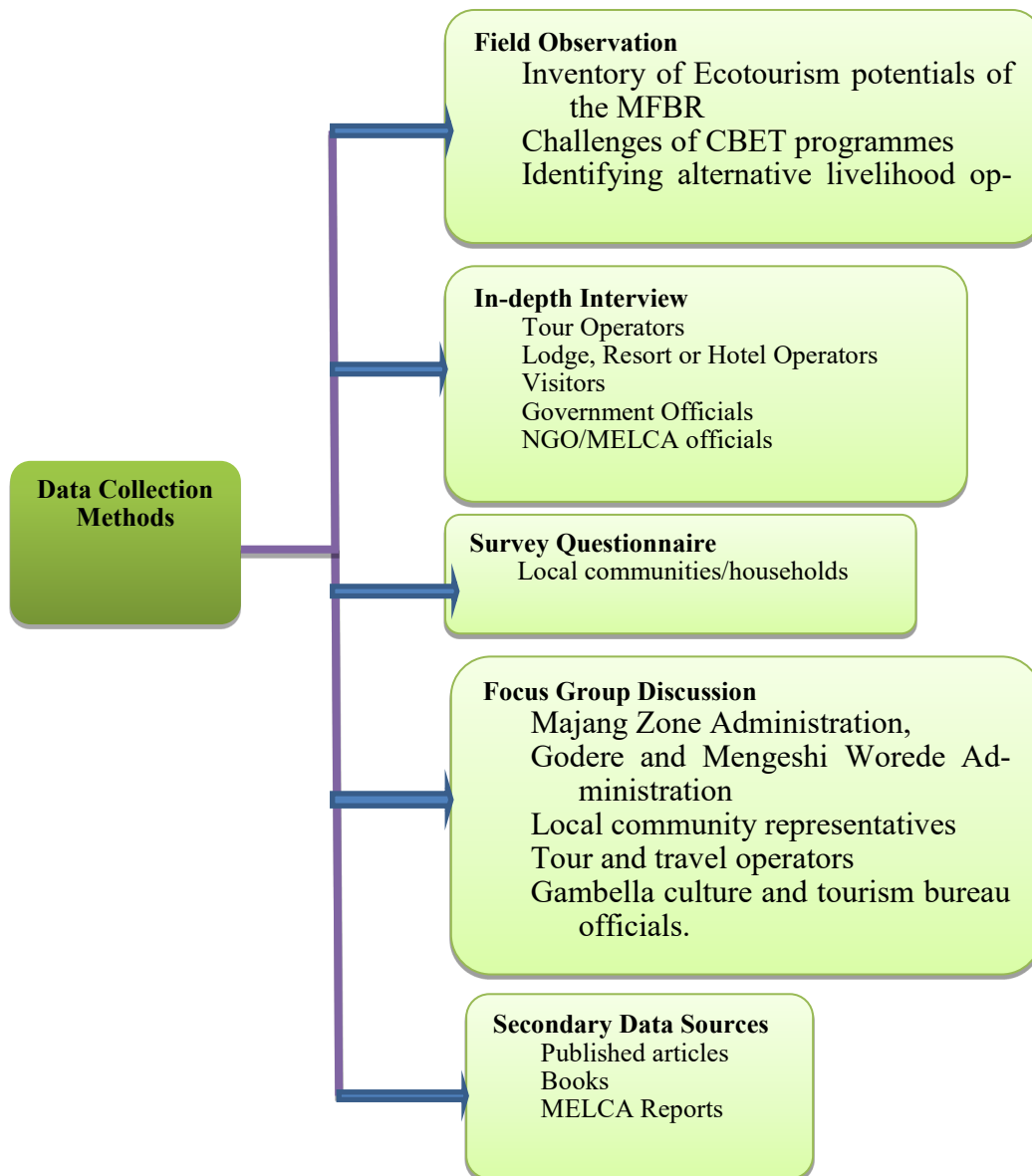


Figure 1. Conceptual framework for research

Study Area

The study was conducted in Majang Forest Biosphere Reserve and the kebeles(villages) which is in proximity and mostly depends on MFBR for their livelihood. MFBR is registered under UNESCO Man and Biosphere (MAB) in 2017 and has total area of 224,924 ha. The Mazon zone located at South West direction of Gambella People's National Regional State which about 600 km away from Addis Ababa, Capital city of Ethiopia (Wondachew, M. and Muchie, N., 2017). In terms of absolute location the Zone is located in 7°4'2.41''N -7°46'47.79'' N latitude and 34°36'30.54''E- 35°38'48.00''E longitude (Lema, et al., 2017). It encompasses two districts; namely Godere and Mengeshi which have 32 administrative villages together (Wondachew, M. and Muchie, N., 2017). In terms of relative locational advantage, it is near to another UNESCO registered biosphere reserve popularly known as Sheka of Southern Nation Nationalities and Peoples Regional State (SNNPRS).

Sampling Techniques

The non-probability sampling technique was applied considering the place, objectives and size to get proper and relevant data from specified respondents. Sample also collected from the villages which comes within the proximity of MFBR and mostly depends on its resources for survival. Altogether 16 villages were selected purposely from 03 districts for collecting data. The purposes were natural attraction, cultural attractions, opportunities for non farm income, community interests and awareness and resources available to explore. Likewise,

tour operators, lodges, resorts and hotels operators were sampled through snowball sampling. The key informants were selected on the basis of their dominance, knowledge, position and contribution to society, nature, as well as tourism development.

Data Collection Methods

Interview

Interviewees were carried out with open ended questions. Respondents were given opportunity to express deeply about the research objectives. Zone administrators, District administrators, Village administrators, Community representatives, Government officials, NGOs, Tour operators, Lodge, Resort and Hotel operators, etc. were interviewed. Accordingly, 60 respondents from 12 kebeles(villages) of Majang Zone, 19 respondents from 4 kebeles of Abobo Woreda administration, 7 respondents from Majang Zone Administration, 5 respondents from NGOs, 12 respondents from Godere and Mengeshi Woredas, 12 Gambella Culture and Tourism bureau, 3 Gambella National Park Office, 10 Resort and hotel respondents from Gambella, 17 visitors from Gambella, 6 experts from Gambella Culture and Tourism, 3 hotel respondents from Majang Zone, 16 Tour Operators from Addis Ababa, 14 Lodge, Resort and Hotel Operators from Addis Ababa and altogether 184 respondents were interviewed to forward their ideas, opinions, feelings and knowledge regarding the ecotourism potentials, challenges and possibilities for developing Community Based Ecotourism Programme in the Majang zone.

Table 1. Sample Categories and Respondents Distribution

No.	Sample Categories	Location	No. of Respondents	Total
1	Tour Operators	Addis Ababa	16	16
		Addis Ababa	14	
2	Lodge, Resort or Hotel Operators	Gambella Town	10	27
		Majang Zone	3	
3	Visitors	Gambella Town	17	23
		Gambella Culture and Tourism experts/visitors	6	
		Godere Woreda	7	
		Mengeshi Woreda	5	
4	Officials	Majang Zone Administration	7	34
		Gambella Culture and Tourism	12	
		Gambella National Park Office	3	
5	Local Communities	Godera Woreda Villages	20	79
		Mengeshi Woreda Villages	40	
6	NGO/MELCA	Abobo Woreda Villages	19	5
		Godere Town	5	
Total Respondents				184

Focus Group Discussions

Focus group discussions and informal discussions were conducted with NGOs, Majang Zone Administration, Godere and Mengeshi Worede Administration, local community representatives, tour operators and tourism cultural bureau officials.

Data Analysis

Data analysis was done in both quantitatively and qualitatively. The data gathered first edited, categorized, arranged and organized before encoding into the software. Frequency and percentages were calculated using SPSS and MS-Excel worksheet and charts and graphs were used to show results. Text explanations and descriptions used in case of qualitative data analysis. Data collected through Interview and FGD were analyzed systematically and based on the techniques of listening and transcription, reduction to units of relevant meaning and summarization. Likewise, data collected through field observation were analyzed in the form of text (qualitatively). Furthermore, data collected through informal discussions were noted down in field diary and afterward it was analyzed by the help of text explanations.

RESULTS AND DISCUSSION

Demographic Characteristics of Respondents

As the table 2 shows below about 79.89% of the respondents were males. Similarly, about 54.89% of the respondents were educated one (first degree holders) and 3.26% of the respondents were unschooled. Among the respondents, 45.65% were between the age category of 26-35 and 3.26% were in age category of >55.

Ecotourism Potentials of the Majang Zone (MFBR) and Surrounding Areas

Flora

Recorded evidences show that the Majang forest consists of a total of 550 plant species representing 90 families; among 27 species are endemic to the Ethiopia. The main habitat types are: Moist evergreen Afromontane forest, Transitional rain forest, Combretum-Terminalia Woodland, and riverine forest vegetation. Likewise, the main land covers types: dense forest, open forest, coffee plantation, woodland, grassland, lake, river and settlement/town. The dominant habitat types in the area are the Moist Evergreen Afromontane forest and the Transitional rain forest (MELCA Office, 2017).

Table 2. Demographic Characteristics of Respondents

No.	Demographic Characteristics (n= 184)	Sample Categories						Frequency	Percentage (%)	
		Officials	Local Communities	NGO/MELCA	Visitors	Resort Operators	Tour Operators			
1	Sex	Male	29	63	5	17	24	9	147	79.89
		Female	5	16	-	6	3	7	37	20.11
2	Education Level	Masters	3	-	-	2	3	1	9	4.89
		Bachelor	19	37	5	18	13	9	101	54.89
		School	12	36	-	3	11	6	68	36.97
		Illiterate	-	6	-	-	-	-	6	3.26
3	Age categories	18-25	6	33	-	2	3	0	44	23.91
		26-35	19	29	4	13	13	6	84	45.65
		36-45	7	8	1	5	8	6	35	19.02
		46-55	2	6	-	1	2	4	15	8.15
		> 55	0	3	-	2	1	0	6	3.26

Source: Field Survey (2017/18)

Table 3. Fauna & Flora Composition of the MFBR

No.	Fauna & Flora	No. of Species in MFBR	Endemic Species
1	Higher Plants	550; 90 families	27
2	Mammals	33	
3	Birds	180	5
4	Reptiles & Amphibians	20	5

Source: MELCA Office, 2017

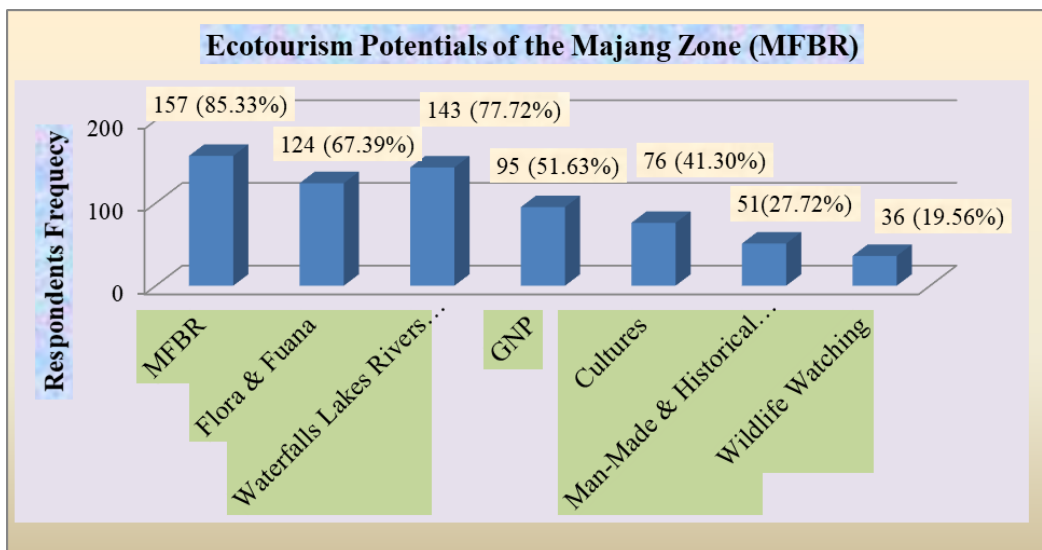


Figure 2. Ecotourism Potentials of Majang Forest Biosphere Reserve (Source: Field Survey, 2017/18)

Fauna

The MFBR harbors a number of wild animals, such as colobus monkey, Green monkey, Bush pig, Bushbuck, leopard, Buffalo and many bird species. The forest of Majang zone constitutes more than 70% of the total area of the zone.

Mammals: Characteristic mammals that occur in the area are *Panthera pardus* (Leopard), *Felis caracall* (Caracal), *Colobus guereza* (Colobus Monkey), *Papio anubis* (anubis baboon), *Cercopithecus aethiops* (Grivet Monkey), *Cercopithecus mitis* (Blue Monkey), *Potamochoerus larvatus* (Bush pig), *Oreotragus oreotragus* (Klipspringer), *Tragelaphus scriptus* (Bushbuck), *Syncerus caffer* (African Buffalo), *Phacochoerus aethiopicus* (Warthog), *Ourebia ourebi* (Oribi), *Proteles cristatus* (Aardwolf), *Crocota crocuta* (spotted hyena), *Sylvicapra grimmia* (duiker), *Canis aureus* (jackal), *Lep-tailurus serval* (serval), *Lepus fagani* (Ethiopian Hare) *Hystrix cristata* (porcupine) and *Praomys albipes*. *Praomys albipes* is a rodent species which is endemic to Ethiopia.

Birds: Over 180 species of birds were recorded from the area. The ones include: *Aplopelia larvata* (Lemon dove), *Macromyx flavicollis* (Abyssinian Longclaw), *Oriolus monacha* (Abyssinian black-headed oriole), *Bucorvus abyssinicus* (Abyssinian ground hornbill), *Dendropicus abyssinicus* (Abyssinian woodpecker), *Agapornis tarenta* (black-winged lovebird), *Tauraco leucotis* (White-checked turaco), *Bostrichia carunculata* (Wattled ibis), *Cyanochen cyanoptera* (Blue winged goose), *Parophasma galinieri* (Abyssinian cat bird), *Bycanistes brevis* (Silvery-checked Hornbill), etc. (MELCA Office, 2017).

Reptiles and amphibians: three endemic species of frogs had been collected in the Godere Forest. These are *Ptychadena neumanni*, *Paracassina obscura* and *Afraxalus clarkeorum*. The other species of amphibians known to be found in and around the Forest are *Hyperolius viridiflavus*, *Hyperolius balfouri*, *Xenopus clivii*, *Phrynobatrachus natalensis*, *Leptopelis bocagii*, *Hyperolius kivuensis*, *Leptopelis vannutellii*, and *Hemisus microscaphus* (Largen and Spawls 2010).

Natural Bridges, Caves, Waterfalls, Rivers, Lakes and Landscapes

There are several natural caves and waterfalls in the proposed biosphere reserve. These caves are important homes and habitats for many wild animals, especially bats, nightjars and swifts. They were also used by people during periods of war. These caves may have historical importance and deserve further studies. The waterfalls contribute to the scenic beauty of the landscape. In addition, many life forms associated with cliffs and fast-moving waters, especially birds occur in these areas. In general, both waterfalls and caves add to the complexity and diversity of the landscapes and ecosystems, and the scenic beauty. They have high potential for future tourism development.

Besides to natural attractions, there are also potential cultural attractions for ecotourism development in Majang Zone and surroundings. Among the involved local communities from the 16 kebeles, about 64.56% of respondents indicated that cultural artifacts like materials used for drinking, jewelries, eating, etc. are potential ecotourism attractions next to cultural music and dancing styles (92.41%). Likewise cultural clothes and dressing styles are also undeniable ecotourism potential of Majang Zone and its vicinities. See also figure 4.

During survey it was found that above villages were rich in saving their cultural heritage and inherited their art and craft skills to the present generation and is interested in transferring it to next generation. They were also willing to showcase and sell their art and craft to the prospective tourist or visitors by participating through Community Based Ecotourism Programmes as micro entrepreneurs. Village like Tengi, Newi, Gelesha, Semuy and Godere Mission has good potential to become ‘cultural village’ whereas Lumtang has potential of both cultural village and *Organic Spice Village*.

Challenges for Developing Community Based Ecotourism Programmes (CBEP) in MFBR and Surrounding Areas

Lack of Trained Human Power, Information Centers and Promotion

Among the interviewed respondents (n=184), almost all

Table 4. Kebeles (Villages) and Available Ecotourism Potentials

No.	Sampled Kebeles	Available Ecotourism Potentials	Remark
1	Dunchay	Mineral Water, Gilo River, Fauna & Flora	
2	Semuy	Waterfalls, Landscapes, Fauna & Flora	
3	Gelesha	Natural Bridge, Jay Waterfall, Fauna & Flora	Godere Woreda
4	Meti	Accommodation Centers (Hotels, restuarants)	
5	Gubeti	Gubay Creator Lake, Fauna & Flora	
6	Shone	Mineral Water, Waterfalls, Fauna & Flora	
7	Dushi	Waterfalls, Fauna & Flora	
8	Kumi	Cultural attraction (music, dance,) Fauna & Flora	
9	Fejeji	Sacred Natural Sites, Gajey Waterfall, Fauna & Flora	Mengeshi Woreda
10	Tingi	Woki River and Waterfall, Fauna & Flora	
11	Godere Mission	Sacred Natural Sites, Caves, Waterfalls, Fauna & Flora	
12	Newi	Traditional Bridge, Gajey Waterfall, Fauna & Flora	
13	Okuna	Fauna & Flora, Landscapes, Rivers, Cultural attraction	
14	Dumbang	Fauna & Flora, Landscapes, Rivers, Cultural attraction	Abobo Woreda – Villages attached to the MFBR
15	Lumtang	Fauna & Flora, Landscapes, Rivers, Cultural attraction	
16	Powatalaam	Fauna & Flora, Landscapes, Rivers, Cultural attraction	

Source: Field Survey (2017/18)

**Figure 3.** Forest, Buray Lake, Natural Bridge, Cave and river in Majang Biosphere Reserve

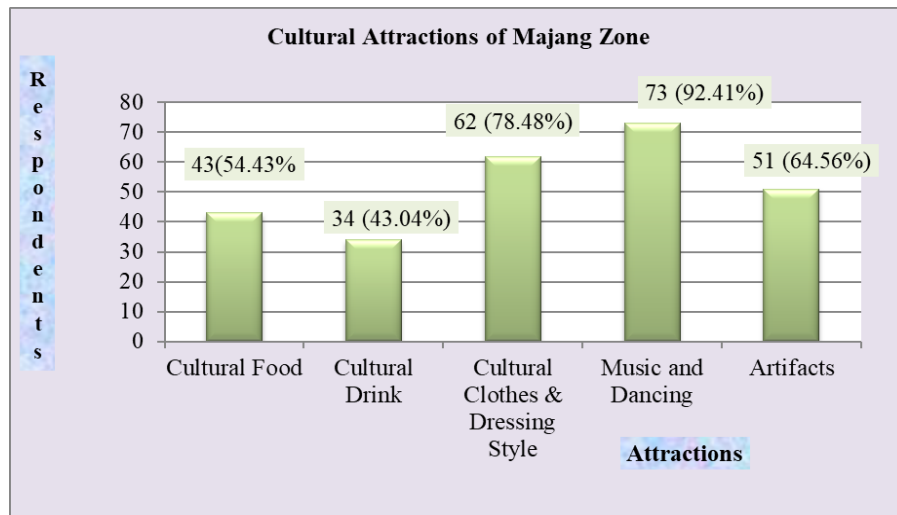


Figure 4. Cultural Attractions of the Majang Zone

Table 5. Sampled Kebeles and Available Eco-cultural Potentials

No.	Sampled Kebeles	Eco-cultural Potential (art and craft work)	Remark
1	Semuy	Palie, taji, pidhie, medicines from plants, native tree species	Godere Woreda
2	Gelesha	Beehive, mintaro, yei, tang, kanta, taji, pare,	
3	Gubeti	Taji, kanti, beehive, jangi,	
4	Dushi	Home decoration,	
5	Fejeji	Poo, musical instrument, takwas	
6	Tengi	Pottery, motegey, guboy, cultural materials, Teji, Gey, Kanta, podhey,pirey,	Mengeshi Woreda
7	Baye	Pottery, matage,kanati, geni	
8	Godere Mission	Taji, joloka, kanti (netting),digging hoe, tinji, teski	
9	Newi	Beehive, kanti, bia, tangi, kebetkario, metekoy, phieyin, lewie, kondi, bie, wient, mintaro,	Abobo Woreda – Villages attached to the MFBR
10	Okuna	Pany, leek, hive, boot,	
11	Dumbang	Spear, spoon, ring, necklace, bowl, pottery	
12	Lumtang	Building house, musical instruments, pade,	
13	Powatalaam	Food dak,	

Source: Field Survey (2017/18)

indicated that weak promotion (74 % poor) of the existing tourism potential and lack of awareness are the major challenges to develop CBEP in MFBR and surrounding areas. Besides to this, is lack of information centers, trained human power; local tour guide associations, etc. is another challenge hindering to attract visitors and to develop tourism industry as well as community Based Ecotourism Programme in MFBR and surrounding areas.

Accessibility, Security and Safety

Most of informants were informed that accessibility of Gambella Region and MFBR as ecotourism destination is difficult as its distance from the Addis Ababa, the capital city of Ethiopia. Furthermore, there are inadequate Tourism destinations on the way to the Gambella Region and MFBR. The other serious problem is that unsecured stability and security for the both international and domestic visitors. Regarding this about (7%) of the respondents indicated that it is the major factor hindering tourist flow to the Region.

Lack of Accommodation/Services Deliverers

It is obvious that accommodations/services deliverers play significant role in Ecotourism industry; and contributes more for the development of Community Based Ecotourism Programme. According to respondents perception about (14%) notified that lack of standardized lodges, resorts, pensions, hotels, etc. are the major hampering factors for the development of Ecotourism industry in Majang Zone as well as in Gambella Region. That is why Ecotourism industry is in its infancy stage in Gambella Region.

Weak Infrastructures Development

Infrastructure is the major asset to develop community based ecotourism in and around MFBR. However, the existing infrastructure development (roads, accommodation centers, etc.) are very poor to reach potential ecotourism sites as 17% of the respondents emphasized. Hence, it needs further development and improvement of the existing infrastructure facilities in and MFBR.

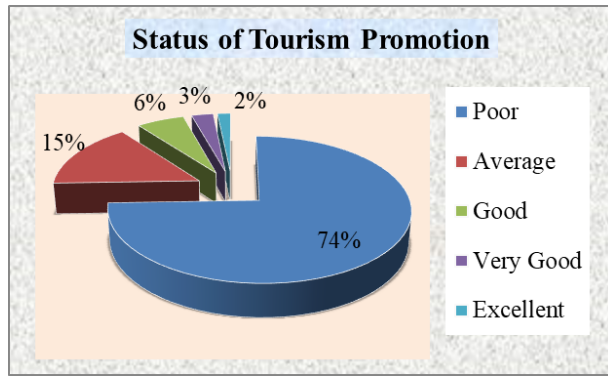


Figure 5. Status of Tourism Promotion (Source: Field Survey, 2017/18)

Agriculture Expansion

The MFBR area is under the pressure of agriculture expansion (10%). The main agricultural activities includes the cultivation of coffee, fruits, tuber crops, and pulses, oil and cereal crops, often in combination with the rearing of livestock. Cattle kept for milk and beef production in the area is a good opportunity to enhance the income of the farmers. Fattening is very important and farmers can be advised to orient the livestock management system toward this.

Dependence of Local Communities on the MFBR for their Livelihood

The MFBR is a major source of livelihood for the local community. According to the data, about 20% of respondents indicated that local communities are dependent for the Non-Timber Forest Products (NTFP) from the forest includes honey, coffee, spices, wild fruit, bush meet and wood products. Important human impacts like shifting cultivation, selective cutting, and clear cutting for permanent agriculture are affecting all natural habitats of the proposed biosphere reserve.

Deforestation

Though the forest is the major source of income and a sign of the identity of the local communities, it is under

the threat of vanishing due to pressures from various corners. Among the threats to the forest are deforestation (19%) for coffee and other plantations, expansion of agriculture and settlements, erosion of local traditional conservation practices, logging and expansion of large-scale agricultural investments are the major threats to the MFBR.

Proposed Community Based Ecotourism Programmes in MFBR and Surrounding Areas

Majang zone is one of the three zones of the Gambella National Regional State of the Ethiopia; which is located in the South Eastern parts of the country and endowed with rich bio-cultural diversity like natural forests, waterfalls, caves and historical sites, rivers, lakes and unique cultural assets of the local community. However, nowadays; local communities are highly dependent on the MFBR to sustain their livelihood in direct or indirect ways. They are gathering Non-Timber Forest Products (NTFP) and experiencing deforestation. Hence, to overcome the stated challenges, MELCA-ETHIOPIA Project has been conducting undeniable fruitful activities. Regarding this, among the interviewed (n=79) local community respondents, about 89.87% informed that they has been working on sustainable forest conservation, culture conservation (84.81%) followed by developing participatory forest management activities (77.22%) (Figure 6) .

Moreover, among the interviewed (n=79) local community representatives from different kebeles stated that the level of performance of MELCA-Ehiopia (an NGO) in their support in community development and biodiversity conservation. Accordingly, about 86% of the respondents evaluated that the performance of MELCA-ETHIOPIA is excellent followed by Very Good (8%).

The Participatory Mapping and Eco-calendar developed by MELCA (NGO working for the conservation of Biosphere Reserve and upliftement of local communities) was really admirable and motivating through which they were trying to connect the native communities with nature conservation and also finding out gaps between nature and livelihood and accordingly suggesting them with suitable occupation based on farming or

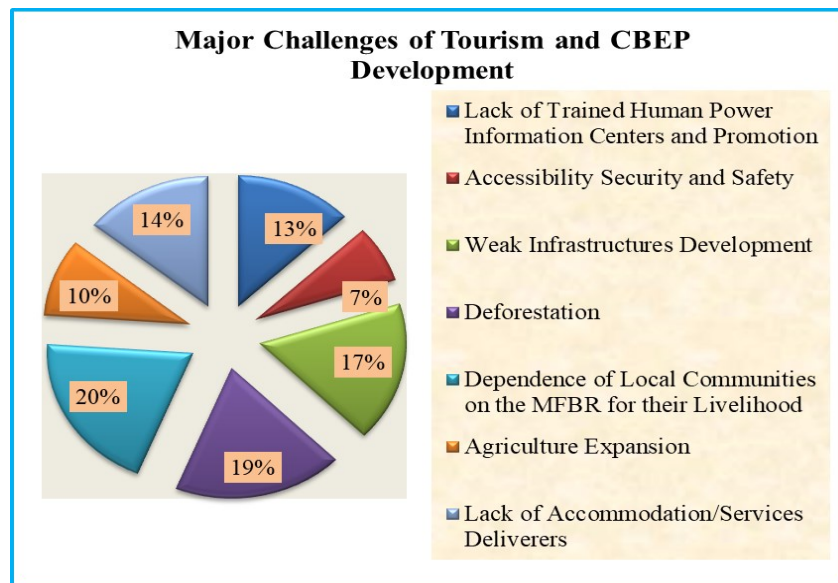


Figure 6. Major Challenges of Tourism and CBEP development Source: Field Survey, 2017/18)

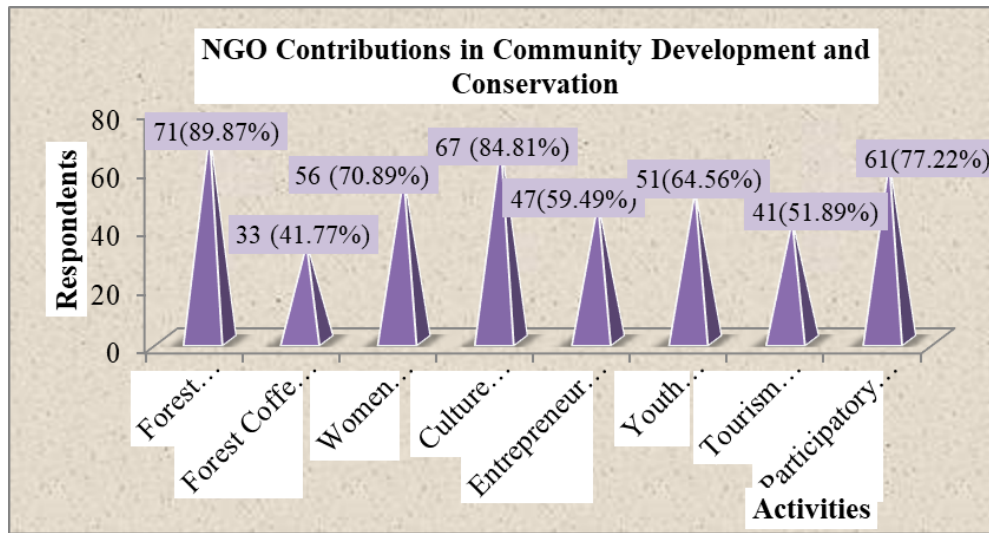


Figure 7. NGO Contribution in Community Development and Conservation (Source: Field Survey, 2017/18)

non-farming within the framework of MAB (Man and Biosphere Reserve). Such type of practices must be highlighted by the government in their socio-economic development programmes on time to time basis.

On the other hand, attracting different investors (tour and resort, lodge operators) and developing alternative livelihood income generation opportunities for the local communities are crucial strategies. However, investors (tour and resort, lodge operators) need different facilities from the government to install their business. Accordingly, among the 43 involved tour and resort, lodge operators, about 31%, 13%, 27%, 20% and 9 % of the respondents need land provision, loan assistance, infrastructure development, safety and security and law, regulations and order respectively.

Furthermore, lodges, resorts & hotels operators also need accessible, stable and recreational sites to install their business. Concerning this, from the interviewed respondents (n=27) lodges, resorts & hotels operators, about 85.19% were interested to install accommodation centers around lakes, rivers and waterfalls. Likewise, 70.37% of respondents were interested to build up accommodation centers in and around Majang Forest in recommendable sites. About 44.44% of respondents were chose around Gambella National Park. See also figure 8.

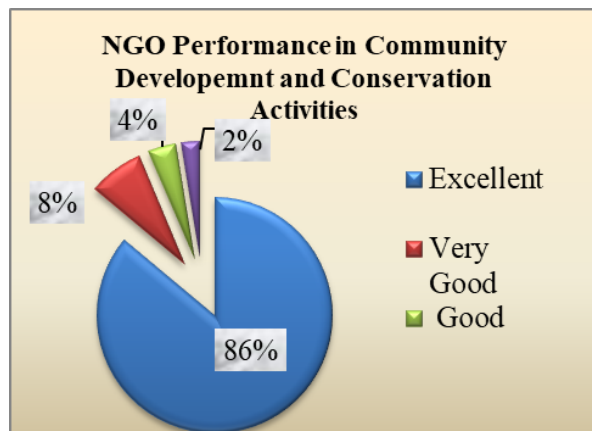


Figure 8. NGO Performance in Community Development and Conservation Activities (Source: Field Survey, 2017/18)

Likewise, developing alternative livelihood options for the local communities is also good remedy to overcome the challenges. Accordingly, among the total respondents (n=184), about 90.22 % gave priority to organize local communities in alternative agricultural products like beekeeping, poultry, cattle and goats fattening, etc. on the other hand, about 77.72% of respondents emphasized that developing local tour guiding programmes (specially schooled youths) is also sound alternative option to overcome challenges. Similarly, about 65.76 % of respondents indicated that developing Participatory Forest Management (PFM) programmes in each kebele is also valuable remedy in order to create sense of ownership among local communities. See also figure 9 below.

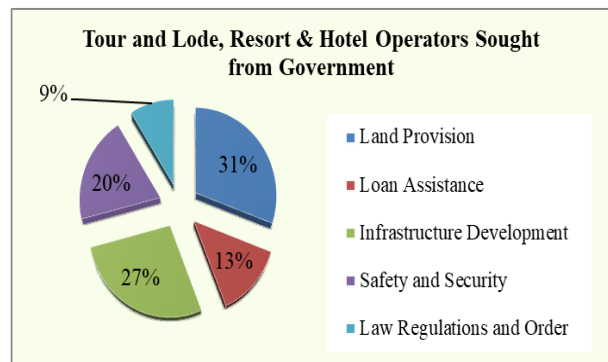


Figure 9. Tour and Lodge, Resort & Hotel Operators Sought from Government (Source: Field Survey, 2017/18)

Suggestive Framework and Road Map

Government Policy: perspective of MFBR Conservation and CBEP development

- Government should frame some strict policy in regard to land acquisition and transfers in Majang zone. No outsider should be allowed to buy or transfer the land or forest from local in any case. Those who already settled in transition and connected buffer zone need to be intimated regarding new policies and to safeguard the interest of native ethnic Majang communities. Violation of which should lead to severe

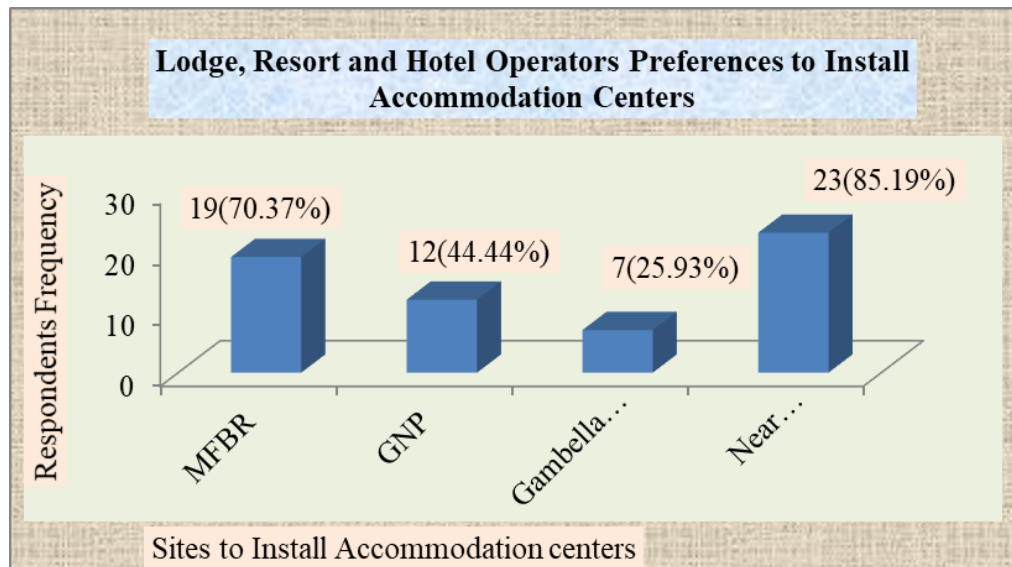


Figure 10. Lodge, Resort and Hotel Operators Preferences to Install Accommodation Centers (Source: Field Survey, 2017/18)

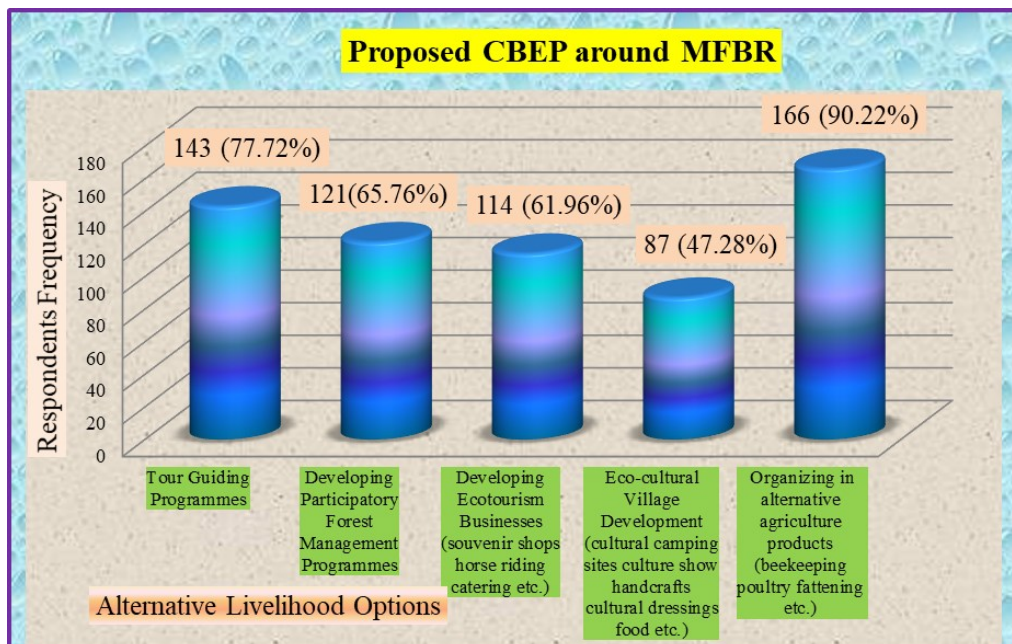


Figure 11. Proposed CBEP around MMFB (Source: Field Survey, 2017/18)

punishment or rigorous imprisonment or heavy fine.

- No industry should be allowed within the MFBR and if possible then whole Majang zone. However cottage industries, agriculture based enterprises and ecotourism based enterprises can be promoted and allowed within the framework and guidelines of UNESCO's MAB (Man And Biosphere) and MFBR. All types of enterprises must be eco-friendly and must comply with the set parameters of environment protection, natural conservation and sustainable development as recommended by United Nations World Tourism Organisation (UNWTO) or UNESCO.
- Women entrepreneurship needs to be promoted in line with ecotourism activities and handicraft works. Organic Food Farming can be promoted in collaboration with resorts, restaurant and hotel operators to give mutual benefits.
- Ecotourism Operators (Eco-resorts/lodge & tour operators) must be invited and provided by sufficient land lease, flexible licensing and tax holidays. Resort/hotel/lodge operators can be permitted to operate only within the transition and 0.5 kilometer in buffer zone at maximum. Such types of resorts adopt eco-friendly measures and build cottage in natural settings with minimum damage to flora and fauna. Normally they prefer the places which is less dense and their residential huts and facilities scattered from each other not concentrated at one place. Event they contribute in environment conservation and educating tourists and communities regarding importance of biosphere.
- Special law must be imposed on these operators to employ local ethnic Majang communities in their day to day operation after providing need based training in different areas. Recruiting other people familiar to

Majang culture and understand language would promote economy leakages in long term and may be resulted as ethnic clashes. However if things run smoothly the other local people can also be trained in employed.

- Proper Infrastructure need to be developed in the transition zone connected with buffer zones to facilitate ecotourism services smoothly. Infrastructure/ superstructure (particularly road and public amenities (Toilets/Washrooms/Rest Rooms/ Health Centres/ Ethnic Refreshment Centre) need to be developed starting from Gambella Airport to Majang Zone via Abobo district connecting to Godere Mission- Meti – Galesha. These facilities must be eco-friendly in construction and maintenance. Second option can be developed basic infrastructures in from Godere Mission to Meti to- Galesha and extend it to further connect it to Sheka Biosphere Reserve via Kafa to Bonga and Araba Minch to complete one circuit. And it would be a good network of Biosphere Reserae would be providing cultural and natural experience to propective tourist.
 - Minimal need based infrastructure need to be developed to improve the surrounding of natural attractions (geomorphological sites) to extend it as viewpoints considering the carrying capacity. For example stones can be used to prepare staircase and platform including of wood. Instead of iron, stainless steel based material or rust free material can be used for little fencing of viewpoints. Watch towers can be developed in the midst of dense forests. Recommended sites are Jay Water fall(Galesha), Wokki Water Fall(Tegi Village), and some facility near Buray lake. Eco-friendly materials must be used.
 - Recreation Opportunities can be prescribed and further developed in transition zone and up to 200 meter in buffer zone considering carrying capacity and limits of acceptable change in the areas.
 - Majang tourism cultural festival must be organized two times in a year wherein all important stakeholders including of tourists must be invited to participate.
 - Destination Management Organization must enlist the MFBR as major inbound ecotourism destination of country.
 - Marketing campaign need to be redesigned to promote the areas.
 - Special promotional strategies need to be adopted to promote it wherein big hoardings, billboards, posters, photographs and travel desks can be placed at selected transit points and hotels/resorts respectively to showcase the glimpse of Gambella and MFBR as particular. Teasers and Trailers must be designed to tease the travellers and tourists through various advertisements include CD/DVD. Collaterals and posters must be attractive and distributed free of cost to the hotels/resorts/restaurants/shopping arcades/super-markets as well as tour operators for free promotion of tourist attractions.
 - Officials must be trained in regard ecotourism development and required grooming standard.
 - Visitor Information Centre and Tourism Culture Bureau must be attractive and located at different locations.
 - Skilled Development Centres can be established for tourism & hospitality related jobs.
 - NGOs particularly MELCA considering their performance in research outcome, must be appointed as facilitating agency for ecotourism implementation programmes untill starting of project stage and government should anticipate it in formulating plan, policies and guidelines. In research it is found that government machinery was not working and responding to the need of local communities and environment so NGOs can act as monitoring body externally. Involving NGOs or other such external agency would be in benefit of government which further generate trust and confidence among communities in functioning.
 - Organic Flower production in transition to 0.2 km of buffer zone might be the one of the major source of income and revenue generation by exporting flowers to UK and Europe and at the same time would be the site of attraction for tourists. Enhancing promotion of existing tourism potentials through recruiting trained human power and developing information centers. It must be natural and free from any kind of pesticides or using chemically developed fertilizers or genetically transformed hybrid. Focus should be given of orchid flowers and naturally grown ornamental flowers.
 - Raising awareness of local communities and stakeholders concerning the values and ecosystem services of the MFBR
 - Improving infrastructure development (road network, lodges, resorts, communication centers, internet cafes, etc.)
 - Minimizing the dependence/pressure of local communities on the MFBR through applying proposed community based ecotourism programmes
 - Halting deforestation via creating alternative livelihood options for local communities
 - Strengthening collaboration and commitment of all stakeholders (private and public sectors, investors, local communities, etc.) for the sustainable conservation of MFBR.
 - Use the internet to increase the ability of ecotourism professionals to exchange information and expertise by developing web pages, social networking sites like, Facebook, WhatsApp, Google+, LinkedIn, yahoo groups, and maintaining of e-mail lists current.
 - Develop exchange programs among other ecotourism destinations and its experts to share research and monitoring techniques suitable to the zone.
 - Identify and share available expertise to ensure adequate review of complex Environmental Impact Assessments pre-pared by developers.
- Increase integration among cultural tourism bureau, wildlife conservation authority, adventure and mountaineering, water sports and other tourism agencies during emergencies to increase accurate and relevant information.
- Establishing a proper mechanism for *Indigenous Knowledge Transfer* and monitoring system. Council of Local Communities for Indigenous Knowledge Transfer (CLCIT) can be formed consisting of six members 50% male and 50% female in each village who will maintain event book to record of happenings and senior most member who is healthy may be appointed to verify the log book through interaction with youth on time weekly

basis. Government agency can monitor through involving NGOs or any independent organization or universities or institutions have interest and experience on such issues. The most important thing is to check the quality of knowledge which should be free from dirty ethnic politics and must be authentic (original).

Ecotourism Framework

(I) Village Adoption Model (Cultural Village)- First cultural village need to be identified on the basis of following criteria,

- i) Saved cultural heritage since long time
- ii) Rich in cultural products such as art & craft, folk dance, folk music, folklores, ethnic food (way of preparing and producing food), costumes, fairs and festivals and other elements of culture.
- iii) Must involve in indigenous knowledge transfer in line with ecological balance
- iv) People are friendly, hospitable and cultural belief is intact and ready to extend hospitality.
- v) Believes in inheriting traditional values.
- vi) Conserved their ceremonies, rituals and other performance in authentic way.

Once such villages are identified then selective measure need to be taken to adopt it to generate awareness regarding importance of their culture and rich traditions taking into account the types of ecotourists or ecotourism demand (needs of market segment). Village adoption can be developed in collaboration with some interested stakeholders. Individuals, entrepreneurs or corporates can be invited to adopt such villages. Even NGOs can adopt a village to save and promote the culture of such village as key stakeholders where government machinery or other private parties fail to show their willingness.

The following entities could become the main stakeholder,

- i) Any individual have interest, passion, money, resource and ready to safeguard the culture of ethnic group/tribes as well as biosphere reserve.
- ii) Government Agency (tourism department/ministry of tourism and culture)
- iii) Private Agencies have good track record on such issues particularly to cultural conservation and cultural promotion (through eco-cultural tourism and related enterprises).
- iv) NGO (Non-Governmental Organisations) have good experience, renowned and acceptable among such ethnic group/tribal belt. NGOs can approach to funding agencies(national / international) for such model of livelihood development and environmental conservation.
- v) PPP (Public- Private- Partnership) model can be also the best way to adopt it.
- vi) Big corporate houses can be motivated to adopt and promote such villages as a part of their corporate social responsibility.
- vii) Hotel/ Resort/ Tour Operators can also be the part of such adoption model.

Once any village adopted the proper monitoring and evaluating must be done on time to time basis. A familiarization trip can be conducted to such cultural village, trip may include different stakeholder such as renowned tour operator, tour guide, resort operators, ecotourism experts, drifters, naturalist, explorers (types of ecotourist), secretary tourism/director tourism as well as NGOs.

While promoting such village special attention need to be given to the hygiene and sanitation and training to village communities. In no case village communities should feel ignored or neglected or bypassed. Proper involvement of village communities (particularly village head and his/her subordinates) in all types of promotional meeting must be taken care off. Model must take into consideration other villages and natural attractions that come in proximity of adopted village.

Marketing must be done in association with tourism department and tour operators.

(II) Majang Welfare Foundation - Formation of MWF as part of philanthropic venture would be of great help by inviting corporate houses to contribute their profit margins as part of CSR. This foundation will further provide financial assistance to craftsman, bee-keeper and others MSMEs interested in travel & tourism business. All hoteliers, resort operators, coffee & tea plantation estate, restaurant (food joint) operators, transport operators, and other large/medium/small enterprises or entrepreneurs would contribute minimum ETB 100 to Maximum 10000 (nature of business) every month as part of their social responsibility. Contributor must be given tax exemption certificate and benefits as per requirement on time to time basis.

Or

Such financial institution can be formed by the help of local government where initially 80% amount can be funded by state government/ central government and rest 20% can be funded by local businessman residing in the Majang zone. And later on same can be transferred to Majang communities if they succeeded to run their ecotourism related enterprises. Because cottage industry would be the important part of ecotourism enterprises development which provides opportunities to weavers, craftsman and other cultural based artisans to work like micro entrepreneurs. It will also promote organic food farming that leads to agro-tourism. Once it started working then can be transferred to communities to run it on mutual sharing basis which create a sense of responsibilities and liabilities towards each-other.

(III) Majang Ethnic Village and Resort- Development of MEVR on cooperative systems would be the best way to attract tourist and business enterprising. Places like Godere Mission, Galesha and Tengi are suitable for developing such ethnic village resorts. These villages are close to geomorphological sites like waterfalls, natural bridge, forest, wildlife etc.

The following measures can be done,

- i) Train the local communities regarding, tour guiding, hospitality and tourism and its benefits.
- ii) Train the communities of solid waste management, hygiene and sanitation, and disaster management.
- iii) Train them about flora and fauna and its importance in their life.
- iv) Identify the place and come out with indigenous style huts laces with traditional amenities
- v) Divide the communities into different groups as per the total number of huts(gojo) and assigned the responsibilities of food, shelter and sight seen.
- vi) Connect this resort with organic farms/suitable agricultural farms for buying consumable material or commodities.
- vii) Invite staying guest to visit such connected organic farms.
- viii) Appoint local communities only for all types of

- services such as reception, house-keeping, food and beverage production, food and beverage service and local sight seen of cultural village / natural attraction.
- ix) Send local employees to other eco-lodges or eco resorts for better exposure.
 - x) Share the revenues among workers.
 - xi) If succeeded start another resort on inter-linkage basis.
 - xii) Consult the ecotourism experts.

In case of funding problem these resorts can become part of big chain of resorts or renowned hotel company or tour operators located in Ethiopia or overseas.

(IV) Co-operative Farming - for Flower, Honey and Milk Production and its derivatives (products) and to export it directly to big super markets, malls and foreign countries.

Valley of flowers is very popular tourism destination in some countries like India. It's all naturally grown flowers. The focus need to be given on naturally grown ornamental flowers and its breed. Orchid flowers can be grown in highland climatic condition particularly bells. Whereas other types of flower is concerned that can be cultivated within transition zone only so that it could also become as a part of recreation centre and buying points to generate income. Such garden can be planned in line with environment and MFBR. Entry ticket can be kept for visitors to generate income. It will also generate employment opportunities and interaction opportunities visitors/tourists.

Honey and Milk production system can be developed to provide additional source of income by selling food items. Particularly honey which has a number of medicinal values and good perspective of health.

The following can be done to boost the morale of communities and securing income into the hand of local communities.

- i) Training must be provided on cooperative system and its benefits.
- ii) Procurement centre need to be developed in each village with quality check system.
- iii) Arrangement of transportation from villages to main centre
- iv) price can be paid on daily basis initially that can be change to monthly.
- v) Grievance readdress centre must be established to listen to communities and provide solutions.
- vi) Communities must be encouraged to sale the derivatives of milk and honey by running their own small enterprises.
- vii) Processing industries must be environmental friendly and if possible then focus on indigenous methods of processing derivatives instead mechanical. However industries can be allotted space away from transition zone of biosphere reserve. Because people want more organic and indigenous instead modern.
- viii) Hygiene and sanitation must be taken care off on all such centres, processing units and delivery/selling centres.
- ix) Model from other countries can be verified prior to adoption. AMUL(Anand Milk Union Limited) in India is one of best example of milk cooperative system.
- x) Checking pre-condition would be useful.

- xi) In any case communities should not feel ignored or neglected
- xii) Entry fee can be levied on such centres for visitors with proper guidelines to visit. Must have buying outlets and testing centres.
- xiii) Products can be transported to Resorts/hotels/shopping malls and other connected centres.

(V) Spice Village -spices and herbs have very important role in human life. It has been part of indigenous treatment for a number of diseases and also used as flavoring agent in food and beverage production across the globe. The demands of spices have been increased. It can be promoted as spice village tourism.

To develop such village following measures need to be considered,

- i) Village must be located on suitable altitude to grow the spices. Pre-condition to grow spices must be checked.
- ii) Lumtang and Galesha Village can be developed as spice village. Even these villages have cultural and natural potential too.
- iii) Training need to be provided to local communities regarding various types of spices and its cultivation and harvesting techniques.
- iv) Training must be provided on usage of spices in both cooking as flavouring agent and health as medicinal agent.
- v) Tourist must be invited to these villages to have a look on locally grown spices and motivated to buy.
- vi) Small museum-cum-sale centre can be developed to such village.
- vii) Entry tickets can be kept for visitors interested in exploring spices.
- viii) Spices can be transported to Resorts/hotels/shopping malls.

(VI) Majang Community Tour Operator Association (MCTOA)- can be formed initially by providing training in tour operation and tour guiding to a group of local communities may consists of five members selected from five villages near to cultural and natural attraction sites.

The organisation like MELCA may act as facilitator in managing the whole operation. This association would collaborate with Ethiopia Tour Operators Association located in Addis Ababa and could function from government tourism office or some other office allotted to them by ministry of tourism and culture. It is further recommended that this association must try to become member of several ecotourism and cultural tour organisation and associations at large to grab maximum attention and easy marketing of Majang zone.

To start such association funding may be outsourced from big corporates and established resort and tour operators who have shown their interest in ecotourism promotion in Majang zone as an important stakeholder and partners. Further profits can be shared in later stage once the programme started gaining popularity and business. Airlines operators can also play a role of inhouse tour operator . Airlines operators while taking the booking of travellers coming to Gambella, may ask or offer a sightseen package of Majang zone in connection with Gambella National Park(GNP) and many more. These airlines can come out with provision of booking sightseen package to Majang Biosphere Reserve and GNP. This package would be combination

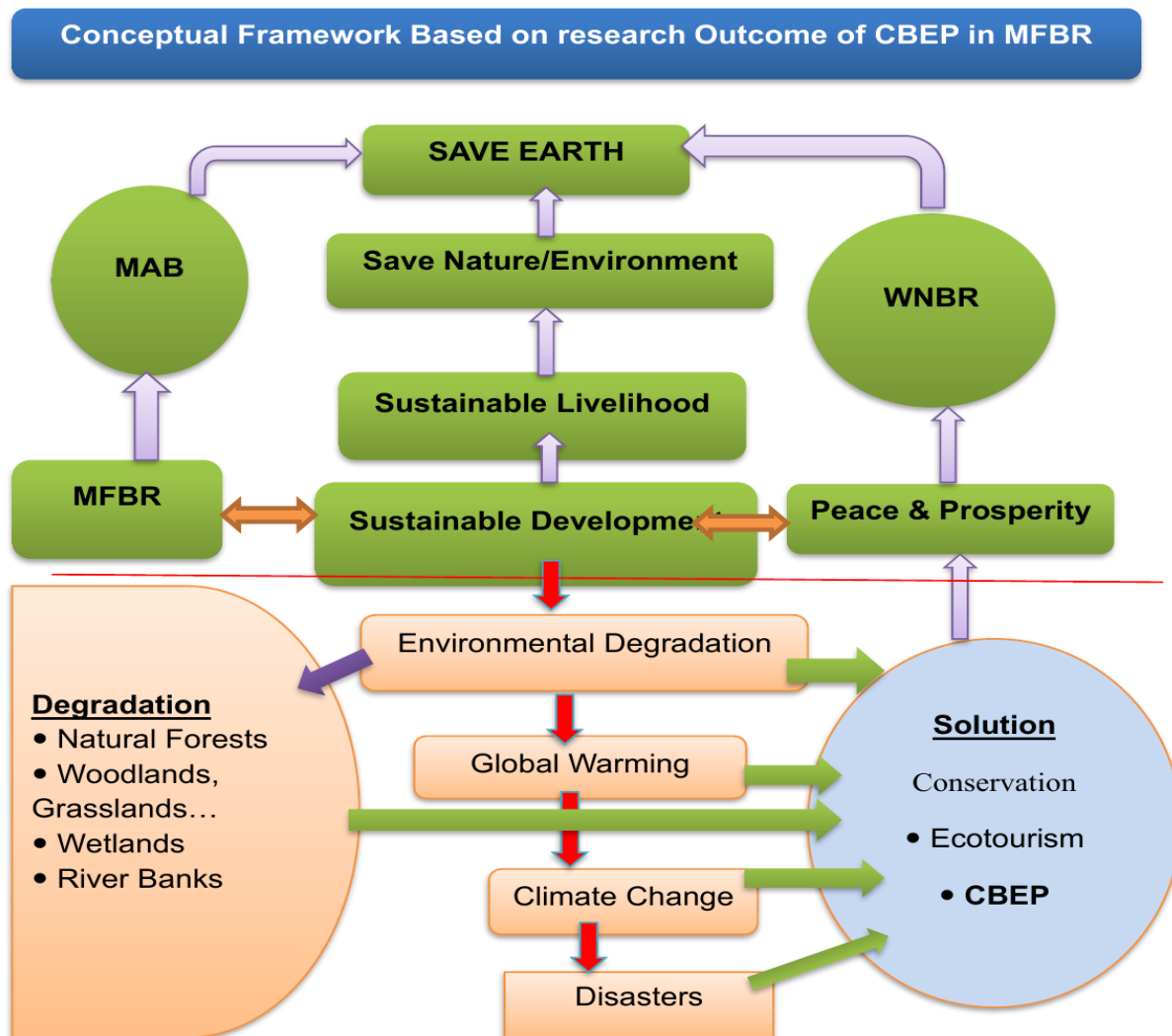
of stay at Majang Ethnic Village Resort, MFBR sight- seen, GNP and shopping voucher of tradition craft items and honey at *Majangir Cottage Emporium*.

In case of funding problem, MCTOA can be- come local handling agents (9 local travel agents) of big tour operators based in Addis Abbab or oversease loca- tion. Birdwatching and trekking to forest to reach to geomorphological attraction like waterfall, natural bridge can be started initially for tourist, Glaesha, Tengi and Godere Mission has good tourism potential includ- ing to Lumtang these places are closed to MFBR and forest. Marketing is very important so such type of as- sociations must be connected with local taxi operators, hotels/resorts, guides on revenue sharing basis like com- mission or service charge.

VII) Majang Cultural Museum - can be developed to showcase the cultural and medicinal items belong to Majang. It can be located in Meti town. Entry fee must be kept for such museum for maintenance and upkeep. (Trained on site guide must be recruited to demonstrate and describe the things present in museum. Art and

craft, painting, pottery, musical instruments, livelihood items as well as landscapes of Mjang zone must be kept on display for visitors. Shouvenirs shops can be kept in adjoin to museum before exit to motivate guest/visitors to buy required items. Items may include cultural and hone based items. Even printed T-Shirt, Jackets, Cups, Hats greeting cards, post cards and books can be sold through these outlets. But making sure the in production of all these items local communities is involved. If possible then orientation centre can be developed in at- tached to museum where small documentary (movie) of Majang zone can be showcased.

A conceptual framework was developed con- sidering the value of each components in the Figure 12 in regard to conservation of biosphere reserves and their vital role in sustainable development by providing mon- etary and educational benefits. The following figure can be divided into *two zones* i.e. *green zone and red zone*. CBEP has tremendous potential to control the environ- ment hazards and degradations which means it could transform red zone into green zone via blue (ecotourism and conservation) zone.



*MAB- Man And Biosphere, *MFBR- Majang Forest Biosphere Reserve
 *WNBR- World Network of Biosphere Reserve, *CBEP- Community Based Ecotourism Program

Figure 12. Conceptual framework of CBEP in relation to MFBR

(VIII) Water Sports Recreation - can be developed in Buray Lake and Jay river for tourist in eco-friendly way considering the carrying capacity of site. The sites are more fragile so restriction must be imposed on such operators to bring tourist in batch of five people. Code of ethics for tourists including of Do's and Don'ts must be defined. Water sports recreation activities like boating in non-motorised way and river rafting can be promoted.

(IX) Forest Coffee Tourism- can be promoted for visitors and tourist. It would promote conservation of forest coffee. Types of coffee can be kept on display to such forest areas with option of on the spot coffee testing and buying.

(X) Majang Fest (Festival) - need to be rebranded in attractive way and has to be organised every year. Tour operators and resort operators must need to be intimated in advance to grab the attention and to attract more visitors/ecotourists. This festival can be organized by tourism and cultural bureau or ministry of tourism and culture in collaboration with some renowned tour operators of Ethiopia or overseas (foreign). This could be the best way of marketing the Majang zone and biosphere reserve. Thomas Cook, Micato Safari, Cox & King, SITA world travel, Responsible travel and tours, Lonely planet, The Guardian, TIES(The International Ecotourism Society), Wildlife and Cultural Photographers, Travel & Living, Discovery and History Channels, National Geographic can be part of such programmes. It is also recommended to organize such festival during the peak season time of tourist in Ethiopia as well as time of Nationality Celebration to attract both foreigners and native.

CONCLUSION

Majang Forest Biosphere Reserve in Gambella region of south west Ethiopia has diversified mix of flora and fauna. Simply registering under UNESCO biosphere reserves would not help in conservation of its rich biodiversity. Migration of people from all over Ethiopia to this beautiful forest has posed a serious challenge and many threats to the wildlife species and indigenous local community. Conservation also need financial resources and human resources. Therefore utmost care need to be taken to protect the forest from unwanted threats. And that could be done by development some economic activities around the biosphere reserves in eco-friendly ways. Community based Ecotourism programme have benefited many countries and hence Majang Forest Biosphere Reserve will also have opportunity to safeguard itself from ecological and environmental degradation by adopting conservation measures through community based Ecotourism programme.

LIMITATIONS

Any generalized idea is not right due to variations in size, goal, changing perceptions and region and literatures followed.

DIRECTION TO FURTHER RESEARCH

The further research must direct itself for conducting such investigations. This will make the study more meaningful to find linkage more effectively.

ACKNOWLEDGEMENT

The researcher would like to extend their gratitude to all the respondents, professor, scholars, authors, scientists, biologists, ecologists, wildlife professionals and news reporters of various organizations. And finally to Research Directorate of Gambella University Ethiopia and MELCA Ethiopia, for providing sufficient time and resources.

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