Bahir Dar Abay (Blue Nile) River Millennium Park

Strategic Plan For 2010-2014 (2003-2007 E.C)

Bahir Dar City Adminstration
Bahir Dar Abay (Blue Nile) River Milinium Park Office

March,2010 (2002 E.C)
Bahir Dar, Ethiopia



DECLARATION

I would like to remark, Bahir Dar flourishing town situated at the south shoreline of Lake Tana and dissected by the upstream source of Abay (Blue Nile) and few kilometers away North West of the famous Blue Nile Fall with spectacular viewpoints of Bezawit in the East put at the top attraction and scenic beauty town of the region as well as to the nation. Now it requires facilitation of resident and institutional buildings, roads and other infrastructures, conservation of biophysical resources and development of recreational centers for sustainable tourism and enjoyment of its residents, national and international communities. These activities depend on commitment, unreserved effort and timely decision of officials in all level in respective institutions and stakeholders for better use of natural and cultural resources of the town. BDBNRMP is a part of it located at the out late of Abay from Lake Tana to Blue Nile Fall as reservoir of biophysical resources and best in development of sustainable tourism. It also lead us in establishing similar sites in many of spectacular rivers in the region, in turn we will have several rieverine recreational areas that enables the region to move ahead in alleviating environmental hazards and their consequences and also generates economic and social benefits.

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.

Abraham Marye
March, 2010
Bahir Dar

Acronyms

ANRS	Amhara National Regional State
ARARI	Amhara Region Agricultural Research Institute
BCTPD	Bureau of Culture, Tourism, and park Development
BDBNRMP	Bahir Dar Blue Nile River Millennium Park
BDCAO	Bahir Dar City Administration Office
BOFED	Bureau of Finance and Economic Development
BoWUD	Bureau of Works and Urban Development
BDU	Bahir Dar University
BARD	Bureau of Agriculture and Rural Development
CA	City Administration (Bahir Dar)
CBD	Convention on Biological Diversity
CITES	Convention on International Trade of Endangered Species
CMPAs	Co-managed Protected Areas
ELEPC	Ethiopian Light and Electric Power Corporation
EPA	Environmental Protection Authority
EPLAUA	Environmental Protection, Land Administration, and Use Authority
ERVs	Exceptional Resources Values
MoA	Ministry of Agriculture
NGOs	Non Government Organizations
ORDA	Organization of Rehabilitation and Development in Amhara
PaDPA	Parks Development and Protection Authority
PA	Protected Area
PEC	Principal Ecosystem Components
RC	Ramsar Convention
RCS	Regional Conservation Strategy
SA	Security Affairs
SIO	Small Enterprise Organizations
SMNP	Simien Mountains National Park

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Executive Summary

Selection, establishment and proper categorization of protected areas are essential for proper conservation of these biophysical resources to achieve this international, national, local conservation organizations and even communities are interested to conserve these natural wealth ensure. In striving to this direction currently Ethiopia has established 15 national parks, 4 sanctuaries, 11 wildlife reserves and 18 control hunting areas and 54 dry ever green and 29 moist ever green priority forest reserves owned by federal and regional governments designated to conserve divers and important biophysical resources. However, these areas faced with many problems and suffer from poor and less protective and unsustainable management.

During Ethiopian new millennium celebration and keynote emphasis given by H. E. Ato Ayalew Gobezie president of the ANRS as a pioneer the regional government established Bahir Dar Blue Nile River Millennium Park (BDBNRMP) in "REGULATION No 59/2008.'' The park designated to conserve unique natural features, objects of historical interests and other natural values, for the enjoyment of the people of the region as well as to the national and international level as it is found in spectacular and famous upstream sources of Blue Nile River. It is believed to serve as one of dependable natural, economic, cultural, and historical resource for the community, the region, and the country.

BDBNRMP designation in category four of IUCN PA systems applied in the context of regional and national environmental conservation policy (wildlife reserve) and conservation strategy as a part of the ecosystem (riverine) to montane with special area conservation approach that contribute to broad scale conservation plans

The geographical location of BDBNRMP is 11^0 29' 40.2" to 11^0 37' 32.9" N latitudes and 37^0 24' 37.2" to 37^0 36' 34.0" E longitudes starting from the source of Blue Nile outlet at Lake Tana to the wonderful fall of the river (Tis Isat) i.e. from Northeast to Southeast part of Bahir Dar. It covers about 4729 ha riverine land of Abay (Blue Nile).

In respect to ERVs there is a spectacular view to the spot where the famous Blue Nile River flows out of Lake Tana. . It also has a spectacular view of river course meandering in relatively slow rate which creates enjoyment to visitors. It is an area with impressive hilltops that serve to view all areas of its vicinity and low laying riverine divers habitats and inter-visible to other hill top. It is an area comprises riverine to upland montane forest ecosystems. Blue Nile Fall is the most dramatic feature on the Blue Nile River. Four hundred wide when in flood, dropping over sheer chasm more than forty-five meters deep, the fall throw up a continuous spray of water, which trenches on lookers up to a kilometer away .

The issue of strategic management plan development for BDBNRMP integrated with conservation of biodiversity and sustainable tourism. This has been primary question of strategic framework development, which was seeking answer. Furthermore, the document provides answer to the following requests as primary issues for strategic plan development.

Relevant resources of biodiversity and scenic beauty contribution for sustainable conservation and tourism industry development in the park.. Conservation and rehabilitation of natural areas requires tourism facilities as potential opportunities to develop perceptible attractions management and tourism development activities in and around BDBNRMP for the benefit of the community. The current land and

natural areas use systems provide fertile ground for use zoning and recreational centers (walking, horse riding, boating, bird watching; sightseeing, culture) development for better and sustainable conservation and utilization through tourism

BDBNRMP has three ecosystems without distinct boundary with interweaved ecological process. Namely, Riverine evergreen (river course, islands fragments river water ways area) ecosystem, Dry upland montane forests (upland dry forest composition) dominated by seasonal defoliation and removal of green leaves in winter November to May. Riverbank wetlands (wetland near to river watercourse and mixed forests of sewage grass and shrub undergrowth in huge evergreen trees of riverine indicator) largely dominated by river water, plant and animal species adaptive to the ecosystems.

Seven distinct vegetation based habitats with various cover proportions in different forest patches of the above-mentioned ecosystems. These include modified mixed wooded land, wooded upland, open grasslands, grasslands with igneous rocks, wooded land with igneous rock, forest with dense cover, and riverside wet lands in isolated extensive lands or interrupted one by another habitats often mosaic. The priority habitats utilization systems at different forest patches were grazing, cultivation, settlement, communal forest, recreational, plantation and social gatherings while priority utilization of specific plants for construction, fuel and charcoal, medicine and sanitation food, feed, fence and shade, sale, furniture and farm tools

Therefore, nine priority causes were identified are Poverty and strong dependency on nature, increased population and resource use, narrowing spectrum of forest utilization, lack of suitable management systems, lack of concerned institution or by laws, fall to valuing natural environment in the past, low level of improved technologies utilization, special demand and multipurpose, and inequality in management and benefit. Out of the nine causes for habitats and woody plants degradation Poverty and strong dependency on nature, lack of suitable management systems and increased population and resource use were the higher priority causes for deforestation and land degradation. These are cultivated, irrigated, grazing, forest, wetlands, and settlement land use types.

The strategic direction to conserve biophysical resources of the park strives to make BDBNRMP an area of model for sustainable environmental conservation, tourism, and scientific research. Hence, biodiversity conservation and sustainable utilization is a prime goal of BDBNRMP management strategy. Biodiversity is a source of essential inputs for agricultural development, and provides a multitude of choices and means for dealing with natural and man-made environmental disturbances. It is a security for improved livelihood and a foundation for our agricultural development strategy.

The strategic programs have been designed to guide BDBNRMP achieve its 2015 vision of a successful and sustainable biodiversity, scenic beauty and tourism industry that will benefit all stakeholders. Specifically, it has been developed to address stakeholder concerns as well as deal with the ongoing and ever changing challenges facing Ethiopian biodiversity and environmental conservation and tourism industry.

1. National and Regional Background

1.1 Biodiversity resources and conservation

Ethiopia is located in the horn of Africa. It is tenth largest country in Africa (1,132,895 sq km) (UN-WATER/WWAP, 2004). Its climatic diversity has given rise to many and varied ecological systems (IBDC, 2005). As a result Ethiopia has 4 biomes (Afro tropical Highland, The Somali-Masai, The Sudano-Guinean Savannah and Sahelian Transitional Biome) 10 vegetation based broad ecosystems, 21 agro ecological zones and 2 hotspots (Horn of Africa Hotspots and Eastern Afro-montane Hotspot) (IBDC, 2005, WATER/WWAP, 2004; WNHS, 1996) with several biodiversity centers, ecological communities and sub agro ecologies. Ethiopia is rich in impressive geological events and landscape formed by complex and old aged natural and anthropogenic factors. The rich biodiversity intriguing landscape with unique historical events designated for attraction of tourists and historical researchers expedition. Due to this, many tourists around the world have been visiting Ethiopia since long ago.

Ethiopia's broad altitudinal range, geological and topographic setup catered diverse biological resources and scenic features. Biodiversity of Ethiopia is indicated by richness of species that display genetic variations, ecological and economic services provided in free of charge. Many of natural and cultural heritages are endemic. However, only few are known and scientifically studied. Studies show that, Ethiopia has a total of 277 terrestrial mammals, 862 bird, 201 reptile, 63 amphibians, 150 fishes and 324 butterfly species of fauna and over 7000 species of plants. Among these 31 mammals, 16 birds 24 amphibians 4 fish, 9 reptiles and 7 butterfly species of animals and 12-15% of flora species are endemic. But, their values significant local and national role is not largely recognized at all level. As a result, many of these wildlife resources are declining at an alarming rate due to the wining behavior of human and low level of conservation and rehabilitation effort (Abraham Marye., et al, 2008, CBD, 2008; Schmiderer and Puff, 002); Million Bekele, (2001).

Selection, establishment and proper categorization of protected areas are essential for proper conservation of these biophysical resources to achieve this international, national, local conservation organizations and even communities are interested to conserve these natural wealth ensure (Cherie Enawugaw et al, 2006). In striving to this direction currently Ethiopia has established 15 national parks, 4 sanctuaries, 11 wildlife reserves and 18 control hunting areas and 54 dry ever green and 29 moist ever green priority forest reserves owned by federal and regional governments designated to conserve divers and important biophysical resources (PaDPA, 2008; IBDC, 2005; Seleshi Nemomissa Hillman, 1993). However, these areas faced with many problems and suffer from poor and less protective and unsustainable management.

On the other hand in actual case all important ecosystems are not represented in existing protected areas (about 90% in the lowlands) because, only small fraction of the total land areas under different protection is nearly at natural status. So, recent studies have shown that less than 50% of each protected areas are functional for designated protected area category and management objectives. They are threatened with over domestic stock grazing, cultivation, settlement and mineral extraction (Girma Mengesha, 2005; Tadesse Habetamu, 2005; IBDC, 2005). Different studies indicated that all vegetation types of Ethiopia are under severe threat. The highest pressure, however, is being exerted on the moist and dry evergreen montane forests which are mainly located in the densely populated highlands, as evidenced by the high rate of deforestation (Million Bekele, 2001).

Amhara National Regional state (ANRS) is one of the second largest regions of the country, area of 170,152sq km wide and with a very varied agro climatic zone. It possesses most scenic and biologically fascinating places and cultural heritage sites. Amhara Region has about 450 species of birds and 50 species of larger mammals (AFAP, 1999; Abraham Marye., et al, 2008) of which four large mammals and 8 bird species are endemic to Amhara-Ethiopia. The importance of preserving those prestigious wildlife resources for economic development is paramount issue. In persuading this, studies and conservation efforts are minimal. Before 2005, the region had only one legally protected area (i.e SMNP). SMNP covers 412 sq km and known for its breathtaking beautiful landscape and home for many fauna and flora; ten mammals and six bird endemic species including Walia ibex, Gelada baboon and Ethiopian wolf.

Lately, after 2005, there has been high will and commitment by the regional government to increase the number of protected areas. Alatish is a newly established national park in North Gonder Quara Woreda along Ethio-Sudan boarder after a series of endeavors to provide legal status and facilities required. It covers 2,665.7km^2 and established legally in 20th February 2006. Furthermore Borena Sayint National Park in South Wollo established in the mid of 2009 legally gazated and work force and necessary budget established. Menz Guassa community forest area is also under legalization process. Protected area potential assessment has been conducted on natural areas of Abune Yosef (North Wollo), Guna (South Gondar), Abay Sheleko (East Goam), Alzeb (West Goam Wonberma), Bagusa (Awi) and Tana. Respective recommendations of management issues are forwarded for better conservation, rehabilitation and sustainable use. Some of them are more tend to be incorporated in protected area system. However, indeed many areas, detail studies and strives to conservation are at minimal level.

During Ethiopian new millennium celebration and keynote emphasis given byH. E. Ato Ayalew Gobezie president of the ANRS as a pioneer the regional government established Bahir Dar Blue Nile River Millennium Park (BDBNRMP) in "REGULATION No 59/2008.'' The park designated to conserve unique natural features, objects of historical interests and other natural values, for the enjoyment of the people of the region as well as to the national and international level as it is found in spectacular and famous upstream sources of Blue Nile River. It is believed to serve as one of dependable natural, economic, cultural, and historical resource for the community, the region, and the country. It helps to have healthy and natural system of the environment and safe for diverse flora and fauna of the upper course of the river Blue Nile which is targeted in this strategic plan development for the next five years.

1.2. Definition and description of important terms

BDBNMP is situated from upstream source of Lake Tana to the famous Blue Nile fall (Tis Isat). It includes the river course of Abay (Blue Nile) and its vicinities; scenic landscape, and riverside wetlands, associated forest and wetland birds, fish, reptiles and mammals including Hippo. It also comprises typical riverine forests and upland vegetation dominated by evergreen and deciduous plants respectively. The area laid within Bahir Dar city and Bahir Dar Zuriya Woreda administrations. Its spectacular feature different landscape, biological diversity, and potential for ecotourism industry necessitated to be delineated as a park. Available fragile ecosystem, improper use of different wildlife and habitats coupled with threatened species and low benefit from tourism enforced to develop this strategic plan as a practical guide in development endeavor to reverse existing situations.

As to its establishment document Berhanue., et al (2007) BDBNRMP defined and evaluated as the Blue Nile Millennium Riverine Park "as an area of land/water body especially dedicated to the protection and maintenance of biological resources, and designated to provide different development interventions in relation to recreational value".

Park: According to IUCN (2004) park is defined as an area reserved for special protection of wild animals and plants (including their habitats) at their natural surroundings, which has distinguished and delineated boundaries and designated as protected area. Similarly, Microsoft Encarta 2005 define park as: A) An area for public recreation: a publicly owned area of land, usually with grass, trees, paths, sports fields, playgrounds, picnic areas, and other features for recreation and relaxation. B) A protected area of countryside: an area of land reserved and managed so that it remains unspoiled, undeveloped, and as natural as possible. To identify, conservation targets and management objectives parks categorized in different protected area system it can fit and satisfy criteria.

Protected area (PA): according to IUCN(1994) PA is defined as *"**a**n area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means and six categories*", Ethiopia has four systems of wildlife protection. These are national parks, sanctuary, and wildlife reserve and controlled hunting areas as protected area categories. The country uses IUCN protected area selection criteria for designation and management. Owing this, BDBNRMP is designated in Category IV to IUCN protected area system which more satisfies special scenic areas and threatened wildlife conservation through active management (i.e., Habitat/species management area). This protected area category protects fragments of ecosystems or habitats, which often require continual management intervention to maintain. It also protected areas often established to protect particular species or habitats that require special attention.



Fig.1. *Papyrus plant and associated riverine ecosystem species (South of Tekelehaymanot)*

The overriding purpose of a system of protected areas is to increase the effectiveness of *in-situ* biodiversity conservation. IUCN has suggested that the long-term success of *in-situ* conservation requires that the global system of protected areas comprise a representative sample of each of the world's different ecosystems (Davey, 1998) at least 10% of the total area. IUCN emphasizes that protected areas should not be seen as isolated entities, but part of broader conservation landscapes, including both protected area systems and wider ecosystem approaches to conservation that are implemented across the landscape or seascape.

BDBNRMP designation in category four of IUCN PA systems applied in the context of regional and national environmental conservation policy (wildlife reserve) and IBD (2005) conservation strategy as

a part of the ecosystem (riverine) to montane with special area conservation approach that contribute to broad scale conservation plans.

Biodiversity conservation (BDC): IUCN believes that protected areas should be integrated into coherent protected area systems, and that such systems should further be integrated within broader-scale approaches to conservation and land/water use, which include both protected land and water and a wide variety of sustainable management approaches. Moreover, CBD in 2004, protected area systems objective to establish and maintain "*comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas*" which the BDBNRMP satisfies.

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The ecosystem approach used for BDBNRMP is a broader framework for planning and developing sustainable land/ water and its components conservation and use management in an integrated manner. In this context, BDBNRMP fit as one important site perhaps the most important site for this approach. The CBD (2004) defines the ecosystem approach as: "*a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way*"

Protected area governance: In a protected area context, governance can be examined about power, relationships, and accountability at the level of a broad conservation network as well as at a level of an individual PA. It is about who has influence, who decides, and how decision-makers are held accountable. It can be defined as *the interactions among structures, processes, and traditions that determine how power is exercised, how decisions are taken on issues of public concern, and how citizens or other stakeholders have their say*. Governance improvements are advocated on issues of public information, transparency and accountability in decision-making, fair treatment of social concerns, equitable sharing of the costs and benefits of conservation, strategic vision and actual effectiveness of management.

Governance has an influence on the achievement of protected area objectives (management effectiveness) but also determines the sharing of relevant cost and benefits (management equity). It affects the generation and sustenance of community, political and financial support.

Management (Governance) system: BDBNRMP administered by independent state agency BDBNRMP office under Bahir Dar city administration. Natural and modified ecosystems with significant biodiversity, cultural and ecological values on territories and resources conserved by indigenous and local communities in partnership with governments and other stakeholders as Co-managed Protected Areas (CMPAs): Co-management is an ongoing process of resolving conflicts that are inherent in the tensions between conservation and development. The terms co-management and collaborative, participatory, and joint management are defined by degrees of power sharing among stakeholders and the government with specific sharing power in terms of linked responsibility and authority and structures that address equity concerns in negotiations.

Strategy is an art of employing all elements of the power of a park staff and associated stakeholders of the park to accomplish the objectives of the park or an alliance in effective conservation and sustainable tourism (Encarta, 2007).. It is also the art of resource management in combating degradation through, tactics, in dispersing and maneuvering of forces to accomplish a limited objective or an immediate end. Strategy involves the use and close integration of economic.., political, cultural, social, moral, spiritual, and psychological power through effective management and control of natural and cultural resources at required level to end up with sustainable conservation and tourism.

BDBNRMP Management Strategy formulated after the objectives to be accomplished have been determined. Thus, park management objectives, effective work force, and stakeholder cooperation are the irreducible elements of the strategy. After park management objectives have been determined, all aspects of the problems confronting the park management must be thoroughly examined and accurate evaluations made of the character, size, and capabilities of the various available elements of national power. Then possible courses of action, utilizing the management and control power on park resources elements in varying combinations, are analyzed to develop the best management strategy possible, taking into account the impediments and constraints that may be met as the strategy unfolds. Options have been therefore developed to provide choices for possible contingencies.

The scope of BDBNRMP management strategy is a clear-cut line of demarcation between park management objectives, the current park resources uses systems, community demand, tourism facilities and infrastructures, management strategies and operational intervention, and park control systems that could longer exist. BDBNMP office is the implementer and BDBNRMP is also the target area for this strategic plan. This strategic development plan believed to be used as a guide to establish specific operational activities and actions to be executed to conserve and protect landscape and biodiversity of the park and effective conservation and sustainable utilization through tourism industry.

Planning and Zoning is arrangement of spatial distribution of resources and delineation of park area in different use and intervention for effective regulation of suitable land use, biodiversity conservation, sustainable tourism development, and tourism facilities establishment. It involve studying, arranging infrastructure, accommodation and planning for the provision of public services, and restricting specific uses, such as natural scene and biodiversity devastating industry, investment and park resources uses systems. These all believed to be ensuring areas for effective management, protection of natural and cultural resources and development of ecotourism in a sustainable base.

Bahir Dar city development plan: the unified development of Bahir Dar city and its environs more focus on sustaining its beauty, areas with undisturbed residential areas, institutional buildings, natural features, facilitated road and other infrastructure dealt primarily with the regulation of land use. The physical arrangement of city structures, as guided by architectural, engineering, and land-development, scenic beauty and biodiversity management criteria that strives for creating enjoyable, attractive and suitable to the people of the city and attracts visitors from any parts of world. These primary objectives broadened to include the comprehensive guidance of the physical, economic, and social environment of a community.

Adoption and revision of BDBNRMP strategic plan is adopted and maintained with regular revisions based on critical evaluation results.. The plan receives its day-to-day expression in a series of legal documents zoning ordinance, current resource use regulations, and infrastructure building that establish standards of services, land use, quality of tourist facilities and accommodation arrangements.

1.3. Water Resource and Problem in Ethiopia

Ethiopia's hydrology is a direct reflection of the climate, terrain, and other physical characteristics (IBDC, 2005 and Fadel *et al* 2003). Annual renewable fresh water resource is estimated about 122BCM/year in twelve river basins that have 9 rivers, 12 lakes and 5 major artificial reservoirs that cover Km^2 (IBDC, 2005). The Amhara region comprises 58 rivers and 8 lakes (2623.4sm Km^2) with permanent water (BoFED,2008). The north central highlands of Ethiopia believed to be contributing about 85% of the Blue Nile catchments.



The recent studies of rain fall and flow data indicate that there is a changing trend in water content. The decline rain fall amount for Kiremt (June-September) is estimated to be 14%. This shows the rainfall in the upper course of Abay (Blue Nile) decreases from time to time as north central highlands are dominated by the long history of settlement and deforestation. The main driving forces in decline of precipitation pattern are mainly the changes in land vegetation cover (UN-WATER/AP, 2004)

Fig.2 *The river bank devoid of vegetation at departure of Abay (Blue Nile) from Lake Tana Cherehera*

1.4 Water Resources of BDBNRMP

The catchments area of Abay River to Tis Abay from its out let at the lake Tana is 1644 km^2, comprising the catchments to Lake Tana plus an additional area of 1,094 Km^2 downstream of the Lake Tana outflow. The annual outflow from the lake over the period 1959 to 1995, as measured on the Abay River at Bahir Dar was 114 m^3/s. The Total flow in the Abay River at Tis Abay, comprising the out flows from the lake plus contribution from the downstream catchments was 126m^3/s this means a discharge of 12m^3/s is contributed by the dawn stream catchments. The tributaries in the stream (From Lake Tana to Tis Abay Fall) are Chinbil, Angodgud, Aguwat wuha, Yegind, Alebat, Jirama, Homi Andasa, Yessamit, and Alata River (Berhanue., et al 2007)



Fig.3 *Main river course and water volume in dry season (March) when outflow from its sources Lake Tana (Kebele 8, 9 and 11)*

Berhanue., et al (2007) further described Andasa River is the principal tributary between the lake and Tis Abay, with a mean annual flow of 8.1m^3/s from the catchments area of 683 km^2. The other tributaries contribute 3.9m^3 per second. Most the tributaries in the study area come from the eastern part except Yeshamt and Andasa Rivers. Alata River is the main tributary on eastern side (map showing the tributaries).

1.5 Blue Nile and its implication for biodiversity conservation

Nile is the world's longest (6850-km) river catchments basin coverings approximately 10% of the African continent of which 1529 km is Blue Nile (Fadel *et al* 2003). Nile River spreads across 10 countries with an area of 3 × 10 km^2. Blue Nile (Abay) commences from of Lake Tana 3600 m^2 wide that covers 15,319 Km^2 drainage area (IBDC, 2005).The upper course of Blue Nile in Ethiopia covers a distance of 800km known as Abay. Abay (Blue Nile) rises at 1788masl spring site up stream of Lake Tana merging with Tekeze and other tributaries contributing about 85% of Nile water (Fadel *et al.,* 2000 and IBDC, 2005).



Fig.4*. Lake Tana, river Abay (Blue Nile) and confluence with White Nile at Kartum*

Abay is characterized by spectacular faces of mountainous and valleys with upland and Riverine vegetation. So, different portions of the gorge and riverine forest of Abay within Ethiopia deserve to be protected for biodiversity and landscape conservation to use as important tourism sector that could ensure sustainable economic gain for local, regional and national levels.



Blue Nile (Abay) formation and complex biophysical features, cultural and historical interventions attracted local and foreign historians, naturalists, visitors and governors. Besides its long historical contribution to human, it was an area of expedition site for many researchers in 18th century. However, its local and national economic benefit and ecological services does not go beyond explaining it and putting merely in prestigious position, historical values and recently threats and conflicts are its common feature. Hence, it requires integrated management approach as it attracts various local and international stakeholders which would ensure to sustain exceptional resources and values, economic and ecological benefit for nations in the whole basin and improvement of the livelihood of the local people along the river bank and its immediate vicinity.

Fig 5. *Different land uses and resources of the park and its vicinities*

Therefore, it is time for concerted action of all stakeholders to halt the rapid degradation of forest ecosystems and the resulting loss of forest genetic resources in various parts of the river basin. It is, therefore, indispensable to undertake an ecological and utilization status monitoring so as to show vegetation characteristics, conservation options and generate data useful for its future management and utilization intervention.

2. Overview of BDBNRMP

2.1 Location, Topography and Climate of the park

Location

The geographical location of BDBNRMP is 11^0 29' 40.2" to 11^0 37' 32.9" N latitudes and 37^0 24' 37.2" to 37^0 36' 34.0" E longitudes starting from the source of Blue Nile outlet at Lake Tana to the wonderful fall of the river (Tis Isat) i.e. from Northeast to Southeast part of Bahir Dar. It covers about 4729 ha riverine land of Abay (Blue Nile) (Abraham Marye, 2009). The park lies within Bahir Dar Zuria Woreda and Bahir Dar city administration specifically kebeles adjacent to the park are Zenzelma, Shum-Abo, Wereb Kola Tsyion, Tis Abay, Eidago, Andasa, Dasera, Yemoshit Sebatamit, Addis Alem and Belay Zelke, which includes landescape of farms, hills, resident areas, forests, wetlands and the water body.

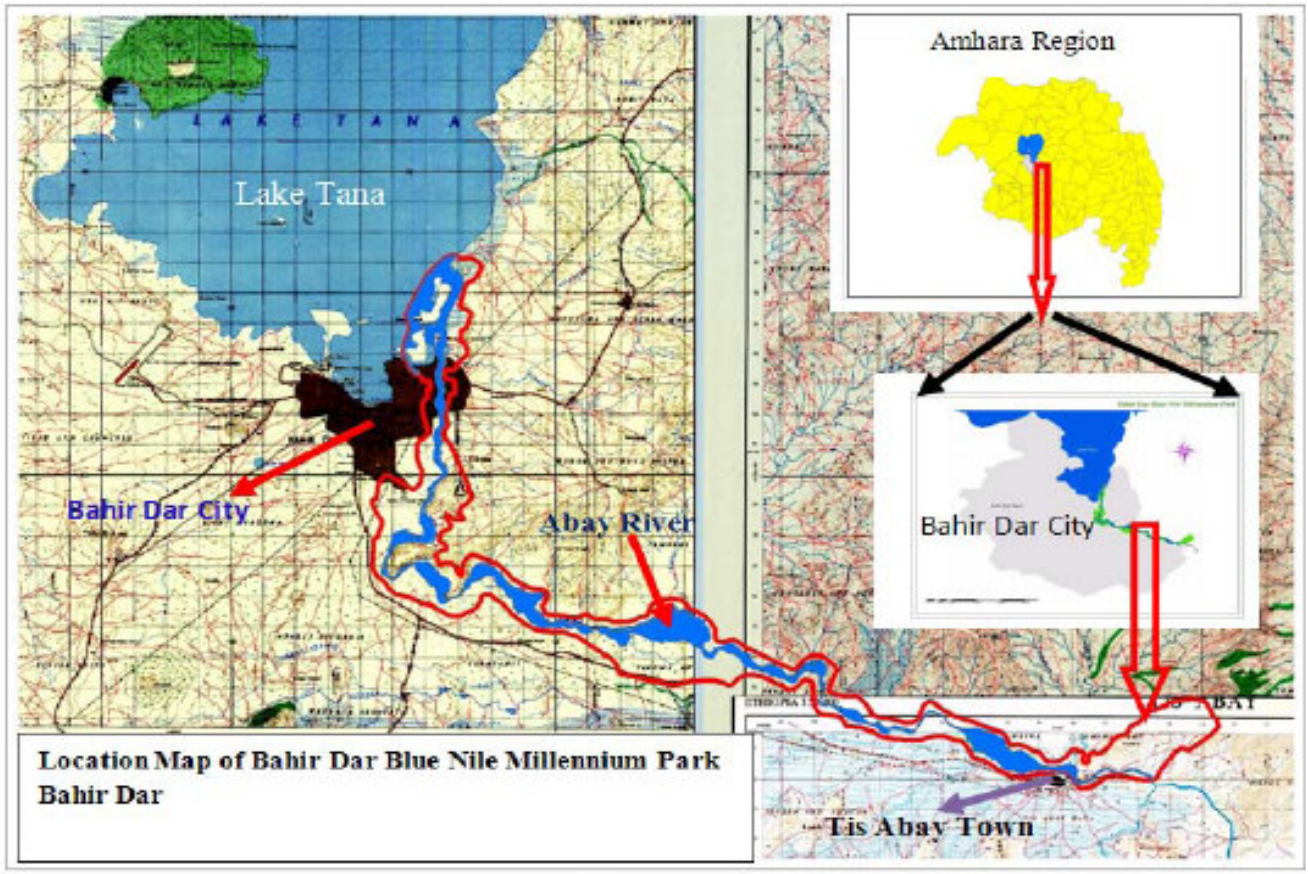


Fig 6. *Location of Bahir Dar Blue Nile Millennium Park*

Topography
Topographically, the area is characterized by gentile undulating plateau (Bellier, 1997, Abraham Marye, 2009) with meandering river course and relatively slow flow of water. Valleys, flatlands of seasonal flooding, riverside wetlands, dry hills, escarpments, and igneous rock dominated rough surfaced flatlands. Topographic features accompanied by evergreen moist riverine extensive flatlands with scattered islands that extends to upland humid forest of riverine and nearby wetlands and up and dry areas. The source of Blue Nile, Lake Tana is considered to have been created by a barrier of extruded Basaltic lavas of Aden Volcanic series formed the plateau during the Quaternary period of Cenozoic era (Berhanu *et al.,* 2007; Bellier, 1997, Abraham Marye,2009). .

Climate
he area has warm temperate with mean annual temperature of about 19.4^0C. While the mean monthly temperature ranges from a minimum of 16.1^0C in December to a maximum of 21^0C in May. The mean annual rainfall at Bahir Dar, the closest station to the area is 1447mm, ranging from a minimum of 895 to a maximum of 2036 mm. On the average over 80% of the annual rainfall total occurs between June and September, with the highest totals in July (449 mm) and August (358 mm). However, the rainfall of the area is generally negligible between December and March (Berehanu Gebre, et al, 2007).

According to traditional climatic classification of Ethiopia the study area is found in Moist Woyina Dega in its eastern side and Wet Woyina Daga in the western side. The area is within the elevation of 1621 masl at the foot of Blue Nile Fall. Around 1830 masl at the river out let from Lake Tana to 1937masl at the spectacular hilltop viewpoint of Mulilit at southern border of the park and south east direction of Blue Nile fall (Abraham Marye, 2009).

2.2 Kebeles that have shares to the park

Shumabo (kebele 08, 09 and 10),
Shumabo kebele is one of the neighborhood kebele to Abay River. Most of the residents were textile workers and they are very poor in income sources. Their monthly income is not more than birr 500. Their means of livelihood depend on selling fresh papyrus plant, grinding, stones, cart, local drinks trading and subsistence animal production. In the community, there are many unemployed. Malaria, typhoid and typhus are some of the major health problem in the area. This is because the Kebele comprises areas of wetlands of swamp places with poor infrastructure and taxi services. It is located in the right side of river EBay from main bridge to BDU main campus.

Hidar 11(Kebele 11)
It is situated to the left side of Abay from main Bridge to Bezawit. Even though Hiar 11 is the suitable for the residential property along Abay River and to the vicinity of the source of Nile that is Lake Tana the development of this area had been hampered for a long time. It is the reflection of an imbalance bureau construction and unavailability of essential service such as water supply, road networks etc. Despite it is very good for living; poor housing and insufficient existence of other social service are some of its problem. Moreover, lower classes of the society live in that area. The municipality only recently give much attention as other areas in modern infrastructure internal roads, condominium, recreational sites including attractive peoples memorial monument and production for vegetables, fruit and other perennial trees development, urban agriculture, factory workers(casual laborers), small trade such as retail trade, wood trade for construction, tea and bread, brocket production, animal husbandry and mild processing In the area there would large number of unemployed.
Zenzelma kebele

The Kebele has a boarder with Woreb Kolatsion, Robit, Tana Haike, Kebele 11, which comprise 5400 hectare. Gedro sub kebele having three Gott (Vilage) these are Debremariam, Shenbeko Dur and Gudguade is very close neighborhood to the Abay River in the demarcation area.

People who live in Debremariam, Shenbeko Dur, and Gudguad gott utilize the vicinity of Abay River for different activities. The total population lived in this Gott is about 1% of the whole Kebele population that is about 126 while the household is 22.

The main livelihood of the area is agriculture; fishing and bee keeping. As there is no grazing land people use the riverbank for crop and fruit production and are very successful. Some of the activities in which people use Abay River are motor irrigation, Teff, millet, barley, maize noug and linseed are the most frequently produced crops in the area. The Kebele is suitable for agriculture, fishing and irrigation. Even if the Kebele has no electricity, telephone, post service, 7 water pumps and 6 grinding mill are available. The livestock density with respective to the specific locality is much higher. Now a days people are going to change the grazing land to irrigation.

Woreb Kola Tsion Kebele

Woreb Kola Tsion located next to Hedar 11 in the left side of the river including many parts of Bezawit. The Kebele has a boundary with Yemoshit, Zenzelma, Sebatamit, Yigoma Huletu, Tis Abby Kebele. However, Kola Tsion and Bezawit are adjacent sub villages to the river Abay. Kola Tsion sub village comprises Agew woldu, Mitugur, Zuria Abay, Abalo, Geberie Tela and Jirama while Bezawit sub village comprises Seyum Sefer and Shaquwarie. The residents of the Kebele livelihood have been supported by cattle raring and horticulture development.

Sebatamit Kebele (Right side of Abay)

Sebatamit Kebele is located to the west/right of Abay River. The Kebele has a boundary of Woreb Kola Tsion to the north east, Addis Alem to north west and Dishet abaraji (Yegoma) to the East which has a total area 1298 hectare. Moreover, the Kebele has three sub kebeles namely Sebatamit, Rufale and Totosan. Among these sub-kebele Sebatamit is the adjacent to the river which comprise Sebatamit/reti, Forkit, Negida Mariam, Kibushit, and Abay mender. However, Abay mender is demarcated in the newly split Kebele called Addis Alem.

Out of the total size of the Kebele 147 ha is used for grazing land. Grazing land near to the river is about 77.25 ha which needs much attention as many of the area is becoming extremely degraded in its vegetation cover. In this Kebele there are Ezana and Andasa together with Abay River. Hence, adjacent Gott use traditional irrigation with motor and gourd in Abay river cover about 42.55 ha and Ezana river diversion that utilize 35.345 ha. The Kebele has 105 ha irrigable potential.

Adis ketema (Dishet Abaraji)

Dishet Abaraji is the newly split Kebele from Huletu Yigoma and it has a boarder with Woreb kola Tsion in the North Yigoma Huletu is the east. The kebele has three sub Kebeles namely Sebatamit, Rufael, Totosan. Among three sub kebele sebatamit/reti is adjacent to the river. Specifically Sebatamit, Foirki, Negida mariam, Kibushit, Abay Menders are Gotts adjacent to the river. In this area about 42 ha is developed using 25 motor irrigation and 35 ha is developed use Ezana river that join to Andasa river.

Huletu yigoma

The main livelihood of the area is agriculture; fishing and bee keeping are the main source of economic activity. As there is no grazing land people use the riverbank for crop and fruit production and they are very successful. Some of the activities in which people use Abay River are motor irrigation, for drinking of people and animals; recently Abay River is difficult to cross the water on foot due to increment of the water for electric power. Hence, people use Tanqua transport to cross the river. People who live in either side of the river cross in a daily and weekly basis for marketing and for other social relation and entertainment. The area cover from Sebatamit to Andasa it is about 8 km, from Andasa river to Maji border it is about 9 km hence the total length of the river is about 17 km in this kebele.

People who live in Tefit, Tigeza, Sebato and Andas, half Tikurit and Mendel gott work in the vicinity of Abay River. In the adjacent Kebele 90% is about open grazing while 1% feed their livestock tied in one place. The major source of fuel in the adjacent Kebele is wood, charcoal, dung, crop residue

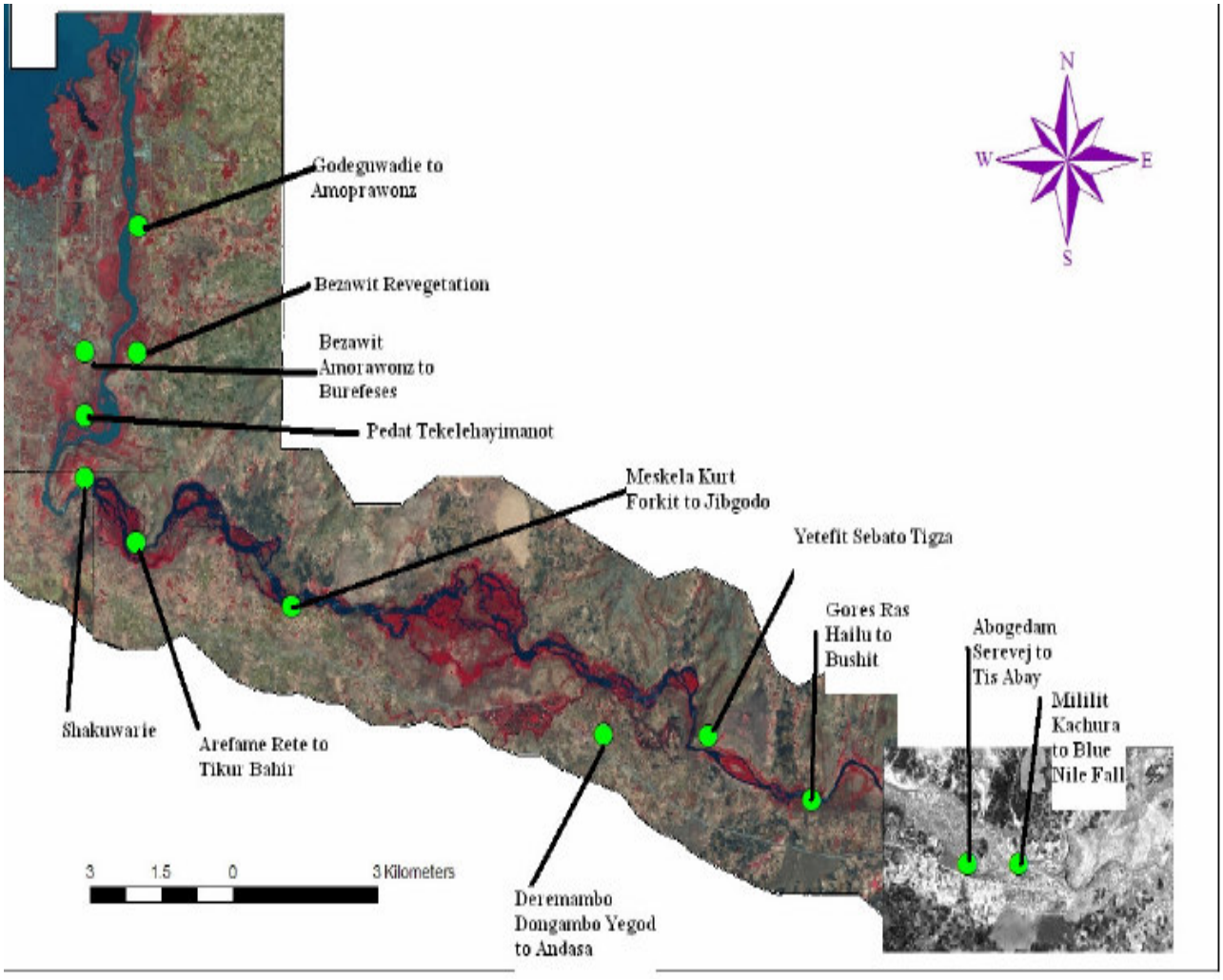


Fig. 7. *Land feature of BDBNRMP catchment*

Tis Abay and Dasera

These kebeles are found at the lower course of river Abay within the park boundary. Bushit, Ras Haielu, Abogedam, Blue Nie fall, Tis Abay, Kachura and Miilit and extends to Wonkeshet holy water

monastery. Many of the area is being used for grazing, cultivation of sugar cane and fruit crops. Deforestation and degradation of natural feature of vegetation are increasing from time to time. However, the area is also used for tourist destination and many of the community members are benefiting from tourism through provision of services and selling artifacts and agricultural products.

2.3. Rationale for the establishment of the park

The underlying principles and driving forces for the establishment of the park pertains to the important of conservation and its benefit for current and incoming generation and mitigation measures generation for interlinked challenges enhanced by improper anthropogenic impact and natural process.

Even though, it had to be established long ago for better maintenance of natural setting it is indispensable legally protecting and delineating as a park for biophysical resources and sustainable use. Large increase in recreation use for long time particularly the famous smoky fall of Tis Isat, .Scenery of Lake Tana, the situation of recently growing nearby Bahir Dar town and being in the way to historical sites of Gondar, Lalibela. Natural attraction of Simien Mountains National Park (SMNP) to Axum and Adewa laid a fertile ground for the establishment of BDBNRMP.

Hence, rationale for riverside park in its establishment document (Berhanue., et al 2007) strongly revealed, though, indeed ANRS with an area of about 179,062 Sq.Km, with about 18 million people has 3 recognized National parks and many natural forest and scenic areas with impressive cultural and historical heritages; three of the popular water bodies, Lake Tana, Abay and Tekeze Rivers. These resources are not developed and utilized in the way that enhances tourism economy and provision of different recreational opportunities to the public. Moreover, the region has no any recognized park that enables to protect the depleting natural biophysical resource representing mainly riverine and wetland ecosystem.

The Bahir Dar city parks are few in number compared with the population of Bahir Dar about 300000 residents. Moreover, they are not well developed and equipped with necessary facilities that can satisfy the need of the people. If we could protect, conserve and develop natural protected areas coupled with better facility and services provision tourists may lengthen their duration of stay and with more satisfaction in visiting these attractions.

More importantly, the Region's has only small area of natural forest and riverine woodland forest (Tecsult, 2002). As most of the regions, land used for cultivation or grazing, the future fate of these remnant forests is total disappearance leading to adverse environmental problems such as loss of soil fertility, thereby may end up with reduction in agricultural products.

Among the urgent actions required to revert such environmental problems, include the protection of the already existing natural forests and rehabilitation of the degraded areas that would have great contribution for poverty reduction through combating natural resource depletion and promoting income generation and thereby fighting poverty. Hence, conserving the remnant forest patches and riverine natural areas of Abay may contribute as a benchmark in protecting riverine and wetlands with associated wildlife economic and ecological values.

Establishment BDBNRMP is pioneer to the Region as well as to the country. Hence, it is essential to make similar other studies in near future to establish other riverine and lakeshore parks in the Region.

2.4. Objectives of establishing the park

The overall objective of establishing and developing the riverside park along the Abay River is to maintain naturally significant landscape characteristic of the harmonious interaction of people and land while with proper implementation of opportunities for public enjoyment through conservation, recreation and tourism interventions.

Hence, its establishment document and regulation No 59/2008.'' of ANRS stated that the BDBNRMP having the above objectives strives to address a comprehensive park management conservation, rehabilitation and establishment of infrastructures and accommodations. These are described as:

"Conservation and rehabilitation area" natural features of biodiversity and scenic beauty of different areas of the park sustainably maintained and rehabilitated

"Recreational and accommodation area" an area where visitors get access to accommodation and recreational facilities,

" **Cultural and Historical site"** is a park that reflects housing, plants and other cultural, religious, and historical traditions of the region

"Zoological garden" a place where wild animals are found for visit and recreation

"Botanical garden" a place where different indigenous plants and other ornamental plants are planted and produced,

"Nursery center" a place where different indigenous plant seedlings are produced and distributed

Other services and areas in the park include: trails, visitor orientation and viewing areas, interpretive signage, restrooms, limited parking facilities, and scattered picnic sites, walking, biking, nature watching and other passive recreational opportunities

"Destination sites" an area with suitable infrastructure and accommodations can built visitors can stay for resting and visiting in which they may use accommodation facilities, foods and drinks or resources that suits for their purpose with minimal impact on natural settings are established.

"Children play ground" an area that contains recreational facilities for children and aged people

"Amusement area" an area equipped with electrical and electronic entertainment facilities for children and adults,

"Nature watching area" This an area mainly covered by natural vegetation and has scenic beauty with less man-made features,

2.5 Descriptions of Exceptional attractions

Exceptional Resource Values (ERVs) are Exceptional (Distinct) features of the Park which make unique and required to be conserved. ERV are major resources that are faced the site to be delineated as a park and major conservation targets of the park could be listed as Natural, Scenic and Socio Cultural categories wealth of the park.

The Blue Nile Fall is the most dramatic feature on the Blue Nile River. Four hundred wide when in flood, dropping over sheer chasm more than forty-five meters deep, the fall throw up a continuous spray of water, which trenches on lookers up to a kilometer away

- There is a spectacular view to the spot where the famous Blue Nile River flows out of Lake Tana.
- There is a spectacular view of river course meandering in relatively slow rate which creates enjoyment to visitors

- It is an area with impressive hilltops that serve to view all areas of its vicinity and low laying riverine divers habitats and inter-visible to other hill top
- It is an area comprises riverine to upland montane forest ecosystems
- It is a best and suitable site for natural attraction in the vicinities of Bahir Dar metropolitan town
- This area is remarkably rich in diverse bird's life adaptive to different habitats (wetland, forest, grassland, and upland adaptive group of species).
- It has suitable hippo habitat of aquatic and territorial home range
- It is an ideal site for river side and boat drive recreation and aerial cable transport
- Lake Tana as well as the river is significant indicator of global climatic change.
- Lake Tana is emerged as one of global top 250 lakes regions most important for biological diversities
- The use of the water from the river and protection of watershed has created significance relationship with east African countries such as Sudan and Egypt.
- It is an area with mosaic habitats and plant community and land uses
- There are cultural, commercial and educational institutions and serves a study area for various natural elements of biodiversity and natural landscape
- Diverse species of riverine and grass land adaptive species of wild fruit trees
- Threatened animal (hippo.) and colorful bird species

Strategy Development of the park helps for sustainable biodiversity conservation and objectives of BDBNRMP as an opportunity for biodiversity, scenic beauty and tourism resources conservation and recreation around and along Abay (Blue Nile) river from Lake Tana to Blue Nile fall.

Table. 1 Category of Exceptional resource values (ERV)

Rank	Category	Exceptional Resource Values (ERVs)
1	Natural	Blue Nile River comprise dramatic blue Nile Fall
2	Natural	Top view river out flow from Lake Tana , Reti and Ras Hailu falls
3	Scenic	Meandering river flow
4	Scenic	Impressive hilltops
5	Natural	Riverine to upland montane forest ecosystems
6	Natural	Rich in diverse bird's life
7	Natural	Natural attraction in the vicinities of Bahir Dar
8	Scenic	Historical culture of Abay (Blue Nile) river
9	Socio-Cultural	Economic wild fruit trees plants and medicinal species
10	Natural	Aquatic and territorial home range for Hippo
12	Socio-Cultural	Boat drive recreation and aerial cable transport
13	Socio-Cultural	Significant indicator of global climatic change
14	Natural	Igneous rock dominated wooded lands of vantage points
15	Natural	In Global top 250 lakes regions most important for biological diversities
16	Scenic	Occupation of different colorful bird species in different habitats
17	Socio-Cultural	Protection of watershed
18	Socio-Cultural	Mosaic habitats and plant community and land uses
19	Socio-Cultural	Cultural, commercial and educational institutions

2.6. BDBNRMP strategic plan development issues

Strategic management plan development for BDBNRMP integrated with conservation of biodiversity and sustainable tourism. This has been primary question of strategic framework development, which was seeking answer. Furthermore, the document provides answer to the following requests as primary issues for strategic plan development.

.

- Relevant resources of biodiversity and scenic beauty contribution for sustainable conservation and tourism industry development

- Conservation and rehabilitation of natural areas requires tourism facilities as potential opportunities to develop perceptible attractions management and tourism development activities in and around BDBNRMP for the benefit of the community

- The current land and natural areas use systems provide fertile ground for use zoning and recreational centers (walking, horse riding, boating, bird watching; sightseeing, culture) development for better and sustainable conservation and utilization

- Current land use, resource management, and agricultural practice are far from development of sustainable productivity and more tend to causes depilation of resources and trends of diminished productivity of farmlands. So, more land is being needed to feed ever-increasing population with the same land subjected to diminishing return in turn loss of natural forests are devastative

- Intensive natural and cultural resources and sustainable use systems assessments ensures feasibility of sustainable tourism for development and economic benefits

- Investigations that have been made on the apparent and potential anthropogenic impact on natural areas showed requirement of effective utilization through tourism & recreation and are sensitive for biodiversity areas in showing urgent need of rehabilitation and conservation.

- Existing development efforts and use of biophysical resources could not bring increment changes in resource sustainability and production rather natural resources and extent of forest and associated wild animals extremely diminishing at alarming rate

- Identification of strategic components for sustainable biodiversity conservation and tourism development in BDBNRMP may bring improvement changes and guarantee for sustainability of biophysical resource for the benefit of incoming inhabitants in the near feature

2.7. SWOT situation analysis

SWOT are used to analyze the internal Strengths and Weaknesses of activities in BDBNRMP development and external Opportunities and Threats that it faces.

Developing a strategic plan, after we have been analyzed the internal and external environment, certain sites for activities; evaluating current strategic program or activity for its relevance and identifying programs respective goals, objectives and actions with dependable opportunities. Moreover, SWOT

analysis has been used to analyze the current situation. Strong points that support and the Weak points that limit reaching development vision on developing conservation tourism activities within the park

Strength

- Delineation as a park in legal bases
- Manpower and budget
- Attention by regional authorities
- Re-vegetation or planting of indigenous species
- Religious culture, institution and natural history
- Ideal sites, high visitor, and researchers' impression
- Low cost recreation transport facilities to cross the river
- Natural resources and diverse habitats
- Safe and secured for movement
- Variety of activities and attractions
- Isolated patches of natural areas with impressive biological and scenic beauty diversity
- Low interest by the community to use dense island forests for cultivation

Weakness

- Lack of continuity in natural cover (Vegetation and escarpments)
- Inadequate public and private infrastructure
- Insufficient visitor-resident interaction
- Lack of "New" experiences on conservation and tourism development
- Lack of stakeholder consensus and invitation of stakeholders
- Lag in tourism investment, promotion and facilitation in natural areas
- Visitor expectations and misperceptions, which rose from low awareness
- Maintenance of public facilities and mobilization to strive in tourism
- Limited awareness and limited access to new experiences share
- Lack of professional (Certified) guides and training
- Poor communication and mobilization of stakeholders such as University professionals

Opportunities

- Spectacular sites and diverse habitats and landform
- Existence of tourism destination already built (Tis Isat and Bezawit)
- Business tourism development
- Existence of professionals in (BDU, ARARI, EPLAUA, ORDA, BARD) institutions
- Spectacular landscape and trekking routes
- Cultural tourism development
- Suitable public and private infrastructure
- Increase stakeholder involvement in tourism
- Preservation and perpetuation of host culture
- Water sports recreational tourism development
- Inaccessibility to islands particularly in wet and dense vegetation period
- Existence of professionals etc,
- Deforestation and removal of natural forests
- Expansion of farmlands and settlement
- Expansion of stimulant crops (Chat)
- High pressure on natural sites (Hot and healing streams and springs)
- Aging road, public and private infrastructure

- Low value given to biodiversity management and tourism
- Overgrazing and extensive use of vegetation (papyrus and wild fruit)
- Increased farming and building construction competition

3. Principal Ecosystem Components (PEC) of BDBNRMP

3.1 Ecosystems



According to Abraham Marye (2009), Azene Bekele (2007) and IBDC, (2005; Berhanue., et al (2007) based on ecosystem classification of Ethiopia BDNRMP fall in the dry evergreen montane forest and grasslands complex ecosystem of Lake Tana forests or/and wetland ecosystems.

Fig.8. *Portion Wetland ecosystem of the park between Burefesses and Shakuwarie*

Importantly, BDBNRMP has three ecosystems without distinct boundary with interweaved ecological process. Namely, **Riverine evergreen** (river course, islands fragments river water ways area) ecosystem, **Dry upland montane forests** (upland dry forest composition) dominated by seasonal defoliation and removal of green leaves in winter November to May**.** R**iverbank wetlands** (wetland near to river watercourse and mixed forests of sewage grass and shrub undergrowth in huge evergreen trees of riverine indicator) largely dominated by river water, plant and animal species adaptive to the ecosystems.

The **riverine ecosystem** largely dominated by Dokema, Marents, Eshe, Kawot, Azamer, Chibha etc tree species of all islands of Tekelehayimanot, Arefame and Reti, Meskela Kurt and Jib Godo, Andasa, Durum Ambo, Gores, Ras Hailue and Abo Gedam areas of patches and dense forests and shrub lands adjacent of the river.





Fig.9*. Fragmented water ways and typical riverine spices and ecosystem forest patch of the park at Arefame to Reti in dry season March 2009..*

This ecosystem competitively exploited by different users it is home to large mammal hippopotamus, bushbuck, common dicker, crocodile and Vervet monkey and Columbus Gureza are few to mention. It is mainly exploited by recently growing Chat, Sugar cane and vegetable production through irrigated agriculture and extensive grazing, unrestricted buildings and recreational sites through exploitative use of natural habitats with minimum attention for water sanitation and drainage management.

The dry upland montane forests: this ecosystem importantly comprises hill and scrub areas that are extensively dominated by disturbed and scrubbed or relatively protected woodlands. Areas such as Bezawit, Shaquarie, Kutetit, Abalo Dasera, and Sebato. Rass Hailu, Kachura, and Mulilit are representative dry upland montane pocket areas. This ecosystem largely dominated by Wanza, Besana, Lafdie (Yekolla Wanza), Abalo, Kuwara, Bamba, Warka, Zegeta, Wonahi and Dedeho etc. It is an extensive area of grazing, fuel and construction wood collection and arable farm expansion since it found in the proximity of settlements and other infrastructures.



Fig.10*. Main Dry upland ecosystem extending from riverine ever green forest (Bezawit in the left and Mulilit in the right)*

R**iverbank wetlands:** this ecosystem more tend to the characteristic feature affected by riverside flood, moisten and marsh areas of sewage grass including Pilla and papyrus use for sale to make 'Agelgel' and straw basket, river and Lake Tana crossing Boat (Tankua). Moreover, it is an area of extensive grazing particularly in dry season. This ecosystem spatially located at riverside of Kebele 8,

South of Bezawit Near to Seyum Sefer, and South of BDU main campus at Abay Eger Ber, Sebatamit west of Arefame, Dong Ambo, Andasa, and Abo Gedam near Tis Abay. It protects the free movement of human and domestic stock for about five months since it have no way to inter to the middle of it, however, it is required by many habitat users for agriculture, grazing, recreation and infrastructure building which in turn resulted in complete loss of habitat due to utilization for permanent purpose by simple drainage system.



Fig.11 *Different features of wetlands within the park*

Many areas of wetlands around the outlet of river Abay from Lake Tana, Kebele 8 and Addis Alem kebeles being diminishing. Alarmingly, it calls for urgent deterring mechanism for unrestricted habitat use pursuing seasonal fluctuation of water volume and soil fertility due to silt accumulation and investment beyond the natural potential and use this ecosystem only competing for the benefit of proximity to Bahir Dar and river Abay. Other areas at the mid and lower course of Abay river with in the park an extensive area of wetland being used for Chat and Sugar Cane production and few for vegetables and fruit crops which inter devastative for natural habitats and ecosystems which is not compensated by returns from this system of habitats use.

3.2 Habitats and other communities

Fragmented islands, uplands, and wetland ecosystems of BDMNRMP dominated with complex vegetation, evergreen to deciduous species. Riverine water ways, patches of dense vegetation, and shoreline rocky and swamps identified as the largest repository of typical riverine complex flora and associated wild animals (not yet detail studied) particularly, fish, reptiles and amphibians and variety of birds and large volume of water with in the park system. Uplands are also divers in plant forms and species though extensive grazing and encroachment are major determinant it is an area of diversified tree, shrub and under growth mosaic vegetation and habitats that show different faces and ecological processes in wet and dry season.

Abraham Marye (2009) identified seven distinct vegetation based habitats with various cover proportions in different forest patches of the above-mentioned ecosystems. These include **modified mixed wooded land, wooded upland, open grasslands, grasslands with igneous rocks, wooded land with igneous rock, forest with dense cover, and riverside wet lands** in isolated extensive lands or interrupted one by another habitats often mosaic.

3.2.1 Utilization of Habitats

Park land and biological resources utilization systems are targeted to either habitats or natural vegetation and associated wild animals for various purposes. The former is being highly devastative and end up with complete conversion of the natural cover while the latter was dependant on the amount of utilization and mode of clearing and cutting or collecting and hunting systems (Abraham Marye, 2009). The current utilization system targeted to either habitats or specific plants for various purposes. These habitats and associated vegetation exploited largely depend on the livelihood needs of residents. The priority habitats utilization systems at different forest patches were **grazing, cultivation, settlement, communal forest, recreational, plantation and social gatherings** while priority utilization of specific plants for **construction, fuel and charcoal, medicine and sanitation food, feed, fence and shade, sale, furniture and farm tools** (Abraham Marye, 2009)**.** Both habitats and specific plant utilization systems coupled with natural changes in expansion of wetlands or rock habitats outcrop and removal of top soil and riverbank vegetation. This has been exhibited by local resource diminish eventually growing to productivity and diversity loss. Sustainability of resident's life becomes a great issue and aggravates catastrophic hazards of natural process that has been observed in many areas through heavy floods, long delayed drought, unusual hotness, or coldness beyond human and other animal's tolerance and climatic pattern.

The same author further explained pressures and threats prevalent due to respective driving forces or causes, which are vital for selecting management and conservation targets in rehabilitation development and sustainable utilization of natural resources in BDBNRMP. Therefore, nine priority causes were identified are **Poverty and strong dependency on nature, increased population and resource use, narrowing spectrum of forest utilization, lack of suitable management systems, lack of concerned institution or by laws, fall to valuing natural environment in the past, low level of improved technologies utilization, special demand and multipurpose, and inequality in management and benefit**. Out of the nine causes for habitats and woody plants degradation Poverty and strong dependency on nature, lack of suitable management systems and increased population and resource use were the higher priority causes for deforestation and land degradation.

Mosaic upland vegetation is also composed of different species and landscape that comprise scrubbed hills, cultivated and settlement areas, which extend from riverine patches, are indispensable to form complete ecosystem and inte-rvisible topographic settings. Tow sides of the river have different land feature dry upland and most exposed to erosion and hillside cultivation to the left and riverside wetlands, mixed farming dominated by Chat production of irrigated fields interrupted by wide areas of igneous rock outcrop to the right side.

3.3. Human Population, settlement and livelihood activities

It is common to say Ethiopian highlands are historically human dominated area. Since, natural forests excessively and unwisely utilized for long time and degraded. This is also true for the BDBNRMP. Anthropogenic effects dominate both the park boundary and its vicinities. The total population of villages in 13 bordering Kebeles including residents of the park was estimated about 150,797 (76882 male and 73915 female) (BoFED, 2006 projection) of which 79,922 are at working age and the rest 70,875 are dependant age groups below 15 and above 65 age. Of the total 30,139 households in all Kebeles the livelihood of 1905 is entirely dependent on agricultural lands of the park cultivating 705 ha for rain feed and 146 ha irrigated lands for subsistence settled in 91 ha of land. They either live in

the park or earn their living by cultivating the lands within the park. Particularly poor and marginalized society of "Negede Woyito" are supporting their livelihood through collecting forest and river products (e.g. Papyrus) and transportation by boat (Tankua) within the park.

Table. 2 . Keble's Population inside and boarding villages of demarcated park boundaries

No	Kebele	Household	Population			Working Age Size
			Male	Female	Total	
1	Zenzelma	1910	5032	4519	9551	5062
2	Hidar 11	2707	6407	7129	13536	7174
3	Woreb kola tsion	1731	4513	4140	8653	4586
4	Yemoshit	1386	3717	3211	6928	3672
5	Dasra	1812	4825	4233	9058	4801
6	Wofargif Tamirie	1465	3862	3463	7325	3882
7	Tis Abay	1615	3636	4440	8076	4280
8	Maji Debrenigist	1102	2898	2613	5511	2921
9	Yigoma Huletu	2097	5428	5060	10487	5558
10	Sebatamit	1651	4294	3961	8255	4375
11	Addis Alem(Dishet Abaraji)	1060	2805	2494	5298	2808
12	Belayzeleke	5934	14712	14958	29670	15725
13	Shumambo(08,09,10)	5690	14754	13694	28448	15077
	total	30159	76882	73915	150797	79922

Source: Berhanu *et al*., 2007 cited in Abraham Marye, 2009

Livelihood support of the community in different villages of the park depend on agriculture, fishing, wood, grass, and wild fruit collection as a source of income. Agricultural production is supporting about 757% of the income comes from crop and livestock agriculture. In this cases then the main agricultural production is cultivating field crops like maze, teff and figure millet; oil crops like noug, linseed, sunflower and cotton and pulses chick pea and grass pea. Regarding the farming system and crop production, the people in different villages of the park is exercising the usual ways of farming, which is cultivating the land, sowing local seeds often use chemical fertilizers. Recently growing chat production and irrigation promoted the tendency of vegetables and fruit crops production in dry season. Many of farm plots around river Abay dominated with chat, sugar cane and fruit crops particularly Kebel 11, 8 and 9, Addis Alem, Reti, Tekurit, Dreum Amob, Andasa and Abo Gedam above Tis Isat near to Tis Abay.

3.4 . Biodiversity Resources and Associated Challenges

3.4.1 Vegetation diversity

The vegetation structure of the park is highly influenced by topographic features. Papyrus dominated grass fields of riverside wetlands are more visible in various part of the park. Studies have shown that diverse flora and different habitats with spectacular landscape dissected by Abay (Blue Nile) river and riverine islands vegetation are magnificent indicator of vegetation diversity in different plant forms (tree, shrub, herbs and grasses).

Vegetation structural cover proportion of plant forms (tree, shrubs, ground cover) across different riparian gradients and islands as many of tree species were not physically attained expected level of height and canopy cover due to extensive utilization effect even some are hard to find in short distance walk because of their rarity caused by overexploitation (Abraham Marye, 2009).

In terms of the tree/shrub species resources, the park in general and the riverine habitats and upland natural forest patches of the park in particular are very rich and it is possible to say it is a place where the majority of the park's biodiversity and scenic beauty cover is existing. Based on the studies so far conducted Abraham Marye (2009), there are 12 forest patches dominated by natural vegetation of riparian and riverine types with more than 10 islands of which 6 are dens forested and relatively comprised large area within fragmented Abay river ways. Moreover, he identified 140 species of woody plants of which 14 natural composition and use indicator species and 13 endemic species that require special attention to conservation and rehabilitation. Moreover, Maru Molla (2010) identified additional 28 species of woody plants and 62 species of herb and grass species. Abraham Marye (2009) delineated scenic beauty areas of riverside wetlands, igneous rock dominated plain lands, grassland, wooded areas and dense forest dominated riverine and riparian sites with its viewing points of hill tops of Bezawit, Shaquarie, Kutitit, Forkit, Ras Hailu, Dasera, Kachura and Mulilit hills.

Abay rivers course is also rich in fish, reptiles, amphibians, of course, detail species identification, and inventory not implemented yet. The river provides water for people, cattle, and wildlife of the surrounding community.

The structural measure of Diameter at Breast Height (DBH) on woody plants resulted in more number of woody plants in the lower DBH classes. About 52.2% (<4cm DBH) of available number of plants was dominated with small sized trees and shrubs which indicate woody plants of the park and forest cover under heavy disturbance. Only few remnant scattered huge tree species DBH measurement was in high sized classes (>10cm). This clearly shows the presence of only few remnants huge trees, usually difficult to rehabilitate (Abraham Marye, 2009).

The presence of endemic plant species makes the area unique and satisfies priority criteria for protected area selection (IUCN, 1994). Some unique areas of fragmented forest patches are vital for conserving particular plant composition and physiognomic structure. Over all landscapes of the demarcated park boundary is dominated by **moist and dry moist bottom land** forest of the riparian zone and **dry and dry moist** in the uplands. There are other many smaller communities of igneous rock outcrops, mineral water springs, gravels, wetlands, and dense forest patch of isolated islands composed of particular species.

3.4.1.1 Challenges on vegetation

Many natural areas subjected to long time disturbance and fragmentation of varying extent (Michael *et al*, 2001) due to inimical impacts of anthropogenic factors derived from different systems of utilization. Among several pressure and threats to vegetation are cutting for different purpose through removal of above ground or plant parts and clearing of under growth (understory), overgrazing and expansion of farmlands and settlement. It is common to see *Lanatana camera (Yewof Kollo)* and *Argimonia mexicana* (medafie) in many areas. Particularly, *Lanatana camera* has been invading the natural dense forests of Bezawit and used as ornamental, fencing and shading in modified homestead areas of settlement and recreational sites.

Threats and causes are also different so as to look for solutions and rehabilitation remedy for the respective priority constraints. Multiple pressures and threats analyses indicated that even though priority pressure and threats are prevalent in all forest patches with variable scale there is a great opportunity to rehabilitate both threatened habitats and vegetation to their natural state. Permanence or rehabilitation could take midterm to long-term that depends on the management effort and suitable decision management authorities. Causes for threats on woody plants and habitats largely emanated from the long year uncontrolled harvest of forest resources strongly linked with traditional pattern of life along the river, excessive dependency on nature coupled with misuse of habitats and plants.

Therefore major causes of threat on habitats and vegetation are Poverty and Strong Dependency on Nature, Lack of Suitable Management Systems,, and Increased Population and Resource Use, Inequality in Management and Benefit, Low Level of Improved Technologies Utilization and Fall to Valuing Natural Environment in the Past) had minor effects on degradation of habitats and diversity.

All causes for disturbance and devastation of natural settings are interlinked and one cannot be addressed with out equal considerations being given to the others. Further priority setting and reduction options could be prioritized as of causes identified incorporating community decision. Conserving biodiversity of different forest patches could not be achieved without direct involvement of the community at all level. However, the local community involvement in delineating and legalization process is low. Furthermore, differences in management, utilization and views of local community apart from scientific views clearly indicated the importance of community involvement at different level as critical issue in sustainable management of park resources. This magnifies the common motto of priority attention in protected area selection such as marginalizing the community to involve in demarcation and management of the park is creation of additional and severe threats on the exploitative resources of the park. It requires providing adequate awareness, research, and extension services to the local community to meet conservation demand and solution to challenges

3.4.2 Wild animals

As far as wild animals and their habitats are concerned, different wild animals are supposed to live in the park. Though, inaccessibility of islands situated along the river and thick vegetation of the riverine habitat are challenges to observe these species, 14 species of mammals belongs to 12 family have been recorded of which 8 and 6 were directly and indirectly observed respectively. Six species are supposed to live in the area but not confirmed in any technique of assessment method rather it is told by local peoples. Of course these species could be exterminated from the area as a result human pressure or migrated or remain rare which difficult to locate them.



Fig.12. *Hippopotamus amphibius*

Common Hippopotamus (*Hippopotamus amphibius)* The distribution of Hippos particularly in the Amhara region is so restricted to Lake Tana, where adequate vegetation, protection cover and food are found. In BDBNMP it is found in the southernmost tip of the lake from the up stream of Blue Nile

departing frome Take Tana down to PedaTekle-Haymanot and Arefame islands with extended wetlands from the river.

Even though, Hippo requires a large area and wide range of habitat, food and sufficient water to allow for complete submergence and permanent waters with sandy substrates for its survival due to its endangered and rarity of the species dand exsitance of typical habitats escribing as a charismatic species for the park may be paramount importance.

Savanna (common) Baboon *(Papio cynocephalus anubis)* The fourth largest African primate after the gorilla, chimpanzee and bonobo. Common baboon has a very wide Sub-Saharan distribution, being absent only from central rainforests and true desert. With regard to its distribution in the park, they are common. A significant number were recorded and observed inside the park, particularly at Bexawit, Shaquwarie, Arefame, Jibgodo and Sebato to Ras Hailu fall and Wonqshet gebriel.

Vervet (Green) Monkey *(Ceropithecus pygerythrus):* They are common in all dense forest patches of the park particularly around 'peda campuses at Bahir Dar University, a significant number of vervet monkeys have been recorded. There potential predators are tend be decreasing; even none.



Fig 13. *Vervet Monkey around the Lake shore*

African Civet *(Civettictis civetta):* The species is distributed in most parts of the park; particularly in Bezawit Palace. ,



Plate 12*. Civet cat latrine site in Bezawit Millennium Park, also supposed to live in Wonqshet Gebriel.*

Even though the population of duiker getting low aof other higher mamals.domesticated duiker was found in Wonqushet Gebriel, the species was brought up from the wild in the forest area. The secretive nature of the species makes observation very difficult; however, droppings in some part of the park particularly at Bezawit Mariam, Shaquarie, and Pedatechlehayimanot are still observed.



Fig. 15*. Common Duiker at Wonqueshet*

Tree squirrel (*Xerus erythropus):* The most abundant small mammal ever recorded in the park. Particularly they are common at Wonqueshet, Bezawit, jibgodo, Gores, Tiss Abay and Bezawit areAndas areas. They are recognized as pests of fruits.



Fig.16. *Tree squirrel taking sun shower at Tiss Abay*

Fish:

Lake Tana is endowed with many and different kinds of fishes. Recent reports suggests that the Lake and the riverine ecosystem as a whole consist of 26 species, which 19 are endemic to the country.

Reptiles



Crocodile: Crocodiles are decline reptile population in the riverine ecosystem of the park. A number of rivers are isolated from each other and are covered with grass and riverine trees; from which the remnant extra large crocodile rarely with the other medium sized observed sun basing.

Fig.17. *Crocodile sun-basing Tekele-Haymanot church to the north.*

Nile Monitor

The most common reptile in the Lake and Abay river is Nile Monitor. This species is mostly restricted where there is adequate vegetation cover is dominated, mainly papyrus vegetation. It is related with the availability of fish resources around the shore and also to the nesting sites of water birds such as rails, crakes, moorhen and also weaver nests.



Fig 18. *Dead one (left) and live (right) at Lake Tana & Tiss Abay respectively*

Python

Even though the papyrus bed and the riverine habitat of the Blue Nile River is suitable for pythons, but never come across to observe it.

Birds

Bird species inventory and field assessment on selected areas of the park 160 bird species was recorded. This includes wetland birds; water fowls, riverine and woodland birds. The distributions of birds are variable from site to site. The variability of occurrence depends on season, availability of food and micro habitat. Hence 3, 25, 37, 41, and 10 species were rare, uncommon, frequent, common, and abundant respectively



Fig.19*. Different bird species at different habitats*

4. Economic Resources and management

4.1 Land use and size

Land is one of the best available resources, which serve the people of the park for their entire livelihood, income generation, and even residence. Due to some important development factors water resource, fertility of the soil, investment opportunities, and expansion of Bahir Dar city and surrounding villages, the question of land holding is being as an indispensible issue. In the park, the overall average 942 ha of agricultural lands for 1905 households' landholding is about 0.5 ha. The community has also owned not only crop and settlement portion of the park but also extensive area of grazing 1238 ha of land with an average about 0.7 ha landholding. Besides agricultural areas of the park the community both living and cultivating inside and outside the park use forest and riverine wetlands of the park and exert extremely diminishing, pressure through deforestation and overgrazing on the natural habitats and biodiversity resources.

In terms of land allocation of the total 4729 ha of the park 2180 ha agricultural land (i.e. cultivated, irrigated and grazing), 1352 ha of forest and bush land, 267 ha riverine wetland and 930 ha water body. The Agricultural land is about 46,49 % used for cultivation, grazing and settlement. The rest 53.51% covered with forestlands of tree and shrub including eucalyptus; riverside wetlands and water body often referred as river course.

Table. 3. Land use classification system

No	Main Categories	Description
1	***Cultivated Land***	Land used for the production of different types of crops like Cereal and pulse crops by using rain feed system
2	***Irrigated Land***	Land used for the production of different types of crops. like Fruit crops, Horticultural crops and Nurseries using irrigation
3	***Grazing Land***	An area dominantly covered by grasses, small shrubs and herbaceous, areas covered by a mixture of rocks and grasses and/or small shrubs and herbs
4	***Forest and Eucalyptus plantation***	Land covered by both woody shrubs , trees with understory of shrubs, Eucalyptus plantations
5	***Wetland***	Those areas where the water table is at or above the land surface for a significant part of most years and covered by vegetation.
6	***Settlement & Existing institutions***	Land is comprised of areas of intensive use with much of the land covered by structures. Included in this categories residential, commercial and service, industrial, institutions, transportations etc.
7	***Water body***	Comprised of areas covered by lake, river, creeks, canals, ponds, reservoirs and other linear water bodies.

Major land uses in BDBNRMP are categorized in six based on respective area coverage and impact on biophysical resource utilization of the park and level of community involvement. These are cultivated, irrigated, grazing, forest, wetlands, and settlement. In other words, these are land management strategies so far prevalent in the park. Overall, six major land use types of the park were distinguished. The land use type and its respective area coverage are summarized in the following table.

Table.4. Land use types and other area coverage of BDBNRMP

No	Land use type	Area (ha)	Percentage from the total park area
1	Cultivated land	707	15.00
2	Irrigated land	146	3.10
3	Grazing land	1238	26.17
4	Forest land including plantation	1352	28.58
5	Riverside wet land	267	5.64
6	Settlement and institutions	91	1.92
7	Water body	930	19.66
	Total	**4729**	

Hence, these land uses have been spatially distributed in different parts of the park and is the major concern to develop sustainable use reducing challenges on sustainable park management in reconciling with conservation and utilization objectives of the park.

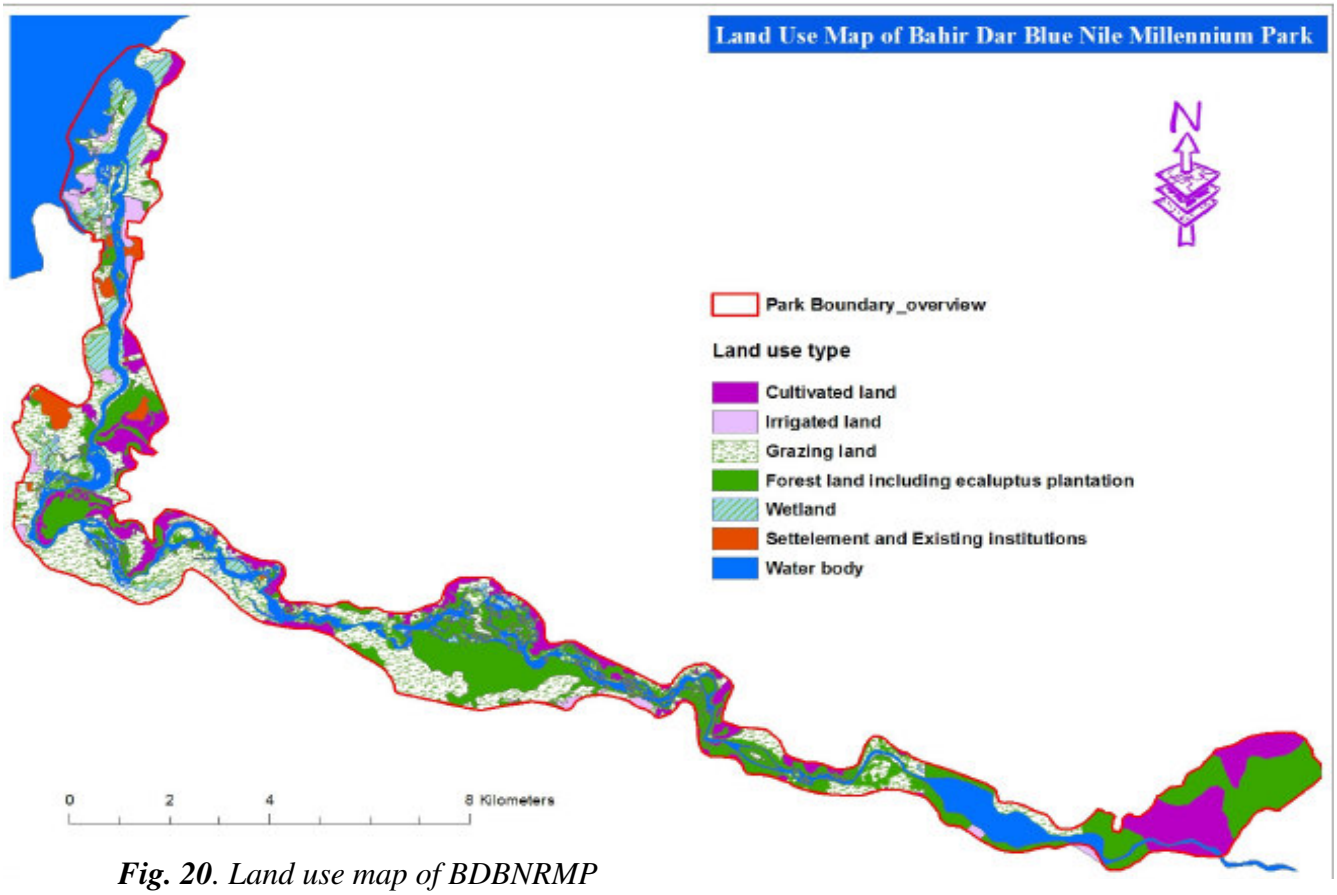


***Fig. 20**. Land use map of BDBNRMP*

4.2 E[illegible]e park

a) **Arable farming**: The major crops grown in the area includes cereals (teff, maize, finger millet), Pulses (chick pea, grass pea), oil crops (noug, sunflower and caster bean) vegetables and tubers in irrigated field (Cabbage, tomato, onion, and potato) and fruit trees in few areas (Mango, zeytuna, banana, avocado). Recently increasing and comprising vast areas of irrigated farm are stimulant plants (Chat), flavoring crops (Gesho) and sugar cane. Because of population pressure more land is being converted to settlement, cultivation, and overgrazing. The remaining natural areas are also used for collection of wood, grass, wild fruit and other forest product forest for different purposes. Major economic activities predominantly prevalent as economic and livelihood resources are:

b) **Livestock production:** Raising livestock is an important economic activity in the western (right) side of Abay river locally known Genji landscape range that comprises Addis Alem (Gordema), Sebatamit, Andasa and Tis Abay. Cattle, sheep and goat are the most widely reared animals in the area. Raising livestock is the livelihood of farmers. Livestock have a multipurpose role on the locality. They provide draught power, meat, milk, and milk products and fulfill social and religious obligations. In Genji range, the community keeps different types of livestock (cattle, goat, and sheep, equine and chicken). The number of livestock owned by a smallholder could range from a few small animals (e.g. chickens) to large numbers and many smallholders keep more than one type of animal. However, productivity has been decreased due to decreased feeding area and poor livestock management.

   On average, household own 1.03 cattle and there are 1.75 cattle per hectare in the vicinity kebeles of the demarcated area. One can then judge that limiting or preventing the use of grazing land in this area would result significant negative consequence than losing farmland and resettling the people who live near to the riverbank. The availability of forest, shrubs and field flowers are suitable for apiculture (honey production). As a result, some households are using traditional and modern beehives (Berhanu., et al 2007).

C) **Wild fruit and their use:** Because of population pressure more land is being converted to settlement, cultivation, and overgrazing. Many natural areas are also used for collection of wood, grass, wild fruit, and other products of forest for different purposes. Land-use in the islands (locally known as Kurts) are naturally protected but in some situations overriding problems obviously exist as the ownership is not quickly defined and natural forests are freely used. Some of the big islands from the outlet to the end of Tis Abay are Tekelehymanot, Arefamie, Reti, Meskela, JIbgodo, Andasa, Gores and Abogedam. These islands are economically important being as a source of feeds particularly in the dry season and edible wild fruits such as *Mimusops kummel, Cordia Africana., Syzygium guineense and Diospros mespiliformis.* Though, wild fruit abundance is season dependant they are sold to support economic costs serving as alternative livelihood for some residents selling at Bahir Dar and Gondar. Particularly fruits of *Mimusops kummel* have medicinal value in killing stomach parasites and healing amoebic dysentery (personal communication with residents).

Existing institutions and investment with in the park: Private holdings and properties included in the demarcated areas are farmland, grazing land, houses, and plantations. About 443 corrugated iron sheet houses and 76 are Tukuls has been included in the demarcating areas. Most of the houses are constructed using similar materials. Similarly, over 2163 hectare of farm and grazing land, and 164 hectare plantation and shrub land is included in the demarcated areas. The details of affected property and name of property owners are listed in annex. Out of the total number of the kebeles, over 1056 person's properties are included in the park area (Berhanu., et al 2007).

Existing land allocated for different investment activities. Even though few investors have started implementing planed activities, the activities that have been carried out in the area are not satisfactory in relation to the potential of the area. Some of the interventions permitted to be implemented and has been carried out within the boundaries of the park include, Horticulture, Silk production, Car washing, Fattening, Bee keeping, Cultural medicine, Flower plantation, Dairy farming, Fishing, Poultry, Library, Tannery, Forest, Biological centre, textile factory, BDU, management institute and Tis Abay I and II power stations. Depending on the objective and intended development interventions, some of the aforementioned activities should not continue in the way they have been carried out. Hence, the land usage it needs reassessment in the way that the area would benefit efficiently and effectively. But, these have been continuing in the contrary without significant mitigation measures development and implementation efforts.

c) **Land management systems and associated problems**: Different areas of the park had been distributed for settlement, cultivation, private and communal grazing since many years ago. The average land allocation has been decreased from time to time due to ever increasing population, reduced soil fertility and available feed quantity in which the community has been cultivating and using natural areas that were left as inaccessible riparian uplands, intact riverine vegetation and dense forest patches of the islands of Abay river. Associated with land holding and management systems there are many challenges and constraints in protecting and control of biophysical resources of the park. These include no well-known location and exact size of land holding and tenure systems since there is expansion of farm size to adjacent natural areas and transfer of land in contractual and rental lands owned by second and third person.

   Low institutional capacity that lead to limitation to control unrestricted distribution and use of land and natural resources by investors and other community groups such as marginalized communities of Negede Woyito, wood and grass collectors from Bahir Dar and Tis Abay Town for entire livelihood source and subsistence and low income farming communities of rural areas. Fall to conduct vegetation and other wildlife resources inventory of the land before land allocation to investors to lay fertile ground for sustainable conservation and use of biophysical resources and unusual to implement monitoring and evaluation of investment impact on the environment. Low efforts in the past that possibly help to develop integrated cope up strategies for impediments in biodiversity and natural beauty conservation and rehabilitation of the park. Minimum attention to design and incorporate suitable land use system, resources management, and environmental friendly investment (i.e. tourism, conservation schemes, and rehabilitation) that enhance the improvement of community benefit; sustainable environmental conservation and effective use of resources by current and incoming inhabitants for local and national benefit.

4.3 Infrastructure Development

Access Road and Transport*:* The BDBNRMP only accessed either using about 30 km Bahir Dar to Tis Isat (Tis Abay) all weathered gravel road and 2 to 5km walking distance from the road to the riverbank in the right side of the river. Only about 5km from Lake Tana which is up stream source for Blue Nile (Aday) to Bezawit in the eastern (left) side of the rive are accessible with vehicle. The rest 34km down to Mulilit are accessed by walking distance through trekking routes from Bezawit down to Tiss Isat crossing Syum Sefer, Airframe, Kutetit, Kola Tseyon, Dasera, Alata. Islands in the fragmented waterways only accessed during decreased level of water volume using both motorized boot and raft. All landscapes and scenic beauty of different areas with or outside the park viewed from spectacular

viewpoints of Bezawit, Shaquwarie, Kutitit, Sebato, Ras hailu, Dasera, Kachura, and Mulilit. The main road to Tis Isat is not yet asphalted and the only road accessible in both dry and rainy season. Most of the natural areas of the park require access travel route that could be used for trekking to view points and sites for visit.

There are also good opportunities to construct roads, electric and potable water supply to different destinations along river Abay. The best sites for tourist destination as resting site, lunch stop, eco-lodges and campsites can be built for the enjoyment visitors and recreational activities are Godguwadie near to the mouth of Lake Tana at which Abay (Blue Nile) departure; below Bure Feses south of Bezawit; Abay Eger Ber (South West of Teklehaymanot); Sebatamit (Near to Arefame islands and Reti fall); Dong Ambo around mineral spring waters (Tekurit Medhanialem); Andasa (near to holy spring water), Bushit (Near to Ras Hailu fall); West of Abo Gedam (Tis Abay Town) and Around river Alata. Establishment of tourist accommodation and facilitated services for visitors is a great hope for the park and local communities as well as wildlife and scenic beauty of different sites to rehabilitate, sustained and benefited though sustainable tourism from effective conservation, sustainable utilization and recreational enjoyment fees. The potential investors are also have an immense opportunity construct tourist accommodations for tourists.

Among three major means of transport (road, air and water transport) road transport is most widely used in the region as well as in the proposed area. There is an all-weather road from Bahir Dar to Tis Abay that is about 30 km. Water transport using motor boat and Tanqua is also the other means of transport to serve the local community to communicate those who live in both side of the river Abay. There are nine places to cross Abay river along its length from the outlet to the fall from one side to the other namely Tis Abay town, Tanqua Meshageria, Sebato, Direm, Gumarie Bahir, Esegon, Abay mender, Bezawit and Debremariam (map of the demarcated area showing crossing sites figure. On the other hand, most residents travel on foot following well-established trekking roads crossing the area. Moreover, Bahir Dar to Gander Bridge near to the outlet of Abay and Portuguese Bridge below Tis Abay town enhances the people's communication.



Fig. 21*. Papyrus and iron made manual driven boat on Abay river*

Communication: The community gets the communication service through direct and wireless telecomm services. Other media services mainly broadcasted from the Ethiopian National radio, radio fauna and local radios broadcasts from Bahir Dar and Gondar..

Water supply, Telephone Service and electricity: Potable safe water supplies exist in few areas of the proposed park. Unsafe supply however is abundant in the demarcated area and it may take 5 to 10 minute to the river. Except in Tis Abay, Zenzelma, Dasra and urban areas most of the populations in the demarcated have got their drinking water from Abay River and other tributaries. The river receives wastes from municipal and industrial sources. Feces are also washed by rainwater into the river. This shows that as most people drink unsafe water, the chance of getting infected with various water born diseases could be higher. Hence, protecting the Abay river also restrict for easy access to Abay river for both the peoples and livestock.

Telephone network service comprises fixed line; wireless telephone in each Kebele moreover mobile service also covers all demarcated and the surrounding areas.



Fig.22. *Different uses of water for residents of rural community*

4.4 Economic supporting Institutions:

Agricultural extension: agricultural extension in the area has been started about a decade. Currently the Regional government is delivering the extension service based on an approach, which is broken down in to family package and minimum package systems. In the area, many farmers are included in the family package and supposed by everyday supervision and follow up. The rest are treated by minimum package and the service is casual and based on demand.

The major activities of the extension include; on-farm demonstration of crop production, improved seeds application, and establishment of soil, water conservation measure, forest and wildlife conservation and livestock production and health.

Rural credit: Credit is one of the required services for communities in the park area. The purpose of the credit demand where for purchasing pack animals and required facilities to accommodations. It provides services for tourists so as to generate income for livelihood support.

Livelihood activities: Analysis of livelihood in BDBNRMP relatively highlights prosperous employment in the area. The economy in the park is almost mixed in nature with the dominancy of agriculture, some minor activities like trading, fishing, daily laborer, and collection of grass, fuel wood, and wild fruit for sale accustomed independently.

Others; Other economic activities include running shops, kiosks, or market villagers stalls, or selling cooked foods are suitable. The shops are small and sell basic household items. Most of the villagers have a town style, and a significant number of women are involved in selling local beverage (Tela and Areky), packed drinks (Water, soft drinks, and beer), and hot drinks (coffee, tea and milk). Moreover, cooked foods of Injera and bread are also supports considerable number of women at different rural town villages. Alternatively, these activities are the source of income for the households. Then agriculture contributes the highest share for income generation followed by labor selling.

Labor use and availability: Involving in daily laborer in agricultural activities is another means of livelihood for these have no their own farmlands, In BDBNRMP, most households depend on the labor force available within the household. When demand exceeds supply, they resort to migrant agricultural laborer particularly for cultivation of vegetables, fruit crop, sugar cane, and management and picking of Chat. In villages of the park, family labor still depends upon both agriculture and small trade. This would suggest that many children people subjected to school drop out for looking after domestic stocks, picking of Chats leaves and growing vegetables and sugar cane and collection and selling agricultural products in daily rural and urban open market.

The labor market in the park area is not consistent like what is happening in urban areas. Labor is in terms of family labor and the household labor is not estimated and considered by farmers. Occasionally there is an external labor demand during pick times like weeding, harvesting, particularly picking Chat leaves, cutting, and selling sugar cane. The per day labor cost is 15-20 birr but 10 Birr for picking of Chat leaves per kilogram.

5. Tourism Resources and development opportunities

An important point in the tourism resource assessment is the inventory what exactly the area has to offer to potential tourists without draining the local resources. These attractions categorized in broad sense in natural, cultural, and further in to natural, cultural, historical and recreational activities prioritizing the potential of the park based on potential and actual tourism products.

5.1. Natural attractions

Natural attractions are physical features such as the landscape, lakes, forests, waterfalls, the climate and biotic features such as unique and endangered species, birds, reptiles and other animals. In this

case, the biodiversity and nature in general can be tourism attractions. Taking the above explanations in to consideration we can distinguish that the Bahir Dar Blue Nile Millennium Park has the following assets like:-

- The Lake (Lake Tana) as a upstream source of Blue Nile
- The Abay River and its course with meandering and fragmented water ways
- Hot springs and mineral waters
- The scenery and wildlife (landscape, flora and fauna)
- View points and spectacular sites

5.1.1 The Lake Tana (upstream source of Blue Nile)

Lake Tana is the largest in Ethiopia which has jumbo heart-shape inland water body. It is one of the panoramic waterscape where visitors sense an atmosphere of timeless wonders. The Lake with the total area of about 3673 square kilometres (KM^2), stretching 75KMS North-South and 60 kms East-West,



Fig.23*. Upstream face of Abay river*

laying at about 1830masl having 14m maximum depth rich in birds and fish life (Bureau of Culture and Tourism, 2006). It is very attractive and colourful water body, as some say "the diamond coloured or the diamond painted Lake" and others say " the Ethiopian pride". The Lake is also the source of the largest and longest river in Africa-the Blue Nile River.

Lake Tana, decorated by around 37 islands and Peninsulas out of which 21 are Monasteries surviving remnants of the very old meditative traditions established in the medieval period by the dedicated spiritual monks. Historical and religious monasteries, churches associated with the landform features including its seaside/coast or the shoreline and the water life it harbors make Lake Tana one of the most attractions and tourist destinations of the region deserves frequent visit.

Little is known and studied about the flora and the fauna of the Lake. It is open the researchers to discover its immense and untouched natural resources. The recent studies have shown that 26 species of fish out of which 17 are endemic species to LakeTana, at large to the country. According to Eshetu Dejene, (1998 EC) these endemic fish species constitute 14 large barbs, one small barb and two gara species. These large barba species are varied because of the morphologically distinct forms they exhibit.

5.1.2 The Abay River and its course

Blue Nile, the Grand River in Africa is one of the natural wonders of Ethiopia. which is characterized by meandering and fragmented water ways spectacular faces of mountainous and valleys with upland and Riverine vegetation (Abraham Marye, 2009). So, different portions of the gorge and riverine forest of Abay within Ethiopia deserve to be protected for biodiversity and landscape conservation to use as important tourism sector that could ensure sustainable economic benefits for local, regional and national levels. The river gets its start from Lake Tana with the unique and inspiring views to visitors, especially for its breathtaking smoky falls.

a. The Tis Isat Falls

The Tis Isat Fall is situated near Tis Abay village about 31 kilometres southeast of Bahir Dar, has been drawing the attention of the domestic and international visitors especially for its breathtaking smoky falls consisting of four streams that varies from a trickle in the dry season to 400 meters wide in rainy season. The fall locally called Tis Isat or smoke of fire plunging dramatically 45 metres deep creates drizzly plethora that in turn produces brilliant rainbows across the gorges of the river. The curtains of the spray enthral any visitor and will not ever vanish from memory; especially a morning visit rewards tourists with astounding rainbows, as it is one of the best tourist attractions of Ethiopia.

To reach that falls there are two alternative ways; The first way is the route via about 1.5 kilometres journey to the eastern out skirt of the Tis Abay village to the parking lot, which lies on the edge of the Blue Nile gorge. Then after walking for about 20—30 minutes crossing the 17thc footbridge locally known as Alata Bridge that had a historical value built by the Portuguese, a crescent shaped gorge appears with a thunderous noise; that is the Blue Nile Falls. The second alternative way is the route via the North east of the main road where the local people cross the river with Papyrus reed boats and non motorized metal stick reed boats. After plying across the waters, a 30—40 minutes walking along the bank of the river is required to reach the foot of the falls. Yet the first route gives chance to visit the historical footbridge, the spectacular scenery and it is also provide a chance to watch birds in the forest since the falls is endowed with marvellous landscape, the natural forests and multicoloured birds.

b. The Ras Hailu Falls

In addition to the Tis Isat Falls, the Blue Nile river has another water fall called Ras Hailu fall, situated east of the main road between the Tis Abay and the Andasa villages, at the foot of the Ras Hailu hill. The height of the fall is relatively short but wide while its water volume is relatively large compared to the Tis Isat Falls. To reach the falls it can be accessed through a15—20 minutes' walk from the main road.

c. The Arefamie/Reti Falls

The Abay (Blue Nile) river is also has another spectacular scenery called the Arefamie or Reti Falls, located east of both the main road and Sebatamit village the way to Tis Abay. Concerning the height of

the fall, it is short but wide while the water volume is relatively large similar to that of Ras Hailu Falls. It can be accessed on foot after 10 minutes walk to the foot of Qunti hill and Arefamie natural forest. Both the Ras Hailu and Arefamie/Reti falls endowed with spectacular landscape, natural forest, birds and the water life, deserve visit.

5.1.3 Hot springs and Mineral waters

a) The holy water of Wenqshet Gabriel

he holy waters hot springs of Wenqshet Gabriel is found northeast of Tis Abay small rural town. It is about one and a half hour journey on foot from Tis Abay. Topographically, Wenqshet Gabriel is halfly (crescently) encircled by the standing hills decorated by the natural forest. According to Aba G/Kidan, the welcoming person of guests coming from different corners of the area, representing the church, now functionally there are 12 hot springs and cold holy waters which serve as holy spray. Out of which 3 of them are hot springs while the other 9 are cold holy waters.. According Aba Yohanns Tekle Mariam no year entitled-----potentially there are around 39 hot springs and cold holy waters waiting for facilities to be functional. This needs further study.



Fig. 24*. Womkeshet Church*

The story of Wenqshet goes back to the origin of Christianity in Ethiopia (official acceptance of Christianity by king Ezana in 4th century). According to Aba G/Kidan, Frumenttos a Syirian Christian who later had become the first Bishop of the country by the name called Aba Selamma or Kesatie Birhan(creator of the light), came to the area around 330 AD and conducted teaching Christianity to end Pentateuch (practice of old testament). Since then it is said that there had been a monastery until its distraction by Ahmed Gragn (in 16th century).The religious leaders there say that it was one of the places where ancient Judaic worship and sacrifices had been taken place. The sacrificial materials, the ancient cross, and the ancient indigenous made key are found. The foundation of the present church is laid down in 1994 E.C. and took its inaugural ceremony in 1998 E C The church is built by curving the hillside and has a beautiful looking.

Other important features of Wenqshet are the wildlife. The natural forest and the wild animals it shelters such as Ana bus Baboons in different colonies, Apes, Pegs, Leopards, common dickers, Porcupines and birds like Francolin etc...

b. Andasa Mineral holy waters

The Andasa mineral water is found in a small island formed by the Blue Nile river, North of the main road near Andasa village, not more than 15 minutes walk. The mineral holy water is available in the

form of drink. Many domestic tourists especially persons who suffer from internal and physical illness flow to this holy water Andasa and that holy water in turn cures those patients by the mercy of God.

c. Deremambo Mineral waters

Deremambo spring water treats many patients as of residents and considered as holly waters by the religious leaders. Spectacular water bubbles under dense shrub lands of Andassa and Dongambo islands assisted to remain this forest nearly in its natural setting.

5.1.4 The scenery and wildlife (landscape and biodiversity)

The initial inspection survey document prepared by the study team indicated that based on the altitudinal variation, the major ecosystem in this area can be grouped into either dry evergreen montane forest or montane grassland or/and wetland ecosystems (Berhanu et al., 2007). According to the document, the river inundated some parts of the land during highest level of the water making those areas wetland. It diverts its courses in some places and come together forming dozens of small fragmented islands. The study team added that in most of the islands, the vegetation cover is good and the abundance of animals is relatively better. Islands that are easily reached by man are devoid of big trees as they are cut and replaced by annual crops, sugar cane plantations and other fruit plants.



Fig. 25. *Up stream sources scenery of BDBNRMP*

a. Flora

The vegetation cover of the study area is mainly composed of native species of grasses, herbs, shrubs and large sized trees, like for example, Eshe, Dokma, Marenta are the common native tree species which are found in close proximity to the river, a little distance away from the riverbank trees like Wanza, Bisana, Girar, Warka, Arboj, etc. The commonly found plants shrubs and climbers include Atat in the wetlands and islands, Dengel, Fila etc. Tree and shrubs species like Eshe, Dokma, Marenta, Seneil, Agam, Enkoy, warka which were abundant in the past but now reduced or confined to only few localities include (Berhanu et al., 2007). However, people in most part of the park eat edible wildfruits as supplementary food locally named as Marenta, Eshe, Dokuma, Wanza, Enkoy in the area where there are abundant on seasonal basis. At the same time these edible forest fruits are also sold in the market to generate income. According to Abraham Marye (2009). the following are the remaining forest patches composed of different species in different areas of the park from the fragmented islands to hilltops.

- Godeguadie to Amorawonz (Homestead and plantation forest and riverside wetland)
- Bezawit Revegetation (Replanted indeginous species)
- Bezawit Amorawonz to Burefesses (Mixed natural upland forest)
- Peda Tekelehayimanot (Natural forest and wetlands)

- Shaquwarie (Upland deciduous forest)
- Arefamie, Reti and Tiqurbahir (Riverine and island dense forest)
- Meskela Kurt, Forkit and Jib Godo: (Island dense forest and igneous rock dominated woodedland)
- Deremambo Dongambo Yegod to Andasa (Ignious rock shrub dominated woodland)
- Yetefit, Sebato and Tigza (Grasslands, shrub and river sid scattered trees)
- Gores Ras Hailu to Bushit (Dense islands, grasslands and igneous roack with wooded lands)
- Abogerdam, Serevej to Tis Abay (Dense islands, sugar cane and igneous outcrop and open grasslands)
- Mulielit kachura to Blue Nile Fall (Scrub hill, open wooded land and moist riverine woodland)

These forest patches have spectacular natural settings from wetlands, falls to hilltops, which gave divers attractions and viewpoints for visitors with different vegetation compositions

b. Fauna

According to the pre-establishment survey study team, some of the animals that were used to live in the area and abundant were dicker (midaqua), common bushbuck (dikula). In addition the dominant animals that were observed by the study team include hippopotamus (H*ippopotamus amphibins),* wildcat (*Felis silvestris)*, crocodile (*Crocodilus niloticus),* Anubis baboon (*Papio Anubis)*, Monitor Lizard (arjano), Hare and Vervet monkey (*Cercopithecus aethops)* (Berhanu *et al*., 2007).



Different studies identified Lake Tana area namely the Fogera plain and Tana Bahir Dar as one of important bird areas of the country The Abay River and Lake Tana supports a large variety of fishes. All the small rivers entering Lake Tana and the Abay River are considered to provide the breeding area for the fishery life in the area. Studies indicate that there are about 26 dominant fish fauna out of which 17 are endemic species to LakeTana, at large to the country. The most important fish types are morphotypes of (*Barbus intermedius*) complex. Other species important include Tilapia (*Oreochromis niloticus*), Catfish (*Clarias gariepinus*), and *Varicorhinus beso* (Eshetu Dejene, 1998 EC). .

Fig. 26*. Fish harvest from yhe river EBay (Blue Nile)*

The people in the area used to catch fish from the river without requesting any permission though the amount of fish catch has decreased since the construction of the weir on Abay River.

5.1.5. View points and spectacular sites

The topography of the study area is characterised by gentile undulating plateau with meandering river course and relatively slow flow of water (Abraham Marye, 2009). The landscape of the Abay Millennium Park consists of sloppy and hills in left side while the right side of the river has relatively flat feature. The hills are used for forest and cultivation while flat feature mostly used for traditional irrigation and grazing. Some hilltops are listed hereunder.

a. The Bezawit hilltop

The Bezawit hilltop situated 5 kms east of Bahir Dar and in the left side of the river.
It has two special elegant viewpoints to see the Abay (the Blue Nile) river and Lake Tana.

Bezawit is hopefully, it may be the most spectacular scenery within the demarcated part of the park.

The first spectacular viewpoint site situated on the western side where visitors can watch birds look at the spectacular view of the Abay river, Bahir Dar city and Lake Tana where it starts its course from Lake Tana and the stretched waterscape of the Lake. The second situated on the southeastern side is breathtaking in viewing the Hippopotamus in the evenings and Crocodiles during the daytime on the riversides at the foot of the hill to the deep water of the Abay.



Fig.27*. Bezawit hilltop and its southern vicinity Tekelehaymanot church*
On the hilltop, we can find the Bezawit Palace of the then Emperor Haile Silassie of Ethiopia which was found to stay at his periodic visit of the provinces. The forest in its vicinities of the palace is now serving as recreation during weddings for the people of Bahir Dar.

b. The Mulilit hill



The Mulielit hill is situated east of the Tis Isat falls or the Tis Abay village after 30—40 minutes' walk from Tis Isat. It has an elegant viewpoint to see the Abay (the Blue Nile) river and its course from the north to the southern direction especially the rocky gorges up to extended kilometers in the south. Found at the lower end of the park 1937 masl which is the highest point of the park at the top of Mulelit.

Fig 28. *Mulilit hill and distsnt view of Blue Nile fall in Dry Season*

c. Other hills

Other hills/Korebta such as **Kutetit, Qunti Ras Hailu etc...** Have divers attractions and habitats ranging from wetlands to other hill tops. Most of the top hills are situated in the left sides of the park following the river course. All clearly show spectacular natural settings and features of the area, i.e. the natural beauty of the area which serves as view points for visitors.



Fig 29. *Landscape of Arefame and surrounding areas of Sebatamit and distant view of another view point Shakuwarie*

5.2. Cultural attractions

The /Portuguese Bridge: As one source of attraction the Alata /Portuguese Bridge is found within a short distance further downstream from the Tis Isat fall there is historic Stone Bridge constructed on a crescent shaped gorge Abay River. It had a historical value built at the command of Emperor Susenyos in 1626; by the crafts man who had come from India with Alfonso Mendez the catholic patriarch of Ethiopia supervised the construction. This stone footbridge is locally called the Alata Bridge.



Fig.30. *Portuguese Bridge still functional* w*ithout maintenance to cross road Gojam to Gondar and main way to visit Wonkeshet and Blue Nil Fall*

The Bezawit Palace: As discussed earlier the Bezawit hilltop situated 5 kms east of Bahir Dar and in the left side of the river, is the most spectacular scenery with in the demarcated part of the park area. On the hilltop, there is a palace of Emperor Hailesillasie of Ethiopia built in the 1960s to stay at his periodic visit of the then provinces. The palace is now serving as recreation during weddings for the people of Bahir Dar.

Pero Paes Edifice: Pero Paes Edifice is a building found with in the compound of the Saint George Church which is one of the testifying factor that Bahir Dar is still the most astonishing town of Ethiopia for foreigners especially for the international visitors. The building is said to have been built by the Spanish Jesuit Pero Paes in the reign of Susneyos in the first decades of the 17thc (1606-1632).Still it does not seem centuries old monument and any destruction has not undergone over it. Architecturally it has direct similarity with the palaces of Gondar.

Debre mariam monastery: It is one of the Lake Tana Island monasteries found at the northern tip of the Abay River and the northeastern outskirts of the Bahir Dar. It is a place where the Blue Nile River leaves Lake Tana and begins its long journey to the resting room i.e. the Mediterranean Sea It can be accessed by boats or the Papyrus reed boats from Shum-Abo one of the Kebeles of Bahir Dar. The monastery was founded by Abune Tadiyos during the reign of Emperor Amde Tsion in the 14thc (1312-1342 AD). The monastery is well known for its hippo colony and birds; therefore, the area invites bird watchers.

The Rock hewn church of Dengay Debelo: The rock-hewn church of Dengay Debelo is found on the way to Tis Isat falls 25 km drive from Bahir Dar a one and half walk on foot to the southeast direction from the main road. As told by religious persons in the locality and as oral tradition holds the church is said to have been curved by King Lalibela. It is said that king Lalibela made the church before his coming to the thorn while he was moving from place to place for religious leanings. Of the three compartment of the church, the **Meqdes** is hewn from the rock and the other two **Line Mahilet** and **Kidist** are made up of thatched roof with a wall made up of mud and stone. The present *Kidist* and **Qine Mahilet** are built during the reign of king Fasieleds in the 17thc (1632-1667 AD).The church is one of the secondary attractions in the vicinities of Bahir Dar and an easily accessible to visitors.

Another cultural practices is the way of traditional market exchange-the open air market styles. For the tourist, came to Ethiopia from overseas the open air market on Saturdays is inspiring that the stalled cereals, vegetables, souvenirs and the price bargaining styles of the local communities including the urban residents. Here are some of the results of handcrafts found in the open air markets:-

- Jewelry, woven and embroidered garments
- The wood, leather and horn products like Ox horn cups
- The round grass baskets covered with naturally colorful Ox or Cow skin “Agelgil” for which Bahir Dar is known
- Hair, clothing and market exchange styles and other indigenous cultures of the local communities
- The textile results made from the fabric of cotton the white cotton national dress ”the Shema” and the colorful scarves “Mekenet” and others found in the market are cultural values be appreciated

5.3 Historical attractions

Historically, many foreigner historians and geographers coming to Ethiopia were wrote a lot about the source of Blue Nil and its scenic value and had visited the river gorge since long ago.

This category comprises population profile, the cultural background, local traditions, and customs, resistance or acceptance of outside visitors, poverty and educational levels of the local people, historical or archaeological sites etc. This section is also includes the historical, archaeological or current cultural sites and events that could act as attractions or in some way affect how ecotourism would be carried out. As the region is one of the reservoirs of Ethiopia’s historic past and its

multicolored culture, particularly the study area, the Bahir Dar Blue Nile Millennium Park is not different from these chanceful circumstances. With regard to cultural tourist attractions, the area is endowed with different historical and religious important monasteries and churches which are well known in their fine arts, manuscripts etc. Taking the above explanations in to account, the culturally attracting resources in the study area are discussed hereunder.

5. 4. Other recreational activities



According to the municipality/the Mayor's Office, Bahir Dar is identified as one of the top ten most promising cities in Africa by UNESCO, and now becomes one of the top tourist destinations in the northern tourist circuit known as historic route in the country.. Bahir Dar is established during the first decades of the 20th century and found at the southern tip of Lake Tana and along sides of the Abay(the Blue Nile), with an altitude of 1830 meters above sea level.

Fig.31. *Holly day's celebration at Wonkeshet Monastery*

At Bahir Dar, days can be spent by walking through palm-lined streets, lakeside walk ways, exploring the Weito villages, viewing spectacular sunset and riding a bicycle, are worth visiting.

Besides these recreational activity can be where recreational activities are performed and the citizens of Bahir Dar, and the vicinity and visitors get access to accommodation and recreational facilities. Therefore, presently Bahir Dar has the following city parks and recreational centres/sites

- Shum Abo, Bingo, Hidar 11, Bihere Genet private recreational site and the Bezawit palace etc...
- ''The Semaitat Hawlt'' memorial monument for battlers in Ethiopian civil war for Democracy in Dereg regime
- The St George church and the 16th c. one storied Portuguese building in the same compound

5.5 Tourist facilities and services

5.5.1 Information

Park information involves the provision of data, facts, and advice to visitors concerning the park, its biology and geology, locations of visitor facilities, rules and regulations, and appropriate behaviour. And a continuous management of tourism in protected area is very important as that of proper planning. This process requires establishment and maintenance of tourism information system that provides a data base for marketing, development and monitoring (WTO, 1993). For the effective management of tourism and to provide a data base for marketing, development and monitoring, it is essential to establish a tourism information system for that area. Although tourism information systems

do not necessarily have to be computer-based, computer technology makes the job easier to keep the information up to date. Yet what should be recorded on a tourism information system?

a) Tourist arrivals
b) Accommodation
c) Receptions
d) Attractions and other facilities

Another important point that must be given to attention in the tourism information system for an area is education and information. It is very important to note that in tourism areas to educate the community about tourism:-

- its benefits, problems(and how to overcome the problems
- development plans and programs
- current tourism events and how to cope with tourists of different cultural and language backgrounds and
- environmental quality and conservation

According to George McIntyre this process should be carried out continuously on programmed basis using the following techniques for raising the sustainable tourism awareness of the communities (George McIntyre, 1993).Taking these in to account, in our case some of these awareness raising techniques can be listed down as follows:-

- local radio broadcast (both FM, regional and national regular radio programs)
- both regional and national regular or occasional television programs
- wide distribution of pamphlets and guidebooks
- instruction on local school system starting from the primary education
- community and village meeting in kebeles
- publication of a periodic magazine on tourism events
- Public seminars or conferences on specific aspects of tourism

In the tourism information system, educating and informing the community is not only an important point but also educating and training of tourism personnel, tourists and the tourism industry at large are very crucial. Appropriate and thorough education and training of persons interacting in tourism are essential for the successful development and management of the sector. Tourists the tourism industry and government tourism officials at large need to understand the tourism policy, marketing techniques and management of tourism information systems, establishing and administering tourist facility service standards and tourist information services (Thomas and Middleton, 2003).But how these interacting persons communicate tourist information? Brochures, self-guided trails or tours, guided tours, visitor information centres, education centres, displays and exhibits and informal contact constitute the basis of the visitor's introduction to the site and help establish appropriate tourist behaviour.

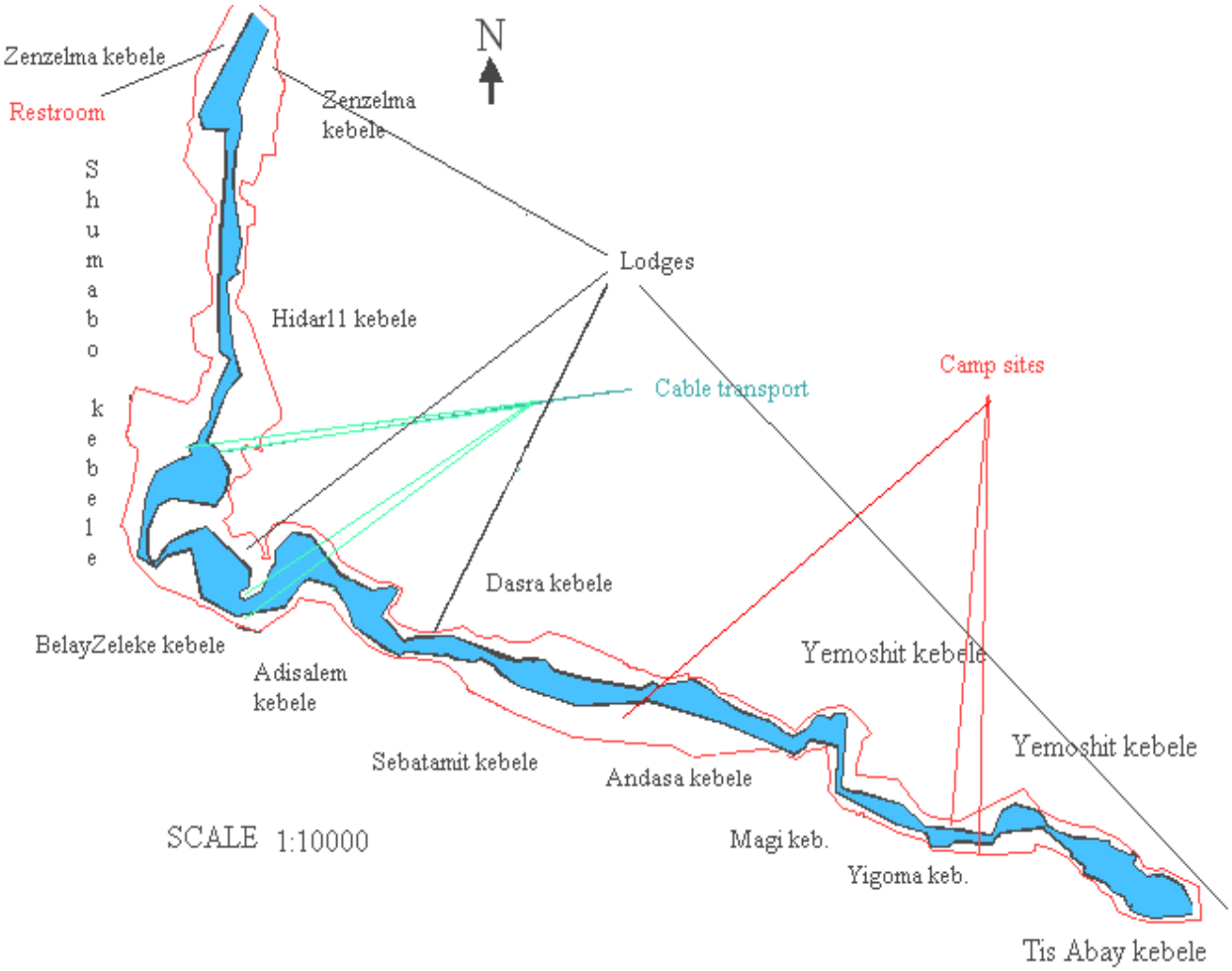
5.5.2 Tourism resources and products

Accommodation

A. Lodges

The park has spectacular attraction from its outlet to Tis Isat fall. Domestic and international tourists are expected to flood into the area to visit such wonderful features. Yet there are no suitable environments that would make the stay of visitors longer and standard facilities to ignite their enthusiasm. Hence, developing lodges along the riverside park enable the tourists to get such opportunities to admire nature and spent more time. This inevitably contributes for the improvement of

livelihood of the local community in particular and the economic development of the region at large. The local community can get benefit like job opportunity from renting of mules and donkey as well as from the sale of cultural locally made handcrafts. In addition to the existing Tana Log at Hidar 11 Kebele (Bezawit Gott), and proposed the following new loges to be implemented near Tis Abay fall on one side of Kachura (Mulilit) hill, Dasra kebele (Abalo Gott), Woreb Kola Tsion kebele (Giragn Getahun Gott), and Zenzelma kebele (Gudguad Gott). At the peninsula of Debremariam, at Shum Abo kebele (Debre Mariam Gott) one resting room with fast food services is proposed. (See Map on figure 5)



Figu 32. *Map showing the location of some proposed development interventions (Source Berhanue et al 2007)*

In addition to lodges, few composites should be identified at areas mid way between lodge sites. The Study team proposes campsites at Yemoshit, Andasa and Yigoma Kebles. The proposed lodge sites can be used as campsite until the lodges function full-fledged.

B. Campsites

In addition to lodges, sites for tourists to rest and overnight the following campsites are proposed to be constructed in the following sites

- Near Bezawit

- Reti near Arefame
- Jib Godo
- Andasa
- Ras hailu
- Abogedam

C. Children village (Children play ground)

One of the most important and necessary recreational and education center that the region lacks is children's playground. This area is to be equipped with different amusement facilities including modern electrical and electronic technologies to entertain and educate children, youth and adults. In order to make the children village accessible and scenic the park area for this is the area found between the Textile and Abay Bridge. This area is situated in front of the memorial monument on opposite side of the river.

D. Indoor and outdoor games

Among the necessary sport playgrounds for the public are the indoor and outdoor game facilities. These activities require fresh breath from the river. The study team proposes such activities besides the site recommended to construct the children village (next Textile factory).

E. Ropeway (Cable Transport)

Ropeways are useful as a means of crossing rivers and depressions in areas where other transport means are not available in addition to their recreational values. They are important to carry out adventure tourism and fun.

The team proposes ropeways in two places for both recreation and also as means of transport. One place for construction ropeways is the area between the Bezawit hill and the proposed University Botanical Garden (Across the river). This is especially attractive when the botanical and zoological gardens are established in either side of the river and recreational facilities are full filled. The second site is at Qunti Korebta (Woreb Kola Tsion kebele). This is the place where the Abay River creates beautiful fall and this is closely visited in eastern side of the river where the team proposed a lodge around. So that, visitors can get easily into the fall via this rope way after traveling by car using the existing road found on western side of the river.

F. Boating (Canoeing)

Enthusiastic people are interested to cross the river by boat and enjoy on the river itself. Such activities are intended to create recreation opportunity to the public. The sites found in front of the memorial monument (south of the Abay Bridge) and above Tis Isat (Blue Nile) are suitable for this purpose and currently used for crossing the river with motorized metal-made boats. However, great care is required not to affect the hippos, which are isolated from the other population, found in the Lake by the barrier. Currently the local community is using traditional boats (Tanquas) to cross the river in at least 7 sites, metal-made boats derived by stick are used to transport passengers to cross the river. These areas selected to continue giving services are changed its natural face such due to unrestricted human act so that their risk and environmental impact should get consideration.

G. Viewpoints/observation sites

All hills found in and around the park area clearly show spectacular natural settings and features of the area, i.e. the natural beauty of the area which serves as view points for visitors. The following can be viewpoints/observation sites.

- The Bezawit hilltop with recreational Tukuls at two points, the right and the left sides of the top
- The Mulilit hill near the village Kachura
- The Kutetit hill; near Arefame waterfall
- The Qunti hill ; near Ras Hailu waterfall

H. Regional cultural center

The regional cultural center is a multipurpose building (not exceeding Ground +1) which accommodates different cultural and historical museums, hall or platform for public performance (theater or cinema, etc), and one or few cafe.



Fi.g. 33. *Boat drive on Abay is not only recreational and scenic beauty but also economic source and museum of historical events.*

The regional cultural center is to be located on southern side of the Bahir Dar Gondar Bridge as proposed in the feasibility study. The cultural center should also be placed farther away from the riverbank with extended natural feature and suitable walkways to the river shore. The cultural center is also can be made with no far distance children's village as they can enjoy and learn with it.

I. Trekking routes

Trekking routs are to be constructed on either side of the river to give a close look of the river course, its falls, and other natural features to visitors. In order to prevent the use of these roads for vehicles (other than wheel chairs) the width of the road should not exceed three meters. The construction of the roads is done cautiously, so that no tree is cut down nor natural features altered. The distance from the trekking route to the river will vary depending on different parameters including ease of construction, minimal environmental impact, suitability for viewing the area, etc..Hence, trekking routes will be constructed to connect different viewpoints, to walk from one natural recreational site to another, walk along wetland and sides of river shoreline. Trekking routes are also used to walk from one camp or post site to other for both visiting and inspection purpose by park scout.

To give access for old and disabled people, there may be wider feeder roads which can be constructed so that camp sites can be reached by car, cart, or wheelchairs. The detailed plan of feeder route will be indicated in the management plan of the park.

J. Outposts;

Outposts are important not only to control human and livestock encroachment in to the park but also to assure the safety of international tourists travelling to the park area. The outposts should be on 8 sites and the distance between them is proposed 5 kilometres. Out posts are established along with campsites to guarantee for visitors safe stay in campsites. Moreover, post sits use are beyond this and can be constructed on sites that require special attention for the conservation of species and their habitats. For instance, habitats (Around Godguwadie, Peda Tekelehayimanot and Arefame, Gores and Jib Godo) of hippo and crocodile should be protected from human extensive interference.

5.5.3. Tourism revenue

Bahir Dar with its vicinities Lake Tana, monastries, and spectacular islands, upstream sources of Blue Nile and famous fall of Tis Isat (Blue Nile Fall) are some of top tourist destinations found on the historical tourist route. These are found at one of the ways to Worled Heritage Sites of the historical town of Gondar, rock hewn churches of Lalibela and Simien Mountains National Park of the Amahara region and then Axum of Tegray region from Addis Ababa.

Christ Costas (2003) described the benefit of tourism to Bahir Dar could be observed in terms of employment in tour operators, hotels, car rentals, boat rentals, souvenir shops, travel agents, guides, and other tourist facilities. Since visitor interest and demand will drive any future sustainable tourism program, it is essential to fully understand the nature of current and potential visitor use.

If we consider at Tis Abay tourist center, which is found within BDBNRMP, serves only Blue Nile fall visitors with insignificant effort to manage natural settings both local and international tourists are increasing time to time. For instance, the international tourist arrivals for the month September, 2001 E.C (2008) alone is 1109 and the international tourist arrivals for the same year is 12613 while the estimated revenue generated from international tourists alone is 18255 ET Birr and 205785 ET Birr respectively. In addition to this, the average annual growth rate of international tourist arrivals for Bahir Dar (Tis Abay) in the years 1997-2001 E.C is **9%** while the average annual growth rate of income generated from international tourist is **11.33%**

Table 5. Statistics of tourist flow and income collected from 1988-2001 EC fiscal years Bahir Dar (Tis Abay)

No	Fiscal year	No of domestic tourists	Amount of money collected (in birr)	No of international tourists	Amount of money collected (in birr)	remark
1	1988	3858	13208	2970	59990	6 month
2	1989	12874	42780	8014	140710	
3	1990	15712	58115	8938	158013	
4	1991	11587	41766	4167	68455	
5	1992	12854	54798	5167	94345	
6	1993	16813	69264	5308	93680	
7	1994	17608	74289	7474	136844	
8	1995	17613	73348	8864	152865	
9	1996	15555	60421	7955	137470	
10	1997	14700	51036	8675	142705	
11	1998	18960	55296	8824	149178	
12	1999	23561	82609	10083	168028	
13	2000	26765	24828541	11774	26,216,971	
14	2001	28542	26867515	12613	30,300,403	
Average growth						

Source Bahir Dar City Administration Culture and Tourism Office

The park with its potential to develop tourism based activities of infrastructure, facilities and accommodation services be fulfilled, it is possible to lengthen duration of stay of tourists which doubles and triples the economic benefits obtained from this sector. The problem may arise that from the obstruction of the spectacular nature of the Tis Isat fall due to the reduction of the natural fall by the construction of the hydroelectric power generation, because the promotion of the fall does not reflect the existing reality.

6. Conservation, economic activities and recreational sites

6.1 Conservation of biodiversity

a) Botanical Garden

Botanical garden benefits can be generated are scientific researches, recreational and conservation of indigenous plants. Hence, botanical garden has many benefits to the region that includes the following:

- It can serve for students and educational institutions for their scientific research and observations,
- Cultural and economical benefits: the botanic garden generates income by selling services such as seedlings, entrance fees from visitors as well as a source of herbal medicine.
- Conservation of biological resources: threatened indigenous plant species can be multiplied and protected in the garden for the conservation of genetic resources
- It serves as an area of recreation for the public.

In addition to the existing privately owned small botanic gardens (e.g. Medicinal Plant garden near Bezawit palace), proposed new botanical garden at and around Bezawit Palace. Similarly, the area

found between Abay and surrounding partly the Bahir Dar University may help to establish university's botanical garden. The areas, which are currently used for Chat plantation and the vast wetland to the south of the university, were proposed for the university botanical garden but still no initiation or establishing effort institution.

b) Zoological garden

This is the place where animals especially mammals, reptiles, amphibians etc are kept and reproduced. It has a great contribution for education, research, conservation, and recreation as well as for generation of income. Zoological garden can also serve as a place where endangered species of the region saved from extinction. The Amhara National Regional State does not have any zoological garden, therefore it is highly recommended to have at least one at Bahir Dar city especially in the BDBNRMP next to Bezawit Palace within the proposed Botanical garden.

Establishment and running zoological garden requires significant investment, thereby private investors may do this, or the regional government may take the responsibility.

6.2 Agriculture and vegetation management activities

A) Horticulture: The production of fruit trees is a better way of maintaining the vegetation cover of the farmlands and river shoreline vegetation. Currently they are producing fruit trees dominated by Chat plantation (in the irrigated land). This trend is to be completely changed to purely fruit tree plantation. Therefore, all the farmlands within the park that are being used for annual crop and Chat production are proposed for horticultural interventions (fruit tree production). Particularly, areas delimitated as limited access zone and islands of Tekelehayimanot Church and Abo Gedam.

In addition, the vast area, which has been used as Chat and annual crop production land, is supposed to be converted into a forest composed of indigenous trees and permanent fruit trees, thereby making the park more attractive and economically viable. Plantation of indigenous tree is one of the most development interventions that will invite the local community to participate in park resource management and proper use of resources. In terms of finance and the experience, they have already practiced coupled with modern system of management reconciled with park objectives.

Animal Fattening: Currently there are several plots of grazing lands used by the local community owned privately and communally. Free grazing has greatly affect the environment, therefore allowing free grazing in long range will result in land degradation, therefore, it should be gradually changed into areas where farmers cut (mow) the grasses and take them as a feed. The study team proposes animal fattening at Andasa kebele where the grazing land is relatively larger. Up to two more animal-fattening sites may be selected if there is sufficient grazing land based on the request of the communities. While proposing animal fattening, the study team is assuming a zero grazing condition, and assumed to be carried out by the local communities by organizing themselves into cooperatives. In some grazing lands where the community is currently using them as watering points for animals need detailed plan and study to compromise environmental protection with provision of watering point for the community.

Forest and nursery site development: The park as well as the surrounding community need source of indigenous tree and fruiting trees seedlings, which should be supplied from the nursery center to be established within the park. The Andasa River area is suitable for irrigation it is at about the middle of

the park to ease seedling transportation and it is suitable to produce many seedlings for reforestation of degraded areas of the park and to satisfy the need of the local community. Hence, nursery site in the western side of Andasa River should establish.

B) A forestation / Re-vegetation: The majority of the River Park is composed of forest made up of indigenous species of plants and wild animals. Currently, the forest is confined in few areas around the riverbank as a isolated patches. River shoreline and islands those are not accessible by man and domestic animals even for grazing and plant collection particularly in dry and extreme fluctuation of water season. All the islands found in the river have to be protected so that plants regenerate to form natural forest. The islands are currently the only habitats where the wild animals use as a refuge area. There are no places where the famous animal of the area Hippopotamus have been getting access for feed and breeding site. Since it lives in a narrow home range due to habitats degradation it has to be take care on widening its home range and safe area. All degraded areas other than those proposed for other activities are used for reforestation by planting indigenous species of trees. The exotic weeds should be removed as much as possible so that the forest is no longer act as exotic-weed seed source to the surrounding farmlands. This has been started by reforestation by indigenous and endemic species during new Ethiopian Millennium celebration.

6.3 Recreational activities of the Park

In general, the study area is full of magnificent sceneries and richly endowed with biodiversity. As a result, the potential products can contribute to the satisfaction of tourists, economic benefits of the local communities and the protection of the natural environment. Considering this we can conclude in the following ways:-

Land and rivers escape, Wildlife and birds watching; The presence of known bird species, the hippo, and the Crocodile etc. has a high potential for wildlife and bird watching. Viewpoints of Bezawit (North of palace and Bure Feses), Shaquarie, Kutetit, Abalo hill, Ras hailu, Dasera, Kachura and Mulilit.

Walkways/trekking; The dominant attraction of the study area is the natural landscape, to have a special feel about the river nature of the fall and hence trekking and walkways through the river course is one of the significant products of the park. Trekking along water ways from source of Blue Nile from Lake Tana to the Bridge, West of Bezawit between river shore and natural forest from Amorawonz to Teckelehayimanot.Reti to Andasa, Kutitit to Ras hailu, Walking pillars and walk way ader on wetlands and riviershore west of Tekelehaymanot.

Nature photographing: the Park with its natural features especially the waterfalls are the exceptional values of it which can attract nature photographers and film producers. Landscape, wetlands, river ways, forest patches and horticultural fields and botanical garden as well as Bahir Dar Town and Lake Tana from Bezawit.

Research values; Conducting a research in this park has multiple advantages at least in to three ways:-

- As indicated in the feasibility study before the park establishment, by means of botanical and zoological gardens, the park provides an appropriate natural laboratory for the exploration, investigation, experimentation, demonstration and development. Bure Feses and Irigation fields

of Sebatamit and Irrigated fields can be used as demonstration sites for regulation of water for irrigation.

- The results of the research works can help in solving problems related to conservation and management of the park and reconciling agriculture and natural feature of different habitats.

- Based on number it has the implications for a proper exploitation of the park resources in tourism, management and its recreational advantages.

Lodge Services: food, drinking resting beds and watching sets and any facilities of accommodation to overnight or rest during day time being established at appropriate site but with minimum impact on natural species and scenic beauty of the area. Lodges should constructed away from natural features that could be visited. However, some are requesting to build lodges and gust houses on natural areas which could lose scenic beauty of the attraction.

Organization of cultural entertainment (**dance groups**) that provides entertainment services for both hotels in Bahir Dar and lodges built in the future in the recommended parts of the park area.

1. Campsites
2. Guide Services
3. Souvenirs
4. Others services (shopping services, guesthouse services and nightclub services etc.)

Boat driving and recreation: Papyrus and iron made motorized boat floating on the river course of Abay particularly boat drive from at the South of textile factory to Seyum sefer as a best recreational site.

7. The relationship of the local community and the park

7. 1 Community attitude towards the park

The efforts working with the local community in park management is not yet practiced. Only the establishing technical and assessment team delineated the park based on its biophysical resources conservation issues and tourism potential. The roll and the situation of the community in respect to park establishment were not accounted. Hence, the community both in and outside the park are know little about the park and indirectly heard about it because of their proximity to the park. But many of the residents have no detailed knowledge about park and its management systems, In assessing their attitude to the park, there is an understanding that it is a protected area, nevertheless, there is an attitude on going to weaken their resources supply, like land, wood, grass and cattle feed. On the other hand, some respondents who came around the towns and visited other parks so far established have got the hope and awareness of the park will be the source of income on tourism development and better conservation of spectacular riverine scenic beauty of Abay. Another important point mentioned is if they knew the BDNRMP authorities. The response reveals they are not much clear who is responsible and who they are and it is .

Overall, the adjacent people have good attitude to the park in respect to conserving resources of the park and future use. However, there are some challenges since its boarder is very includes villages and settlements, cultivated lands and grazing sites within the park boundary. Some people are worried what

will happen if they need to expand farm and grazing lands and s restriction of fire wood and grass collection.

7.2 Contribution of habitats and biodiversity to the community

Park's effects on the life of the surrounding people pertain to contribution of forest and biophysical resources to the local community. The relationship of people and the natural forest and its components is revealed by utilization of habitats (cultivation, grazing, settlement etc) and resources (Plants, stone, water, and soil) for different purpose.

BDBNRMP is a recently Legalized park, and it will be very early to list out its current benefits to the local community. Nevertheless, it is possible to identify its future potential benefits to the local community. However, the park rules and development possible options of rehabilitation of natural settings and biodiversity; awareness creation and mobilization of respective community groups for effective and restricted use of resources; arrangement of necessary packages and facilitation for sustainable tourism infrastructure such as accommodations and service center may hamper currently prevalent unrestricted resources use for construction, cultivation, settlement and others.



Fig. 34*. Natural forests are sources of fuel wood (Tis EBay Kachura)*

Fuel wood: In the long run different natural vegetation patches of the park have been used for the source of fuel wood with clear and selective harvesting system and or collection dried and fallen plants. Now there are many people who are collecting wood for sale, the reason is because firewood is a major problem or it is not accessible around the village. In the future, the park will be water and biodiversity reserve if managed well. Plants for fuel wood should be from plantation forest that could be implemented in the park's outreach program activities.

Sources of papyrus plant collection: In the long run different riverside wetland patches of the park particularly near to Bahir Dar town (Lake Tana to Addis Alem) around Godguwadie, Kebele 9, Tekelehayimanot church and Abay Eger Ber. Papyrus plant has been used for the source of papyrus plant for traditional coffee, holly day, and religious ceremony as a recreational decoration spreading on the house floor. Steams of papyrus also used to make straw basket that serve for different purpose. "Agelegel" the round straw basket made from papyrus with conical shaped cup covered with furred original leather mainly used for household decoration hanging on the wall. Now there are significant numbers of people who are collecting papyrus for sale and support their livelihood entirely mainly marginalized peoples of Negede Woyito. However, harvesting and collection techniques are devastative and non-selective; the reason is low awareness on problems of harvesting effect on

rehabilitation of the plant. In the future, the park will be the best reserve if papyrus plants and its habitats managed well and harvested properly.

Source of Medicines: The majorities of shrubs have got medicinal value as identified by the local community, which requires further study, whether forest products or pharmaceuticals sources. As to respondent, of course medicines are purchased from health centers. However, a significant number of plants are found locally used for traditional medicines from forests. In discussions, many understood the opportunity a domestic supply of medicines may bring from the forest and the park will be a reserve for medicinal plants.

Source of Charcoal: A majority of respondents in Bahir Dar and Tis Abay stated that they buy charcoal made from natural forest. In discussions, there was an indication. Charcoal is being made inside the park region around Shakuwarie, Derum Ambo, and Andasa. However, in the long run charcoal might be made far away from the forest reserve that are entirely made from plantation forest.

Beekeeping and honey harvesting: Beekeeping is an income-generating activity that has been associated with the forests. People who keep bees in their homestead stated that they get more in the forest because more flowers are available for the bees. A large number of households stated they kept bees in settlements inside the park. In addition to keeping bees inside the park, there is wild honey harvesting in escarpments and hanging beehives on huge trees. The way honey is harvested is may ignite forest fire, and this needs to be systematic.

Bush Meat: Despite the illegality of killing any wildlife inside the park, there is hunting of higher mammals by people inside the park. This event is a threat for the Park's wildlife. However, now days rare to see hunters because of low number of animals that could be hunted.

Park as a source of income: The presence of the park leads to generate employment opportunity for people work as park rangers/guards as tourist guides and in ecotourism activities. Activities in tourist accommodation sites providing different services as loading and unloading tourist bags, providing soft drinks, and lunch stop foods. Transport and recreation boat on the wide river water course crossing and moving along the water ways generate significant income..

Values of the park to the local community and regional development: People perceive their surrounding Park and its resources as presenting natural assets. Therefore, as well as the village lands, forest areas (including forest reserves and wildlife) are regarded as a principle source of natural assets. The values stated here are qualitative wise, rather than quantitatively since, it will take much more research and time to quantify the monitory values.

Importance of park to livelihoods: For thousands of people living in park environments that use park resources, the forest and biodiversity forms such a dominant part of their physical, material, economic and spiritual lives. Many of the people contacted are expecting values for their livelihood in the near future especially from the tourist destinations and sustainable harvesting forest products in sustainable bases even now the regional tourism is collecting entrance fee to Blue Nile fall.

Park products to supplement medicinal needs: Forests and forest trees, and wildlife in different forest patches are the sources of wide range of medicines .This values are mostly accessed by the surrounding old peoples and traditional healers. They have got the perfect knowledge of the park resource values and among they have identified many species for medicines

Park products to supplement nutritional needs and meet seasonal feed shortages: Forests and forest trees, and wildlife are the sources of a variety of feeds to livestock and wild animal that supplement and complement what is obtained from agriculture. Forest foods are most extensively used to help meet dietary shortfalls during particular rainy seasons. Again, the local farming community uses roots, leaves, steam, and wild fruits as a feed.

Cultural values of the park: Interviewees were asked whether the forest was important to the local community culturally or not. The response was attached to marginalized Negede Woyito and farming people who have been living long time in and around the park. Its cultural connection to them is they were born around, grown inside and enjoys every ceremony. Hence, the park has got great place in their lives and cultural make up. There are religious and cultural ceremonies on the river and its vicinities. It serves as a social gathering and court for local conflicts and sacred place for various believes. There are monasteries, which guarantee for conservation and sustainable forest cover. However, in contrary, some are extensively used for cropping and agricultural activities a little far from monastery rules. For instance, Abogedam Island near Tis Abay and about one km above Blue Nile fall extensively cultivated for sugar cane production. On the other hand, Techlehayimanot church at South of Bhir Dar University main campus also affected by unrestricted human movement, walkways and overgrazing particularly in dry season.

Tourism Potential (Tourism attractions and activities): Tourism is seen as a welcome economic activity if it is to come about. In BDNRMP since it is at the start up phase, they could not say anything except explaining the future expectations and hope. However, Tis Isat (Blue Nile) fall had a long experience and has been visited by many local and international tourists but no conservation and rehabilitation of resources and landscape around the fall.

There is a perception particularly villages around Tis Abay that tourism will bring considerable economic development through foreign exchange receipts. However, there is a marked lack of awareness about what market, infrastructural and service related factors would allow for successful tourism. Many respondents understand that wildlife attracts tourism, as does the natural beauty of the forest, but they are unaware of the difficulties that the relatively isolated location of the park and weak infrastructure and facilities would provide for the logistical realities of encouraging tourism.

In terms of tourism potential, the park has got the capacity to attract tourists since it is the origin of spectacular river course and water unusually raised from the lake. Many of the rivers are draining to the lake or ocean but Abay (Blue Nile) drain from the Lake Tana. And different wildlife like species of mammals, birds, and reptiles, special futures of the land, tree, shrub, herb and grass species, rivers, fish verities inside the park. there should be continuous promotion this will be an opportunity for tourism attraction.

Research attractions and activities: The park will not only have the above values rather it will have attractions for research and academics in the field of Forestry, Resource Economics, Zoology, Botany, Fishery and Aquatic studies, entomology, hydrology Medicine and Pharmacology etc. This park have got the power of attraction since it has got a locally identified various species of mammals, birds, and reptiles, special futures of the land, tree, shrub, herb and grass species, rivers, fish verities and still there are more to be identified and needs more research on qualifying and quantifying their values. In regard to tourism potential, the park has got great attention. The park further deserves investigation of resources, promotion and facilitation endeavors. Conservation and proper use with intensive studies

gives for sustainable guarantee for natural settings and use of the park as economic sources supporting the livelihood of thousands of residents.

7.3 Side effects of the Park to the local community

Crop-raiding by wild animals; To determine which species crop-raid most frequently and to obtain information on measures have used to control raiding. Maize, vegetables, and fruit crops (Papaya, Mango, and Zeyituna) and domestic stock (Goat, sheep, Chicken) is affected by wild animals coming from the natural forest (Baboons, Vervet monkey, wild pigs, porcupine, birds and hippo etc). Similarly, carnivores (Leopard, common jackal, caracal, python, and snakes) are also pests of domestic stock. There is production loss because of the species like porcupines, rats, and monkeys but insignificant because few in number of these species.

Loss of farmland: Due to the presence of the park and unclear land distribution of settlers, some farmers are going to lose their lands now they are holding and farming it. However, the park authorities and respective stakeholders expected to strive to compensate land loss through alternative livelihood options and employment opportunities.

7.4 Local People effect on the park



Land acquisition and expansion of farmlands*:* The population effect is directly related to the land holding system and tenure in the park adjacent and peasant association. Now the average land holding is about 1 ha per household. Nevertheless, due to the high population increase more land is demanded. The expectation of the fulfillment of the demand by the people is on expanding farmlands to the natural areas of the park. About 1905 households have had farmlands inside the park. However, most of them are illegal particularly settlers near to the river in the upper part of the park from Lake Tana to Sebatamet.

Fig.35. *A typical sign of encroachment even at the islands of natural forest around Sebatamit*

The main reason they mention why they are doing this is they settled the land distributed to them before establishment of the park. Moreover, there is no regulated control mechanism on farmer's actions on holding land inside the park, and again there is no exact census on the number of households, land holding, and the place of their farmland. These factors encourage local communities to have the desire to utilize the resources inside the park.

Expansion of Bahir Dar Town and urban investments: the fast expansion of Bahir Dar town and uncontrolled settlements; establishment of unrestricted recreational sites and infrastructure development are executed haphazardly with the expense of natural vegetation and devastation of scenic riparian and riverine beauties. Particularly, wetlands around Kebel 11, 9, and South West of Bahir Dar University main campus are highly threatened by anthropogenic pressure exerted by Bahir Dar city, which require detail investigation of mitigation measures and rehabilitation strategies. Moreover, pollution of Abay river from sewage canal which passes through Kebele 7 and at the get of Bahir Dar University, wastes from textile factory from the near distance of the upstream sources of Abay from

Lake Tana, two leather factories and Baihr Dar University sending their wastes to the natural wetlands then to the river Abay. It is hard to find efforts to minimize threats through treating even with least cost such as planting trap plants and beneficial defecting microorganisms. Furthermore, construction of roads, recreational centers, and buildings are not built considering its impact on the natural beauty and pollution of the river and wetlands in its vicinities. Besides those infrastructure and development, activities compute natural areas of wetlands, river shoreline, islands of the river, riparian woodlands even igneous rock dominated landscape, which significantly decreased time to time.

Hunting Wild Animals: Despite the fact that hunting is illegal, quite a number of households admitted that they did take place and the effect of the people is manifested on hunting wild animals inside the park. During the assessment people were asked why people are hunting and on which type of animals they are involved and who is involved in hunting. The main reason for hunting is to destroy large herbivore mammals like hippo, wild pig, porcupine, and baboons, either for protection of their crop and chasing carnivores since these animals hunt their livestock. Some animals like common dicker, bushbuck, guinea fowl, and francolin are hunted for bush meat -i.e. for food purpose in rare case.

Grazing of Livestock*:* Grazing natural pasture and feed is not a question right now on the park and adjacent villages of BDBNRMP natural areas it is prevalent since long a ago. Based on the assessment about 90% of the park's resources are accessed by domestic stock for grazing. This shows how they are a challenge to the management of the park.

7.5 Community Outlook on future development of the park

7.5.1 Outstanding issues and priorities

Above all the process of situation, stakeholder and problem analysis of the socioeconomic study of BDBNRMP, there have been issues which are considered to get top priorities. These top outstanding issues are here considered for an immediate consideration and treatment, where otherwise they are immediately treated, they might lead for more devastation and depletion of the resources, and ultimately the destruction of the park. The outstanding issues, and priorities are then displayed as follows for an immediate action

a) The issue of extensive grazing: The issue of unrestricted movement and extensive grazing in the natural forests even in the islands, which require a decision, that seeks to sustainable solution. Overgrazing coupled with devastation of vegetation through trumping is 75% threats of the park currently. Unless immediate solutions are given; they will create and provoke unnecessary competition with the local community.

b) Weak legal stabilization and implementation on resources conservation management and control: This issue is manifested in its effects observed around the park and inside the park to some extent; for example, people are observed having farm lands, settlement and unrestricted
vegetation product collection and hunting is in away resources will be depleted soon. In addition, the guidelines and principles of the park management applied now are not effective in a way the resources can be managed sustainable.



Fig. 36. *Extensive grazing and devoid of wetland water and vegetation Debremariam and Seyum Sefer (left to right)*

The legal framework and implementation is not again in away it can teach the community and punish the people committing crime on resources .There is no a concrete institutional guide line as to how to treat the external stakeholders like the expansion of Chat and uncontrolled devastation of forests and natural habitats. They have a negative effect, and over competition of resources.

The makeup and capacity of the institutional and legal framework of the BDBNRMP office is not again in a way it can control and manage the Park. So the grass root community is not promoted towards the appropriate integrated conservation and use patterns-although there are efforts. All this verify, the institutional and legal frame work are not in a position to hand over duties and responsibilities related to the park .hence the reformulation, and capacitating of the institutional and legal bodies and stakeholders will be vital

c) Weak institutional linkages and capacity of stakeholders: The legal and institutional sectors are not clear on their mandates on the management of the park. There is also weak institutional linkages and capacity at every level: Natural Resources Management Department in Bureau of Agriculture and Rural Development, Bureau of Environmental Protection Land Administration and Use Authority, Bahir Dar City Administration and Bureau of Culture Tourism and Park Development and respective Zonal, Woreda and Kebele level. Moreover, investors and potential stakeholders such as Bahir Dar University and research institutions are not in a situation to contribute expected effort. Moreover, no liaising systems and weak responsible institution can mobilize contribution of relevant stakeholders and their expert's vital role. Bahidar City Administration and respective BDBNRMP office are responsible to take actions that are responsible to execute park objectives and mobilize development resources for rehabilitation of natural resources and sustainable tourism development.

d) The issue of farmland and infrastructure: As stated in this paper there was a confusion and overlap between the residents' farm, settlement, investment and institution's land demarcation and the infrastructure on park delineation. These need to be solved; otherwise, this will give hint to the adjacent people to abuse the park territories with the name of property rights. Currently, expansion of Chat and vegetable production is aggressively diminishing the natural size of wetlands, forest patches,

and riverine dense vegetation of the park. Management of the park should balance existing land use and expected conservation targets demand that strives to sustain the resources of the park and development of sustainable tourism minimizing haphazard effects on the biodiversity and scenic beauty of the park. Infrastructure development through expansion of Bahir Dar and for sustainable tourism should consider its impact on natural setting and tourism heritages of cultural elements.

8. Management Objectives and Challenges of the park

8.1 Introduction

Although the physical appearance and functioning of the Bahir Dar city and Lake Tana and Abay (Blue Nile) river are the contemporary focus of management planning, the population, natural features, cultural and economic resources of the park are important concerns of this strategic plan. Thus, Contemporary Park planning continues to focus on physical design, biological and economic resource maintenance but also addresses the many long-range social and economic decisions that must be made in the development process of the park (Encarta, 2007).

A park has social needs and economic capital. The park management, field biologists, community development officers and potential investors will act as a development agent for many services needed by visitors, residents and businesses for example, environmental education, water management, biodiversity conservation, construction of required infrastructure, and associated accommodation and services, security, recreation centers and travel routes. The quality, character, and efficiency of these services require strategic planning to fit needs and desires of biodiversity conservation and visitors with sufficient funding, with technological change, and with objectives for sustainable natural, social and tourism development.

Strategic planning, moreover, should be concerned with park management systems on providing decent resource management minimal economic aid to residents particularly, for these who entirely dependent on park resources and cannot afford basic amenity or marginalized in getting support from development. When local community is deficient and economic resources permit it's upgrading, the park management planning process considered and surveyed settlement and economic and operational activities with conditions and coordinate funding to finance its development and rehabilitation.

The park's economic development and maintenance of biophysical resources also fall within the scope of Bahir Dar city planning. Strategic development plans make use of a mixture of incentives, technical assistance, and marketing to create jobs, establish new industry and business, help existing enterprises to flourish, rehabilitate what is salvageable, and redevelop what cannot be saved. Strategic development, however, must go beyond the enterprise and the facility to reach the workers. In a rapidly evolving technological environment with frequent global shifts in environmental rehabilitation, trained manpower apply park management skills and unskilled people need some awareness on environmental issues and ecological benefits of natural environment. Job training is a necessary part of development strategy, especially for the city's poor and unemployed citizens that are largely dependent on park resources for their livelihood.

Capital improvement program is the budgeting tool used by planners to schedule the construction and financing of public conservation and development works. Capital project such as travel road improvements, campsite and parking facilities, and purchase of land for open spaces must be sorted out and assigned priorities. A program prepared each year sets the priorities for the next year on projects

needed to implement the comprehensive plan and m the maintain infrastructure and facilitate accommodations. The strategic planning are constantly may face with tourist accommodation and service facilities that have become inadequate for future development.

In natural resources and environmental situations declining sites, biodiversity redevelopment is of prime concern. Before any rehabilitation and improvements are scheduled, the condition and viability of the activities must be assessed and strategies for remedy must be adopted. Some declining resources require vigorous public and park management development intervention; others should be left to available for potential private development.

Bahir Dar City administration is becoming ever more involved with environmental concerns. Environmental planning coordinates development to meet objectives for clean air and water; removal of toxic and other wastes; recycling of resources; energy conservation; protection of wetlands, lake side walk ways, farmlands, forests, and preservation of wildlife, natural reserves, and rivers. Historic preservation strives to keep important buildings and places as part of the permanent environment and uses them to finance the maintenance costs.

Although city planners may report to mayors, city managers, or other officials, their true clients are the people and businesses of the city. Their plans must reflect the interests and priorities of these two groups, and the programs that are implemented must, at the same time, help the city survive and maintain the quality of life that these groups desire. Political astuteness is required in order to ensure that park development programs and priorities will be properly perceived by local, state, and regional officials and will stand a chance for implementation of park resources and facilitation for visitors as one of dependable economic sector..

The public park for biophysical resources conservation and recreational sites are open to all members of the public. These parks are maintained by government personnel and financed by taxes (Encarta, 2007) projects fund, private and NGOs. Elements of infrastructure that require to be facilitated include systems of transportation access, power generation, communications, banking, education, and health.

8.2 Vision of BDBNRMP

The vision is a prediction of what the Park will look like in the future long term, as a result of effective management. It is ambitious, extending well beyond the five year span of the strategic plan of BDBNRMP, but it is not out of reach. It is based on the special qualities of the park and takes account of the objectives, program strategies, and guiding principles. Therefore, the vision for the park is;

In the coming near future, all associates and stakeholders of BDBNRMP want to see it as a park where; their interests are addressed; will stand as a premier example of reconciled natural and cultural Ethiopia and sanctuary for a diversity of important native plants, animals ,natural and cultural heritages used for sustainable tourism systems.

8.3 Park management objectives

General Objectives

- The primary management objective for BDBNRMP has been defined as: To conserve, preserve manage and enhance the natural, physical, ecological, and cultural resources and develop sustainable tourism for the benefit of present and future, generations of the local and international communities.

Specific Objectives

Management objectives in BDBNRMP are specifically defined in five broad groups, environmental (conservation), economic, community-based, access utilization and administration strategic objectives.

1. Environmental objectives:

- To preserve wildlife species and natural features in their natural state, as far as possible, the landscapes, indigenous ecosystems, and natural features of BDBNRMP.
- To maintain current biodiversity and restoring former species of wildlife at respective habitats can be available
- To assure sustainable natural habitats for respective wildlife home range
- To rehabilitate indigenous degraded flora and habitats conservation through re-vegetation or area closure at specific habitats
- To protect the natural resources from illegal use through regular inspection and monitoring
- To ensure agreed controlled use of natural resources that balances conservation and utilization demand in sustainable bases
- To develop effective water pollution protective measure, management and use for different purpose.
- To establish effective habitats and landscape monitoring and research

2. Economic objectives:

- Finding revenue streams to support park management expenses and improvement of local communities
- Improve the quality of life in the development areas by encouraging and advising communities on natural habitat conservation, tourism developments with their areas
- Develop sustainable tourism for dependable economic sector in the region generating income from entrance fee to tourist destination sites of the park

3. Outreach (community) based objectives:

- To promote opportunities for the understanding and enjoyment of the special qualities by the public
- To involve local people in habitats conservation and biophysical resources management to share tourism revenue
- To enable local people to benefit from the areas' natural resources by allowing controlled and regulated access particularly marginalized Negede Woyito and others their livelihood entirely dependent on people to enhance their lifestyles
- To educating local people on the value of BDBNRMP as a national global resource
- To encourage of public use and enjoyment of reserves and education in and a proper understanding and recognition of their purpose and significance

1. Access and tourism infrastructure:

- ◊ Instituting infrastructure, tourism development and controlled use facilities and regulation of the park
- ◊ Delineating and promoting distinct tourist destination, resting sites and associated accommodation and services with possible management
- ◊ Improving local and international visiting experiences and dissemination of information on conservation and sustainable tourism product of the park (scenic beauty, flora, fauna and cultural attractions)
- ◊ Disseminating information on BDBNRMP's natural topographic features that comprise hill and flatlands, river course, wetlands, dense forests, wildlife species of the park through suitable promotion techniques

2. Administrative objectives:

- ◊ Ensure that staffing levels, expertise and motivation with adequate qualification, budget and facilities
- ◊ Provide appropriate infrastructure and equipment for effective management area
- ◊ Improve communications at Village, District and Regional levels with relevant stakeholders
- ◊ Develop rules and regulations for effective implementation of activities targeted to address strategic objectives

8.4 Challenges and threats of the park

As a management actions background, threats on the ecological setup of BDBNRMP exhibited from two directions. First, from natural process in erosive water movement diminish or remove plant and soil resources in the islands and riverbank of Abay. The second the most devastative and deliberate mechanism is emanated from the evil think and act of human being which haphazardly destroys the sustainable and interdependence fashion of natural ecological process through water pollution, poaching, overgrazing, hunting, habitat fragmentation and expansion of settlement and farmlands. Actions are conceptualized on conserving resources; either through maintaining the natural status of biophysical resources by minimizing and stopping threats and implementing effective conservation and rehabilitation efforts. Each management strategic program strives to end up with effective conservation and sustainable tourism development.

As to establishing document (Berhanue et al, 2007) the water quality data available for the river refer to two samples analyzed in 1984 from the above and below the textile factory in Bahir Dar. It is found that ammonia and nitrate increased marginally below the factory and dissolved oxygen decreases, presumably due to the effect of a small effluent discharge from the factory.

The Abay River is used for source of drinking water for both human and animals in addition to its use for irrigation, hygiene etc. There are no as such potable water supply points in the Park except in Bahir Dar, Tiss Abay and few other rural areas. Therefore, the only water source for most of dwellers is the Abay River which is receiving different pollutions from factories, Bahir Dar city car washes, etc. The major sources of pollution that have been observed were described briefly in the following sources.

Pollution from city waste: in addition to non-point sources (e.g. damping of domestic dry wastes, agricultural pollutions, etc) seriously affect the quality of water and life of biological resources of the park.. The river gets city wastes in two ways: one, ditches bringing wastes directly in to the river (eg. the ditch near Bahir Dar University, main campus) and second ditches taking waste into Southern gulf

of Lake Tana which eventually end up to the river. There are more than six ditches taking city waste and into the Lake.

Pollution from Factories: The three factories (2 tanneries, 1 textile and 1 break production) releasing their chemical discharge directly into the river. All the three factories are placed just on the beach of the river and fenced part of the river and it is difficult to be closer really disposed off into the river. Both tanneries released their chemical wastes into both the river and sideways nearby areas. Even though we did not see the situation of the Textile factory (for we had no access road to see the part of the factory adjacent to the river. The situation is expected to be the same that of the tanneries.

Pollution from Car wash: The EBay Dar Youth Car Wash association washing vehicles on the river water itself in two places on either side of the bridge. Wastes like petrol fuel, oil, paints, and other wastes are presumed to be added directly into the river.

Pollution from agricultural and recreational activities: Many agricultural activities and recreational sites of gardens and chat, sugar cane and vegetable production established very near to the river directly release their wastes to the river. Wastes of these activities have been polluting the river and mechanism to control such release is not developed yet. The consequences are devastative and difficult to control as the time gone and as trend shows their number and size are increasing.

Low integration of stakeholders for ecosystem conservation: Ecosystem threats of BDBNRMP are factors resulted directly or indirectly from human activities that causes for wildlife, vegetation and their habitats destruction. It has a potential to impair and degrade ecosystem partially or the whole. In addition to pollution the priority threats that need call on urgent management decision identified are:



Fig.37. *Encroachment Reti riverine forest*

- ◊ **Poaching and encroachment** (illegal wildlife hunting, deforestation, collection of wild plant, animals and disturbance to habitats and vegetation)
- ◊ **Illegal landholding:** Many of the riverside of Abay in Kebele 9,11,8 and Addis Alem are accupied by illegal land holders and through time they are claiming as they are legally received.
- ◊ **Low attention for required management:** Many institutions with in the park are not properly managing and conserving the natural features or they are not executing what they are intended to do. For instance, BDU should build irrigation demonstration site and botanical garden which are suitable component for park management and rehabilitation of natural resources.

- ◊ **Overgrazing** (the excessive use of communal areas and natural forests including river islands and extended wetlands for grazing)
- ◊ **Habitat competition** (local communities experienced in unrestricted access to dense forest, wetlands and island habitats for fuel and construction wood and water in dry season and re-growing time for feed and other different human use)



Fig. 38. *Fragmentation and habitats competition of natural habitats through different human activities*

- ◊ **Fragmentation of habitats** (discontinuity similar habitats vegetation composition different natural habitats of islands and extended half river bank broken by farmlands, settlement and other land uses to the direction of adjacent uplands and montane forest patches)



- ◊ **Unviable population Size** (very low population or rarely seen wild animals due to habitats destruction, Low Number of Threatened species of higher mammals population such as Hippo and crocodiles)
- ◊ **Deforestation** (Extraction of construction and fire wood, grasses, papyrus, phoenix leaves, removal branches and barks for different purpose)

Cut down trees for charcoal making and other purposes (Berhanue., et al 2007)

Fig.39*. Falling of big trees for Charcoal and construction*

- ◊ **Seasonal river water fluctuation and change in river direction** (increase in water volume in wet season limits the access of human and livestock to dense island forest patch. Moreover, water erosion at degraded river banks with devoid of vegetation and shoreline fragile soils aggravated by changes in river direction and meandering.

- ◊ Dry season characterized by low volume of water, vegetation cover and under growth enhances over grazing and extensive use of natural areas even inaccessible sites in wet season. Upland and scrub vegetation far from river Abay are suffer from water shortage in dry season. Furthermore, the size of wetlands and cultivated areas adjacent to river Abay fluctuated in respective of water volume.
- ◊ **Expansion of farmlands, settlement, and infrastructural buildings:** Natural areas of BDBNRMP being extensively utilized and aggressively changed in to arable and settlement areas in unrestricted extent. Many of the natural areas from mouth of Lake Tana to Addis Alem and irrigated sites of riverside at Reti, Tekurit, Andasa, Sebato, Abogedam are being changed in to farmlands chat, sugar cane, maize and vegetables.

These threats have to be minimized with different actions. The strategic plan is one of the tools to serve this purpose. Strategic plan is a prime document from which these threats are minimized and specific management program and implementation directions are generated. Therefore, the strategic plan for BDBNRMP is expected to meet management requirements for conservation, scientific research, tourism and sustainable utilization involving conservation managed use. These can meet the interests of local community at the beginning through non-damaging utilization and distinct responsibility for the various community based on their interest and capability to reconcile conservation and utilization demand for biophysical resources of the park.

8.4.1 Threat Analysis

Table 6.. Ecological and conservation targets, threat, and ecological levels

No	Ecological units Conservation targets	Threats	Severity	Scope	Ranking	Ecological Level
1	**Dense forests of islands and uplnds**	Poaching and encroachment	V. High	V. high	V. High	Ecosystems
		Habitat fragmentation	V. High	V. High	V. High	
		Habitats competition	High	High	High	
		Ilegal landholding	High	High	High	
		Seasonal water fluctuation	High	Low	Low	
		Deforestation	High	V.High	V.High	
		Overgrazing	High	V. High	V. High	
		Expansion of farmlands	V,High	High	High	
2	Riverside Wetlands and grasslands	Poaching and encroachment	V. High	V. high	V. High	
		Habitat fragmentation	V. High	V. High	V. High	
		Habitats competition	High	High	High	
		Iliegal landholding	High	High	High	
		Seasonal water fluctuation	High	High	High	
		Overgrazing	V.High	V. High	V. High	
		Expansion of farmlands	V,High	High	High	
		Pollution	High	High	High	
3	Modified and mixed vegetation	Poaching and encroachment	V. High	V. high	V. High	Community
		Habitat fragmentation	V. High	V. High	V. High	
		Habitats competition	V.High	V.High	V.High	
		Deforestation	V.High	V.High	V.High	
		Overgrazing	V.High	V. High	V. High	
		Expansion of farmlands	V,High	High	High	
		Pollution	High	High	High	
4	Grasslands with igneous rock	Poaching and encroachment	V. High	V. high	V. High	
		Seasonal water fluctuation	High	Low	Low	
		Deforestation	High	V.High	V.High	
		Overgrazing	V.High	V. High	V. High	

No	Ecological units Conservation targets	Threats	Severity	Scope	Ranking	Ecological Level
5	Wooded with igneous rock	Poaching and encroachment	V. High	V. high	V. High	
		Seasonal water fluctuation	High	Low	Low	
		Deforestation	V.High	V.High	V.High	
		Overgrazing	V.High	V. High	V. High	
		Expansion of farmlands	High	High	High	
6	River and fragmented water ways and falls	Poaching and encroachment	V. High	V. high	V. High	
		Habitat fragmentation	V. High	V. High	V. High	
		Habitats competition	High	High	High	
		Seasonal water fluctuation	High	High	High	
		Pollution	High	High	High	
7	Papyrus and associated Grasses	Poaching and encroachment	V. High	V. high	V. High	Species
		Habitat fragmentation	V. High	V. High	V. High	
		Habitats competition	V. High	V.High	V.High	
		Overgrazing	High	V. High	V. High	
		Seasonal water fluctuation	High	High	High	
8	Hippopotamus	Poaching and encroachment	V. High	V. high	V. High	
		Habitat fragmentation	V. High	V. High	V. High	
		Habitats competition	High	High	High	
		Seasonal water fluctuation	High	High	High	
		Overgrazing	High	V. High	V. High	
		Expansion of farmlands	V,High	High	High	
		Unviable population	V.High	V.High	V.High	
9	Birds	Habitat fragmentation	High	High	High	
		Habitats competition	High	High	High	
		Seasonal water fluctuation	High	Low	Low	
		Expansion of farmlands	,High	High	High	
9	Fish	Poaching and encroachment	V. High	V. high	V. High	
		Seasonal water fluctuation	High	High	High	
		Unviable population	High	V.High	V.High	

Key

Threat level (Over all)	**Very high**	**High**	**Medium**	**Low**
Severity (level of damage)	Destroy or illuminate ecological component	Seriously degrade ecological components	Moderately Degrade Ecological Components	Slightly Impair Ecological Components
Scope (Spatial Extent)	Very widespread or prevalence on 75% of the park	Widespread on 50-75% of the park	Localized in distinct and limited spot	Very localized

Table 7. Spatial distribution of threats and costs, options, solutions and opportunities

No	Threats	Dominantly affected (ecosystem components)	Spatial coverage (Threat Zone)	Costs to rehabilitate	Solution/Controlling mechanisms	Opportunity	Trends (Threat status)
1	Poaching and encroachment	All components but relatively low effect on birds	All areas of the park	V. high	Minimizing human intervention **and illegal activities**	Existences of rehabilitation and awareness mechanism and legal bases	Increasing
2	Over grazing	All components but law in dense forest of islands in	All areas of the park	V.High	Prohibiting unrestricted cattle entrance	Available feed source from agricultural fields .	Increasing

		wet season				Restrict free grazing	
3	Habitats competition	All but law on igneous rock and water course	All	High	Delineation of habitats for better use	Use habitats for first ranked with genuine decision	Increasing
4	Fragmentation of habitats	All but law on igneous rock and water course	Upland, Grassland and wetland	V. high	Keep natural state Reduce other form of land use in and around natural areas	Possibility of to minimize natural continuity loss and over population	Increasing
5	Unviable population size	Hippo, Bird, Fish and Wild fruit trees	Dense forest and grasslands	V.High	Rehabilitate natural breeding sites and minimize human and domestic stock intervention	Availability of Rehabilitation of habitats and reproduction sites	Increasing
6	Deforestation	All habitats and associated spp	All area	V. High	Rehabilitate on and a forestation with various means	Attention on re-vegetation and area closure	Increasing
7	Seasonal water fluctuation	All	River shore line and fragmented water ways in the islands	High	Maintain natural state of river shoreline and river side vegetation	Maintain dense forest and flow of water	Increased
8	Expansion of farmlands	All	All areas except igneous rock areas	V.High	Increase productive and use input sustainable with indigenous species	Possibility to determine land uses	Increasing
9	Polution	River and wetlands	Near bahir Dar and Near by Agricultural lands	High	Management and construction of sites for waste disposal	Alternative sites for waste disposal and treatment	Increasing

8.5 Park Management Council

Park Management taskforce: In addition to the park office, the regional government will formulate the task force both at the Regional, Woreda and Kebele level. These task forces believed to assist an organized park management and sharing responsibilities providing timely decision on issues that require at high level. Theses task forces are expected to accomplish respective activities delineated to perform in evaluation, facilitation, and rewarding activities of the park. These task forces include Park Management board, Woreda, and Kebele park management council.

Park management board

This task force includes:

- The regional council administration office -- Chairman
- The Bahir Dar Town administration –Vice Chairman
- The BDBNRMP office --Secretary
- Regional EPLAUA bureau -- Member
- Bureau of Culture and Tourism ---Member
- Bahir Dar Zuria Woreda Agriculture and Rural Development –Member
- Bahir Dar Administration Investment office ----Member
- Bahir Dar University--Member

The board organized from the regional bureau offices to lead overall activities, decisions, enforcing laws and regulations of the park. The dueties and responsibilities of the park Board are:

- Arrang regular meeting of the member institutions and discuss and approve on plans, reports and find solutions for any problems that maight be reported.

- Seek additional financial and material supports from different sources to strengthen the managing institution, and execution of planned activities,
- Make regular monitoring and evaluation programs on every activity carried out within the park and in the buffer zone,
- Makes decisions on the types of investment and development activites to be carried out in the riverside park,

The Woreda park management task force includes

- Woreda Administration
- Office of Agriculture and rural development
- Women and youth Affairs Office
- Justice, and Administration
- Police
- Militia Office
- Information Office
- Supreme court

The Kebele park management task force includes

- 2 Development agents
- Kebele administration
- Women and youth Affairs representative
- Justice, and Administration
- Elderly representative
- Religious leader
- School clubs

The primary task of these taskforce is to directly involve on planning, and implementation of the park and taking any actions related to their respective responsibility.

9. The strategic planning frameworks and approach

This BDBNMP strategic plan is the most participatory type, which involves all the relevant stakeholders and participatory planning methodologies. The process starts on the previous multidisciplinary team assessments, where the steps like deciding to plan; organizing the pre-field work; assessing all necessary information; had been undertaken. In the second round, deciding the big picture and details of the park program were formulated. In the third round of the planning process the tasks of both organizing and assessment were revised and hence necessary information were delineated, improved and reformulated, this help to formulate the objectives, and to set details like the strategic program goals, objectives and strategic actions. The planning framework and process were arranged in phases as follows

Stages and arrangements of BDBNRMP strategic plan preparation

PHASE 1: Review of existing park, human and financial resources
PHASE 2: Team building and understanding the assessment
PHASE 3: Data and information collection
PHASE 4: Field data analysis and reviews
PHASE 5: Developing strategic plan frameworks
PHASE 6: Reviewing field works for strategic plan input

PHASE 7: Drafting the strategic plan
PHASE 8: Submission and reviewing the whole work

The BDBNMP strategic plan is broken dawn in to programs related in to Biophysical, ecological Natural, Cultural, and socioeconomic type. The team was broken dawn based on these components. In total, this strategic plan was believed to be undertaken by group of experts who are with different profession and technical abilities.

The assessment team and required experts with specialization and acknowledged professions were:

- Economist
- Community development expert
- Land use and planning expert
- Urban plan engineer
- Ecologist and Natural resource
- Ornithologist/Zoologist
- Forester/Agroforestor/ expert
- Water Resources specialist
- GIS specialist
- Tourism management specialist
- Culture and heritage management specialist

In addition, other external advisors have given their valuable inputs in this strategic plan involved. However, Urban plan engineer, Forester/Agroforestor/ expert, Water Resources specialist, Economist,(Investment opportunities) and Cultural and heritage management expert were not participated. Experts with similar area and the organizer (consultant) accomplished works of non-existing expert's activities and development strategies. But the works were not exhaustively accomplished and these gaps can be fulfilled during general park management pan development in the near future.

9.1. Stakeholders analysis of the park

Stakeholder analysis (SA) defined as a methodology for gaining an understanding of a system, and for assessing the impact of changes to that system, by the means of identifying the key stakeholders and assessing their respective interests. The key stakeholders in BDBNRMP are those subsistence farmers and other small-scale resource users and rural and urban development institutions and potential investors in Bahir Dar town. the adjacent peasant associations, but stakeholders may equally include development practitioners, policy makers, planners and administrators in government, commercial bodies or non-governmental organizations (NGOs). The most fundamental division between stakeholders is more likely between those who affect (determine) a decision or action and those who are affected (whether positively or negatively).

"Stakeholder" refers to a person, group, or institution that has an interest in a particular activity, project, or program. Primary stakeholders are those who ultimately affected by the activity or project and secondary stakeholders are those with some intermediary role in it. Key stakeholders are those who can significantly influence an outcome

Stakeholder analyses are used to:

• Identify key stakeholders
• Identify areas of conflicting interests

• Draw out key risks and assumptions
• Identify possible areas of intervention

This introduction of SA helps to undertake the stakeholder analysis of BDBNRMP, as stated shown bellow.

9.1.1 Main (key) stakeholders and their interests in BDBNRMP

The case of this park involves a large number of stakeholders at national, local and community levels with in some cases conflicting interests. The sustainability of the proposed park depends on the participation and acceptance of the local community. Awareness of the local community so as to develop knowledge on the proposed park area and development interventions that would be carried out is the primary and basic activities to be done. Consecutive dialogue at Gott and kebele level and at churches could help to reach consensus with community. The property owners whose properties are included in the demarcated area, Gott leaders (elders), Kebele administrators should participate and discuss on the properties and houses included and on their participation detail property inventory. Moreover, the community should discuss on the benefit that these property owners could get. The assessment of compensation should consider the communities custom and culture to protect the benefit and security of farmers.

There should be a mechanism that allow the community to participate in all phase of the parks. Hence, community may get benefit from direct employment in the interventions/opportunities created due to the presence of the park and sales of goods and services. The community should also get access on infrastructure, communications, safe water supplies, better health, and education. Even though many of the farm community in the demarcated area are aware of the benefit they could get from the proposed park interventions/opportunities created many people still expressed their fear in that the government may expropriate their land and property without reasonable compensation.

The interest of farmers and their families need to be the central point to the establishment of the park. Farmers themselves must realize the need to establish the park and act on their priority. Therefore, government interest must reconcile to the farmers /communities' interest.

All of the interviewed people of the community are unhappy on the current degradation of the area and if the government assists them by putting in place effective mechanisms, they wanted to rehabilitate and develop the forest to its original condition. In addition, the interviewed people were happy on the establishment of the park as it contributes to the protection of wild fauna and flora and the environment as a whole.

9.1.2 Stakeholders at national level

9.1.2.1 BDB.NMP office Institutional elements and organizational structure

Effective tourism management requires the efforts of all parties involved which public and private sectors, non-governmental organizations (NGOs) and tourists themselves. Therefore establishing organizational structure to coordinate these various efforts is essential. The park office is responsible for the direct management and administration of the wildlife, other natural resources and tourism development activities within the park area. The organizational structure of the park office is flat structure. The park head is answerable to the Bahir Dar City Administration and "the board" (the

advisory board lead by the Mayor) which coordinates and steers the duties of the park office in. which the park head serve as a secretary of the advisory board

In general the organizational arrangement is quite proper to facilitate the linkage and coordination of the park activities with other development sectors around the park area. The park office has no an administration and finance service which deals with mainly the administration, finance and logistics matters, rather receives such activities from the City Administration There are a number of technical experts working under the direct supervision of the park head.

The staff: Currently, the park office has a total of **11** staff members out of which **6** are professionals (first & second degree holders), **2** are middle level technical staff (diploma holders or equivalent), and **3 l**ower level employees and **30** scouts serve at the field level. The others are a driver, a cleaner and the secretary who serve as a secretary, material treasury and recorder. However, the existing staff number and technical composition is not sufficient enough to carry out the enormous task of the park. The staff members are also less qualified in managing the complex nature of the protected area situation in the park area.

The park administration has to recruit additional **10** staff members out of which **1** should be a promotion expert to perform the promotional activities (especially in the fields of language, journalism or history) in addition to the eco-tourism expert and others should be scouts to cover or properly patrol the entire area of the park. Major activities of the park office are:

◊ Identify major stakeholders and residents within the park
◊ Describe legal and illegal activities within the park
◊ Prepare proper management and conservation of resources in different parts of the park

- Based on the strategic plan prepares other plans (Management, operational and annual plans) for protection, development and sustainable use of the park and executes the same up on approval by the Board,
- Assign responsible personnel for the protection, development and sustainable use of the park
- Prepares reports timely and submit to the Board,
- Solicit fund from different sources and allocate for the execution of protection and development plans,
- Identify investment opportunities and delineate sites within and around the park for different development interventions.
- Identify problems by making simple study and report to the board timely,
- Monitor and evaluate all activities within the park and the buffer zone and make correction measures on those interventions which are not in line with the objectives of the park,
- Prepare different project proposals to reduce or eliminate the negative impacts of already existing factories or activities,
- Execute other similar activities which are given by the board,

The high pressure of land use other than park objective such as deforestation, grazing, settlement and cultivation are courses/driving forces to

1. The difficulty to cross the river at any get points except in selected crossing sites
2. The natural resources that require special protection and control are found in different sites of the park (forest patches, islands and other natural resources)

3. Tourism is a people-oriented business and depends on quality service from well-established institutions and trained managers as well as employees.
4. Population pressure and concentration that require extensive awareness on the use of the park and conservation of resources for sustainable tourism
5. Construction and facilitation of infrastructure requires qualified workforce and facilities including budget
6. Mobilization of stakeholders and reconciling their interest and park objective requires high kevel decision
7. The park objectives which are established from existing resource and anthropological interventions strives to satisfy multitude interests of stakeholders investment, development, subsistence and collection systems of intervention coupled with factories, higher institutions, resident buildings, recreational sites and infrastructure

All those reasons require the involvement of regional council, Bureaus and Bahir Dar city administration high level decision makers and directions to attain park's principal objectives and priority activities discussed in this strategic plan coupled with close attention to monitoring and evaluation on required time. Hence, BDBNRMP office institutional arrangement and manpower are shown below.

Organizational Structure of BDBNRMP

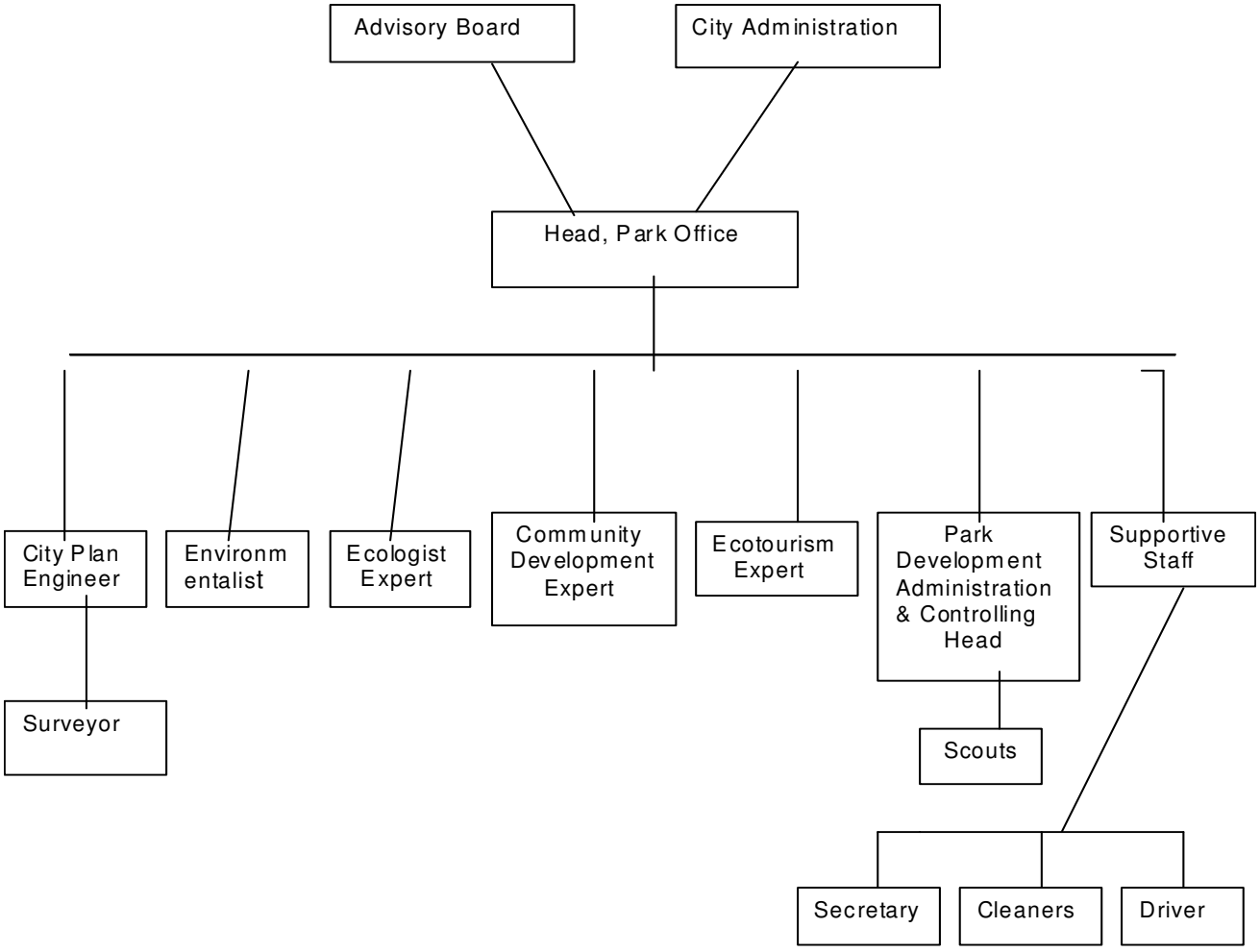


Fig 40. Institutional structures

Others main stakeholders at national level include:

a) **Federal Ministry Culture, Tourism, and palace administration:** The ministry develops national policies and regulations in which the regional respective institutions and the park management strategies based. These may used as a guide for BDBNRMP that magnifies international value of heritages of park resources such as Blue Nile fall and Bezawit palace impressive heritages of the park will be visited in the future. The federal palace administration should make Bezawit palace and its vicinities for a source of income with possible security arrangement.

b) ***Universities:*** Universities like Bahir Dar, Gondar and Addis Ababa or others institutions need the park since it has got a substantial potential for research and academics in natural and anthropogenic settings. More likely Bahir Dar university is a part of it and may used the park as botanical garden and ecological research center. It may be used as a live laboratory for biological and ecological research. It also used as a real and natural open-air museum for sustainable tourism for biodiversity and scenic beauty research.

9.1.3 Stakeholders at regional level

a) **Regional Bureau of Culture Tourism and park Development:** The bureau need and want to use the Park to demonstrate and make the park effective and economical conservation of natural and cultural heritages through provision of management strategies and implementation modalities and effective monitoring and evaluation of the activities of the park that could be applied to the park. Moreover, provides effective systems of management and utilization of Tis Isat (Abay) fall and Bezawit Palace negotiating with respective federal and regional institution.

b) ***The Regional Government:*** The Regional Government is the overall responsible body for the development and prosperity of the people of the region. In this case then it is interested to see an integrated effectiveness of the park, in a way it can promote an overall and enhanced development. In addition, the institutional and legal implementations are other points of interest. The regional government administration office gives over all directions for all stakeholders to implement respective proposed activities.

c) **Bahir Dar City Administration**: The sustainability of resources conservation and implementation of effective tourism, now we can say it is entirely dependent on the positive wish and practical efforts of Bahir Dar city administration since it has a power and mandated to manage and many of the challenges are directly related with the activities of city administration. The municipality wants the BDBNRMP to be effective in a way it can contribute towards the development of the region through conservation of resources and tourist attraction. It controls over all administrative and management system of the park and provision of budget, manpower development, social security and infrastructure capacity building for park office through direct administration. It also reduces or control inimical activities that hamper development of the park.

d) **Bureau of Agriculture and Rural Development**: This bureau is a regional government's body responsible for the overall rural development affairs of the people of the region. In this case, the bureau has got an interest of proper management of the park in a way it can satisfy proper environmental management, suitable agricultural production systems, and rehabilitation demand of

the biophysical resources of the park. It can also mobilize surrounding agrarian community that can strive for effective contribution to sustainable environmental management.

e) **Environment and Land uses Authority**: This governmental body is interested again in the effectiveness of the park, in a way it can conserve the environment and, handle an environmentally, friendly and sustainable approach. It can monitor and evaluate environmental conservation sustainability and investments that address effective environmental development. It also provides decision on land administration and use conflicts through land use policy and ownership status.

f) **Bureau of Mines and Water Resources Development (BoMWRD):** The river Abay and other tributaries have been used for irrigation and drinking both for human and animal. Moreover, it serves for factory and sanitation. These activities should be regulated and developed in sustainable way. Therefore, the Bureau is important stakeholder in monitoring the water level, utilization rate, pollution load, and other parameters of the river and tributaries within the park management and water development through effective utilization.

g) **Amhara People Memorial Monument Office:** It is situated at proper place and distance from the river bank. It has recreational sites and natural river bank which can serve as campsite for tourists with sufficient security. It also comprises cultural and historical heritages. However, its conservation effort should extend to wetland in between Bezawit and main bridge Bahir Dar to Gonder.

h) **Others**: All others like Bureau of Education, Energy authority; Food Security and Disaster Preparedness Bureau, Justice, police, and others that have their own interest on the Park based on the mandates given by the Regional government.

9.1.4 At local level (Woreda and Kebele)

a) Governmental development sectors*:* The governmental development intervention system of the Amhara Region starts at a regional level, and decentralized to Woreda or district levels, and it ends at kebele levels. Hence, starting from Woreda to kebele, the government agencies expected in implementing, monitoring, and facilitating the government's policies, strategies, programs, and activities. Hence, it is possible to say all relevant stakeholders of this Park are interested to benefit from the effectiveness of the park, in a way they can learn more, and extract knowledge of better implementation of activities and management of resources. In addition, they are interested in the local community's development questions answered in an integrated manner.

c) The local community*:* The population of villages in and around the park especially those living in and adjacent peasant association in general have a major stake in the park outputs. The main responsible in protecting and sustain resources of the park. In addition, the park is going to be applied for the people and with the people; hence it is possible to say the community is the owner of the park interventions. Moreover, the community is much more interested in the fast and reliable implementation of the park plans in a way it can help them secures their livelihoods.

d) **Ethiopian Light and Electric Power Authority Tis Abay Electric Power Station:** The development of tourism in most parts of the world is tied with advancement of modern technologies such as electric power. The interventions that are proposed to be implemented in the park require source of power beginning from the time of its establishment. The only organization

that could be involved in such need is Ethiopian Light and Electric Power Authority. Hence, Tis Abay electric power station can help to provide assistance in power provision for proposed post and campsites at required level.

In addition, the amount of water in the river that flows to attraction sites is manly controlled by this organization. The Tis Abay fall with its spectacular view is one of the most tourist-attraction sites in the country. Its existence is determined by the amount of water that flows into the fall is regulated by this stakeholder. Therefore, its involvement in the development of the park is essential.

9.1.5 NGOs and International Organizations

These groups of stakeholders are again interested in the proper application of the park in the locality since most the park objectives principles are relevant to the missions and visions of these organizations, conserving resources, protecting the environment and supporting the population of the local people. Around BDBNRMP, NGO like Amhara Development Association (ADA) Nile Basin Initiative (NIB), Amahara Credit and Saving Enterprise (ACSE), and Organization of Rehabilitation Development of Amhara (ORDA).

International Organizations: The Park should get an attraction of international organizations like IUCN, UNESCO and UN organizations, Conservation societies, since it is one of the hope for East Africa conservation around up stream sources of Nile river and spectacular and the famous fall of Blue Nile.

9.1.6 Legal requirements

The proposed riverside park will not generate the expected benefits unless its environment is protected and managed properly. The water, the vegetation, geographical features and the biological resources in general requires protection, sustainable use and development. It is believed that policies such as wildlife, land use, forestry and other policies are lacking or rather are not full-fledged to act accordingly, and to manage the remnant natural resources of the country property and sustainable[1]. However, there are still laws intended for protection and management of resources at both Federal and Regional level. Such laws are on Wildlife Conservation and Development, Forestry Development and Conservation, Fisheries Development and Utilization, Environmental Pollution Control and Environmental impact assessment, and Proclamation on the establishment of EPLAUA, PaDPA, City Administrations, etc.

Various development interventions that would not be allowed in the conventional park definition may not be addressed in this type of park management and administration. However, in terms of conservation, the conventional and new park that is going to be established entertain similar objectives, hence, it is possible to adopt partially the laws and regulations of the conventional park to the newly established park. Thus this type of new park development needs its own rules and regulations to full fill the gaps created due to allowing development interventions in addition to the conservation laws and rules. The establishment of the park requires legal document which presumably is regulation enacted by the regional council.

The enacted riverside establishment law indicates the exact location of the boundary of the park with no its buffer zone and includes where not boundary signposts are located. The legal system should also indicate, among others, the duties, and responsibility of the managing bodies such as the BDBNRMP board and other stakeholders.

9.2. Strategic recommendations and the way forward

The preliminary analyses presented suggest several necessary strategic recommendations that could be addressed are discussed bellow.

a) Strategy for investigation of conservation, problems and generating respective solutions

- Identification and grouping of biophysical resources that are conservation dependant
- Re-demarcation of the park boundaries negotiating park authorities with ocal community and involving other stakeholders
- Described the issues of specific resources conservation status and management demand
- Identify and discuss constraints and cope up strategies for particular species and habitats
- Magnify ecological issues and sustainability in its natural feature role
- Balance natural feature and sustainable use so as to transfer resources of the park for incoming inhabitants
- Monitoring and evaluation of resources and activities of the park to insure effective management of the park
- Research and assessment resources, cultural and management and associated problems and cope up strategies and implementation techniques
- Identify effective conservation measures of biophysical resources for sustainable bases
- Develop mitigation measures for devastative activities of deforestation, settlement, expansion of farmlands to natural areas and improper harvesting and collection
- Develop options that helps to reduce pollution generated from city and factory wastes and extent of devastation to natural areas

b) Local community development strategies

The strategy for establishing support for the community

- Continue to support income-generating activities in a way it can help the community have economic capabilities
- Regulate seasonal exploitation of the natural habitats balancing use and conservation demand
- Improve access to micro-credit on the basis of social capital
- Provide support to the Marginalized Negede Woyito people traditions
- Increase farm incomes through improved agricultural production based on efficient, more equitable and sustainable use and management of water and land resources.

The strategy for socioeconomic development factors of the park

- Enhance quality education to build a generation which contributes for the appropriate development and enhancement of the park
- Facilitate sustainability based resources use and management of park natural and cultural resources
- Aware the community on the issues of the effects of population pressure on resources,

b) The strategy for establishing institutional and legal framework

- Implementing the strategy of institutional strengthening at the regional, Bahir Dar city, and village levels;
- Improve and modernize the legal and technical framework for managing, developing and protecting park resources to meet the needs of current and future generations
- review relevant existing legislative provisions to remove potential duplications and omissions, and enable effective implementation of the transitional and final institutional frameworks;
- publicize new legislation and regulations based on the review of the previous to provide for enhanced Park management , including clearly defining the roles, responsibilities and powers of sub-sector institutions and organizations;
- Raise awareness amongst stakeholders of the need for integrated, multi-sectoral planning.
- Raise awareness on the best use and conservation of the park resources; and apply economic and administrative instruments.
- Improving coordination and participation of stakeholders in the planning, implementation, and management of the park management schemes
- Expanding , encouraging , assisting , and capacitating community organizations like Park conservation taskforce, and land administration committee

c) The strategy for capacity building of human resources and stakeholders

- identify sector needs at all levels in terms of staffing and skills requirements;
- identify special interests, training and capacity building needs of the different groups in the management of the park
- implement a human resources development plan for building staff capacities in park management at all levels;
- Develop the capacity of the park officers and park scouts and field biologists

d) The strategy to stop the overgrazing and unrestricted movement of livestock

- Make clear discussions with the Neighboring Bahir Dar city, rural town and kebele authorities about their effects , and the way they can be aware the objectives of the park
- Enhance an integrated park boundary security system
- Make all local community that their movement is illegal and everyone needs to be responsible for giving information
- The strategy to enhance facilities in the park office and destination sites, proposed outposts and accommodations
- Develop systems for improved grazing strategies that can support the livelihood of livestock production

e) Facilitate infrastructure and service centers and promotion systems for sustainable tourism development

- Enhance the park access roads, and water points and holly water
- Delineate required accommodation and services rendered at different destination
- Establish suitable trekking routs and mode of transport systems
- Improve suitable water transport facilities that suites either crossing and up and down movement on Abay river and associated adventure travel for visitors
- Indicant areas suitable for water transport and natural areas and wildlife could be visited
- ETV and radio promotion about the Park
- Office build up for the Park, guest house, trekking routes, lunch stop and parking
- Identify specific sites to built different infrastructures (lodges, recreational sites viewpoints, roads and trekking and lunch stop sites)

The way forward:

What to be done next?

For BDBNRMP to move forward the above strategic actions.

- Undertake the immediate revision of the study documents of previous studies and screen out the very immediate concerns of the park and start some interventions which are highly needed right now.
- Develop sustainable management plan and look for means of implementation like financial, human, and related resources.

- To execute all activities discussed in the above implementation strategies lead by respective management programs and technical human resource developed with respective goal, principal objectives, and activities.

- Implementation modalities and indicators for the response of monitoring and evaluation are also developed so as improve the park in effective conservation, management, and sustainable utilization through tourism industry.

10. Strategic plan development

The focus of this Strategic plan for BDBNRMP is to make the park stay within its natural face and associated resources and a more competitive tourist destination site. Tourism destinations compete on a range of factors not just price. The factors, which determine the natural and cultural settings and competitiveness of a tourist destination, can be grouped under the following headings:

10.1 Conservation and tourism Product management

- **The product:** natural resource base, vegetation, wild animals, and scenic beauty as primary attractions and cultural and religious ceremonies associated cultural and recreational values
- **The tourism facilities and services**: accommodation, internal transport, amenities, and services
- **Standard of service**; supply of labor, skills, knowledge, and facilities for resource conservation
- **Access transport** accessibility to natural areas of the park, attraction sites and travel routes
- **Minimum or reasonable cost**: relative prices of tourism products and services - value-for - money

10.2 Infrastructure

- **Supporting infrastructure:** roads, utilities, telecommunications, transport, water and power supply

- **Enabling Environment:** Existing policies and institutions: ANRS environmental protection policy, tourism strategy**,** BDBNRMP establishment proclamation, natural resources regulations; Culture Tourism and Parks Development Bureau and related organizations and physical planning laws, etc.

The regional government of Amhara National Regional State in "REGULATION No 59/2008'' legally establishes BDBNRMP and Bahir Dar city administration.

- **Business environment:** ranging from provision of services and selling of cultural artifacts and investment on ecotourism and tour operation and taxation.

10.3 The strategic objectives

The strategic plan has been developed aiming to address the following priority objectives

- Inventory of flora, fauna and current tourism facilities and infrastructure in the areas
- Identification of vision and opportunities for sustainable natural resources conservation and recreational areas. (eco-tourism; recreational entertainment; active cultural ceremonies and old aged religious holidays)
- Assessment of tourism products and market resources as potential resources for tourism development for local, national, and international significant level.
- Design systems and strategies for possibility in making BDBNRMP as one of the best tourist destination
- Identification of BDBNRMP tourism strategy implementation and evaluation systems
- Description of framework for enhancing conservation and tourism recreation activities (promotion, socio-economic benefits of stakeholders' involvement.

10.4 Strategic Assumptions

BDBNRMP is exceptionally well endowed with the type of natural resources that provide the raw material from which tourism attractions and products are fashioned. Strong tourism attract management regulations on their own will not necessarily guarantee a successful tourist industry. Many other factors must be in place for tourism to operate. The main strategic issues that must be addressed for BDBNRMP tourism to realize its full potential,

(a) The strategic task is to develop BDBNRMP as destination by building up natural and cultural product elements, in particular river course and side travel route and natural, scenic landscape, culture/ historical attractions. This is being facilitated with the increase in direct travel boat and trekking routes from Lake Tana to Blue Nile fall.

(b) In those areas where access is already feasible, or will be in the near future, the constraining factor is frequently the absence of a local network of roads to meet tourist needs. In such cases, appropriate investment is essential.

(c) The corner stone of region's tourism is the quality of the environment, which underpins almost every product. If this environmental quality is lost, or degraded beyond a certain point, then park tourism will have severe problems.

(d) For tourism to operate successfully it is essential that there are service centers where tourists can find restaurants, take taxis to go sightseeing, make shopping trips and so on. In doing so they spend money from which the local community benefits. Such centers are limited in the park and their absence must be addressed through provision for the forecast increase in the number of tourists through building new accommodation units.

(f) The role of the public sector is to regulate and control tourism and create an economic environment that will encourage private sector investment. Crucial to that environment is a feeling on the part of the private sector that their investment will be secure and that the Government will support entrepreneurship.

(g) The competitiveness of the park tourism product is affected by the fact that it does not always offer value-for-money. This is partly an issue of price and partly and issue of quality. The plethora of taxes undoubtedly places an upward pressure on prices. The more important consideration is, however, quality. It is incumbent on a host region to ensure that standards relate to those of the target market that it seeks to attract.

(h) In addition to improving physical standards, the standards of service must be brought up to international expectations. This means a considerable investment in training and the provision of adequate training facilities.

(i) It is unrealistic to expect either the park authorities or field experts and the community to carry out their statutory functions without the necessary resources. In this context, it is clear that the budgets allocated to these agencies must be substantially increased to enable them to implement their respective roles effectively.

(j) With an increasing concern about Global warming attacks, combating has become a priority issue and must be tackled on an on-going basis and not in response to events but for sustainability of biophysical resources for health of the people..

10.5 Strategy Components

To improve park's competitiveness in the biophysical resources conservation and tourism marketplace, the following strategy\components must be put in place:

- Knowledge **and 'know-how' strategy** – improving range and quality of information on customers, distribution channels, suppliers, etc.
- **Conservation and rehabilitation** –maintaining and re-vegetation of biological resources
- **Investment strategy** – attracting direct foreign and local investment in ecotourism
- **Product strategy** – expanding and improving the tourism product
- **Infrastructure strategy** – improving roads, utilities, etc.
- **Human resource development** – improving skills and service standards
- **Capacity building strategy** – strengthening tourism institutions security awareness strategy

11. The Strategic Plan Management Programs

11.1 Introduction

BDBNRMP was established in 2007 and have no strategic management plan yet. Hence, it is quite indispensible it should have strategic document that could direct and strategic activities for effective biodiversity and environmental conservation and sustainable tourism facilities. The backgrounds for this management plan are the vision and objectives designed for the Park.

The strategic direction to conserve biophysical resources of the park strives to make BDBNRMP an area of model for sustainable environmental conservation, tourism, and scientific research. Hence, biodiversity conservation and sustainable utilization is a prime goal of BDBNRMP management strategy. As to MoFED, (2006) biodiversity is a source of essential inputs for agricultural development, and provides a multitude of choices and means for dealing with natural and man-made environmental disturbances. It is a security for improved livelihood and a foundation for our agricultural development strategy.

BDBNRMP strategic effort will strive to develop the significant economic value of wildlife, among others, thus, much more emphasis will be given to develop wildlife and scenic area based sustainable tourism and promoting proper utilization schemes. This will be achieved through properly protecting and developing the BDBNRMP's wildlife and scenic resources. Efforts will be made to rehabilitate 12 forest patches and 6 islands existing within the park coupled with suitable and complementary farming system in settlement and agricultural lands within and outside the park with minimum effect on the natural forests and different habitats. During the plan period, management plans will be prepared for the park. In order to enhance wildlife-based tourism, infrastructure will be developed. Better wildlife protection, development, and proper habitats utilization will be achieved through promotion of conservation education and awareness creation for people.

The strategic programs have been designed to guide BDBNRMP achieve its 2015 vision of a successful and sustainable biodiversity, scenic beauty and tourism industry that will benefit all stakeholders. Specifically, it has been developed to address stakeholder concerns as well as deal with the ongoing and ever changing challenges facing Ethiopian biodiversity and environmental conservation and tourism industry.

To that end, the BDBNRMP strategic programs solicit input from stakeholders to provide feedback on goals and objectives that would help the park management authorities achieve the vision of park's biodiversity and environmental and tourism industry in the year 2014. Importantly, issues relating to the attributes, which make Ethiopia unique and special the native Ethiopian culture and the state's natural resources, were brought up frequently. In addition to the feedback, a careful analysis of the changes in global events and local conditions elevated the need for increased emphasis on concerns related to safety and security and improving access to Ethiopia. The result of the community input and analysis of tourism information is the identification of five development programs that make the strategic framework of this plan.

For each development program the *strategic plan* provides a brief background, identifies the key issues, and specifies the objectives and an overall goal that will help to contribute to the larger vision of a successful BDBNRMP biodiversity conservation and tourism in 2014. Integrity for BDBNRMP and Bahir Dar city development plan assets, respect for stakeholders' needs and desires, and responsibility for the industry and the region have shaped the strategies of this plan.

The implementation of the strategic plan programs objectives and actions will support of BDBNRMP's communities, all levels, and branches of government, and the private sectors. Islands will remain a great place to live, clean water and satisfying place to maintain biodiversity, scenic beauty, conservation, tourism development activities work and one of the most exciting, premier visitor destinations in the region.

11.2 The planning process and approach

11.2.1 Strategic directions & guiding principles for managing the BDBNRMP

The program based management strategic directions are the guiding principles that the park authorities should have to follow proper conservation and suitable use of the natural, social, economic, and cultural resources of the park. They have been prepared in terms of the establishment act No 38/2007 and other strategies listed in this plan. Moreover, the preparation is based within the context of the strategic activities that will be implemented by park authorities through development program based approach The content of this guiding principles show some of the programs are promoting sustainable development and some others discouraging or prohibiting undesired park resource use. They have been designed in this way for a matter of conservation and sustainability of the natural and cultural resources of the park with suitable controlled utilization. Overall, these Key Principles what the BDBNRMP management strategy call developed to provide a set of guiding ideals to which all relevant partners and stakeholders can accept.

These principles displayed below are not comprehensive rather they are startups and needs further inclusion as necessary during implementation and development of detail management plan.

11.2.1.1 Strategic management principles for natural resources conservation and tourism development in BDBNRMP

◊ Natural processes, including competition, predation, recruitment, and disturbance, shall be protected to ensure an overall benefit to the biodiversity and variety of ecological communities in BDBNMP.

◊ Identification of challenges and threats to the park shall be minimized through addressing the outcomes of ongoing monitoring, risk assessment and, where feasible, complementary tourism management.

◊ Compliance with legislated and provisions that prohibit extractive activities, including deforestation, over grazing, expansion of farmlands and devastative harvesting and removal of vegetation beyond permitted and controlled activities. This will be ensured through education, information, interpretation, community support, and improved surveillance and law enforcement.

◊ Impacts of changes in to diminishing return on vegetation, wildlife, and scenic beauty and water resources shall be minimized through cooperation with catchments managers and natural resource specialists and other relevant agencies.

◊ Research and monitoring to improve the scientific basis for management, including base line data collection habitat mapping and threat a and possible solutions assessment, shall be undertaken

◊ Identification of tourism products and attraction categories with associated infrastructures, accommodation facilities, and services with respective facilitators and service providers promoted and suitable investment opportunities insures sustainable conservation and tourism development for effective economic source.

◊ Call for potential funding sources and stakeholders respecting park management and conservation targets with immediate response to insures sustainability of natural features and benefit of the community through minimized resources impediments and rehabilitation costs.

◊ Execution of farming and other development activities in respective sites within the park and re-vegetation of degraded natural areas in the way that they can't hamper conservation and preservation of natural resources and their values for tourism development.

◊ Development of infrastructure, accommodation, recreational centers, trekking, viewpoints, eco-loges, river crossing mode of transport and selection of sites and reconciled with minimum negative impact on natural resources and scenic beauty of the area that create more satisfaction and memorable life experience for visitors and significant economic value.

11.2.1.2 Strategic specific activities implemented in natural, socio-cultural and tourism resources development and use in BDBNRMP

Indigenous Plants and wildlife and habitats management

◊ Preserve indigenous plants and animals, as far as possible, in their natural state.
◊ Undertake intensive management and implement predator control and similar measures, where required, to protect and enhance the survival of threatened species while ensuring that park's natural and historic values are not undermined.
◊ Acknowledge the cultural, spiritual, historic, and traditional association of the society when managing indigenous plants and animals beyond inimical activities on the sustainability in regard to those resources.
◊ Maintain and rehabilitate natural face of landscape, ecosystems, habitats, and communities that comprise diversified biophysical resources for sustainable conservation and use in ecological, tourism and scientific research.

Control systems of introduced plant and animal and pests

◊ Conduct regular invasive and aggressive species of plant and animal surveillance within the park in scope and severity level of damage and permanence of degraded resources
◊ Eliminate or control introduced plants likely to modify the natural vegetation or any natural feature of the park (e.g. invasive species of *Lantana camara* and *Argimonia mexicana* and locally extensively grown Cassia spp.).
◊ Eliminate or control animal pests in and adjacent to the park in accordance with possibility of reconciling natural competition/predation and proper management and use of domestic stocks in the context, as those methods are consistent with the objectives and strategies of this plan.
◊ Permit and actively encourage the termination or control of animal pests in the park through the concessions process to the extent that the methods of control are consistent with the conservation targets and strategic management objectives of this plan (e.g. control of insect, bird, predators and vermin to crops).
◊ Actively seek to prevent the introduction or further spread of plant and animal pests in the park.

Surface Water management and Use

◊ Implement assessment and monitoring on the use of river water and possible pollutant agents with effective control mechanism that can reconcile recreational and transport use for visitors as well as household use for residents

- ◊ Prevent and control pollution of river Abay (e.g. sewages drain from Bahir Dar town, factories and residence buildings in the vicinities and settlements, from agricultural lands chemical spry in bordering villages)

Access

- ◊ Public access and use of the park consistent with: the preservation and protection of the park's landscapes, natural features, biological processes and plant and animal life shall be fostered;
- ◊ The appropriateness of the facility development for the visitor management setting should be considered;

Recreational Activities

- ◊ Allowed recreational activities to the extent that they are consistent with the preservation of the park, the objectives and other policies of this plan, relevant legislation and park by-laws have to be
- ◊ A range of visitor facilities that enable visitors to experience and appreciate the natural and historic features and cultural values of the park have to be provided.

Interpretation

- ◊ Visitor information, Interpret the park's natural, cultural and historic resources in a manner that promotes respect for park values and the conservation management activities undertaken by the BDBNRMP authority and stakeholders have to be provided.

Sight viewing, Camping and Vehicles

- ◊ Camping in the park, in accordance with park by-laws, except within areas where camping must be prohibited (in core zone) to avoid the deterioration of the park's natural, historic and cultural resources, or within intense interest sites have to be permitted.
- ◊ Spectacular sites and landscape resources viewed from hilltop of viewpoints (Bezawit, shakuarie, Kutitit, Avalo, Sebato, Ras Hailue, Dasera, Kachura and Mulilit) trekking, river crossing, resting sites and moving under shade travel along riverbank.
- ◊ Vehicles can be used for the main road from Bahir Dar to Tis Isat (Blue Nile Fall) which runs to the right side along river Abay extended about 1-4 km average distance from river shoreline. Construction of access road to riverside and proposed campsites not more than three kilometers from the main road may require.
- ◊ In the left side of the river from Lake Tana to Bezawet palace can be used vehicles, otherwise, trekking route is required to the rest sites of the left side of the park in which all viewpoints situated.

Guiding General

- ◊ Consider applications for guiding concessions within the park subject, but not limited to, at one guide per guided group should hold a relevant guide's ability, where relevant, to provide accurate interpretation on park values.

Customary use and accessibility

- ◊ Customary use or take of indigenous plants and animals will not be permitted from the core area dense forest patches of the park unless for scientific purposes, and they have been proven as they are very abundant

Promotional activities and filming

◊ All filming within the park for commercial purposes requires a special consideration by authorities based on the legislation

Research and Visitor Monitoring

◊ All research to be undertaken within the park requires permit other than that specifically for park management purposes

◊ Undertaking research is requiring in accordance with relevant legislation for the benefit of park management and/or knowledge to resources conservation and use. In general, research does not detract from the protection of the park's natural, historic and cultural values have to be encouraged.

Grazing and Stock Fencing

◊ The park's natural and historic resources have to be protected from any adverse effects of grazing. Hence grazing in extensive and unrestricted way should be prohibited inside protected core areas of the park

Mining Operations

◊ Mining operations will not be applied as they will have serious effect on natural resources unless significant economic value resources extraction permitted by authorized management institution negotiating with park authority.

◊ Gravel sand and rock removal can be only permitted from sites within core areas of the park for the special construction and maintenance, otherwise, only from agricultural and river course with minimum vegetation and wild animals use areas can be used

New and Existing Buildings

◊ Ensure that, where buildings are necessary in the park, they are compatible with and appropriate to the landscape and visitor management setting in which they are to be located.

◊ Require new public buildings adjacent to park or settlement and appropriate investment and roads to provide access and basic facilities for the disabled.

Construction and use of roads

◊ Road works and use should be built within the park where the adverse effects are assessed to be minimal realignments prohibited wide ways in core and dense forested sites

Management of adverse effects

◊ Avoid, remedy or mitigate the adverse effects of activities and developments carried out within the park to ensure that the primary objectives the plan are achieved.

Stakeholders relationship

◊ Establish and maintain effective working relationships with those organizations that have a permissible role and those organizations, local communities and the general public where they will play a role in preservation and protection of natural, historic and landscape

Adjacent uses

◊ To liaise with and seek the co-operation of residents inside the park and adjoining landowners and investors, to cooperate and minimize the impact of activities that may be detrimental to the park.

11.2.1.3 Strategic principles for implementing this plan

- ◊ Consider management frameworks and guidelines in terms of new information on a continuous basis and amend as necessary.
- ◊ Review this strategic plan not later than five years from its date of approval
- ◊ Use public relation tools including newsletters, public notices and area office open days to ensure that the park resources special qualities are kept well informed.

11.3 Management Zones of BDBNRMP

The diversity of natural heritages, complex management techniques, multiplicity of economic and community use as well as naturalness impacts are the principal management issues in the park. These principal governing issues lead develop habitats use zoning dividing the area in different natural habitats and resources use along river Abay and proximity to Bahir Dar, settlement, farmlands and portion of land dominated by distinct biophysical resource and uses in respective designated zone. BDBNRMP zoning and development of respective strategic activities in different areas help to resolve park human conflict and improves implementation of suitable and effective management actions and activities.

The main zoning features identified during field assessment were use zoning identifying areas of consecutive coverage and suitability for decision-making for use. Spatial intervention to implement activities desired to apply within and around the park through participatory approach. This zoning system helps to develop frameworks that guide to address diverging management and utilization needs of biodiversity conservation (*Ervin, 2003)*. It also helps for sustainable regulation, utilization, and promoting tourism values for local communities. It largely assists local community and park authorities to develop suitable and agreed management and sustainable utilization techniques (Abraham *et al* 2008) that have been and will be sustained.

Based on protected `areas that permit to conserve biodiversity, scenic beauty, development of infrastructure, suitable resource use through sustainable tourism four management zone have been identified BDBNRMP in multiple use zone defined as: Limited access and use (low use or core zone), Recreational and infrastructure (service zone), Institutional buildings and settlement (investment zone), Cultivated and grazing sites (high use zone). Each management zone have no continuous land cover and has be interrupted by other land use. Hence, designated titles of zoning name derived from the dominant land and biophysical resources use. Delineated management zone are used to improve conservation and use of ERVs of the park.

11.3.1 Limited accesses and use zone (Low use or Core zone)

It is difficult to find areas of the park not accessed or not disturbed by anthropogenic effect. Limited accesses and use zone dominated with natural and dense habitats in which rare and/or highly vulnerable habitats and organisms can be found. This zone shall be delineated areas of different patches of land in which afforded maximum protection to flora and fauna as well as maintenance of the integrity of physical and biological resources and natural ecological processes.

This zone comprises representative relatively dense natural forest habitats. These are Bezawit, Teklehayimanot and its vicinities, Shaquarie hills and escarpments, Arefamie island dense forest, fragmented water ways and Retie fall, Meskela Kurt and Jib Godo, Wetland and bush lands of natural habitats of Derum Ambo, Andassa shrub and dense islands, Sebato riparian and Gores riverine habitats, Ras Hailu, Bushit, Abogedam, Tiss Isat and its surrounding. Scrub and top hill of Mulilit and the entire river course areas partially or fully in which natural feature for relatively dense vegetation and habitats identified as areas with significant number of wildlife species and vegetation coverage.

This zone is designated for protection and conservation of biological and physical resources managed to attain IUCN protected area category II biodiversity conservation management objectives. This zone includes natural ERVs need to be strictly protected. It is owned by park authorities designated for protection and conservation of biological and physical resources with limited use not more than 25% of the area authorized for tourism infrastructure and facilities development (i.e. road, trekking, boot driving, river, and dense forest and wetland side way walking).

This zone mainly delineated to maintain biophysical conservation and sustainable use in tourism development and scientific research, medicinal plants and under growth grazing in dry season. Major activities going on in this management zone are sustainable grazing, forest honey collection, dried fire wood, papyrus, construction and farm implement materials collection,

11.3.2 Recreational and infrastructure zone (Service zone)

These management zones incorporate areas of BDBNRMP that comprises special use areas for visitors as destination, resting sites, boats and river crossing and recreational trekking routes and viewpoints for the respective landscape area of the Park. Often it may use some portion of limited accessed and use zones as natural areas side way trekking routes under shade ways, destination and resting lunch stop sites for visitors. Infrastructures like Post sites, campsites, and irrigation water sources construction and extraction. Sites that are carefully selected for eco-lodges, vehicle road, and public use infrastructure, recreational garden, and water transport services.

The recreational and infrastructure zone covers Abay at departure points from Lake Tana to the main bridge, recreational and motorized crossing boat below textile factory, Bezawit upland top view point to all sides of Bahir Dar town, destination and recreational site at the southern foot of Bezawit crossing to Seyum Sefer from BDU main campus, post sites below Bure Fesses. Abay Eger Ber recreational and campsite, recreational motorized and manual driven and papyrus boat at Arefamie, Papyrus boat crossing at different sites from Arefamea to Tis Isat. Natural areas of Meskela and Jib Godo, Derum and Dong Ambo recreational sites, Andasa hot springs of holly water, recreational camping and post sites of Sebato and Ras Hilue fall, top view and recreational site of Dasera, impressive landscape of Tis Isat, Kachura and Mulilit. This zone comprises areas for infrastructures for visitors' satisfaction and inspection for conservation and undesired activities on the natural resources.

The recreational and infrastructure zone is set aside primarily for the conservation of areas for tourism and recreational use with associated infrastructure. Park authorities use for designated posts and campsites, site viewing sets and water source development. Communities and potential investors use to construct lodges, recreational center, transport services, and other visitors requirements for accommodation and trekking. Wild animal ranching and related community based ecotourism centers

including private lodges. Moreover, it serves as the demonstration site for natural vegetation and indigenous plants a-forestation schemes education site for proper protection and utilization.

Those sites carefully selected in the way infrastructures and recreational centers should have minimum impact and far from biodiversity and natural state of visited sites. But, connected with walk ways and trekking routes This insures management and utilization effectiveness in biodiversity conservation for sustainable use in tourism. This zone is managed to attain IUCN protected area category II management objectives (areas for recreation and scientific research).

11.3.3 Institutional buildings and settlement (investment zone),

This management zone incorporates areas of BDBNRMP that comprises residential, institutions for academic and investment purpose and settlements for subsistence farming community. The park supports resident building in Kebele 11, 8, 9 and 7 around and near distance from Abay departure from Lake Tana along both sides of the river 200m distance from river shoreline. Private investors buildings, textile factory, "Sematat" monuments, management institute, Bezawit Palace BDU main campus, Teckelhayimanot Church, two leather factories in Addis Alem, Syeum sefer, Sebatamit, Kutetit, Tikuret, Andasa, Sebato, Dasera, Bushit, Abogedam and Kachura.

Institutional buildings and settlement (investment zone) is development zone delineated as integrated resource use zone. It is protected for sustainable resource management and utilization collaboration with the communities' commercial, academic, and industrial, institutions and residential development. Utilization and management systems are decided by respective institution establishment objectives and managing authorities. Communities and other relevant stakeholders with collaborative efforts and consensus according to a set of both conservation and development oriented guidelines and prescription. Settlements for subsistence dwellers will be managened to reconcile in the way to sustain principal objectives of minimum impact on core zone. However, illegal settlers should be removed from natural areas of limited accessed particularly from river side and wetlands.

11.3.4 Cultivated and grazing zone (high use zone)

This management zone referred as community use zone inside and adjacent villages outside the park. This zone entirely used by local communities and owned for crop, animal, fruits, agro forestry practices and commercial farming including sites for settlement and communal grazing. The community as well as the individual he/she owned that plot of land exclusively decide utilization and management system. Park authorities support the community livelihood maintenance that can reduce their impact on the biodiversity and core zone park.

Major activities in this management zone are community awareness creation schemes, sustainable tourism options, and ecotourism facilities, traditional and economical contribution, and overall value of the park disseminated for the local communities and their contribution for the well-being of the park could be shown.

These management zones require prescriptions and guidelines for each of those zone types developed in this strategic plan. The final listing of prescriptions and complete demarcation zones requires the

community consultation and negotiation. This will be done in the first year during the implementation of this strategic plan.

Management targets that are especially important in each zone and the management prescriptions and guidelines designed to fulfill these targets are described as developed in this strategic plan as follows.

11.4 Prescriptive guideline for collaborative management zones

Table 1. Prescriptive guideline for collaborative management zones

Management guidelines prescriptions: ✓Permissible ✓"Permissible under certain condition ✖ Prohibited				
	Limited Access and Use zone (LAUZ)	**Recreational and Infrastructure Zone (RIZ)**	**Institutional Buildings and Settlement Zone (IBS)**	**Cultivated and Grazing Zone (CGZ)**
Uses and management targets				
Tourism and recreation with associated infrastructures	✓"	✓	✓	✓
Investment in tourism facilities	✖	✓"	✓	✓
Lodges	✖	✓"	✓	✓
Research	✓	✓	✓	✓
Settlement	✖	✓"	✓	✓
Cutivation and crop production	✖	✖	✓	✓
Construction of social services (Schools, clinic water)	✖	✖	✓	✓"
Traditional/ Cultural ceremonial places	✖	✓"	✓	✓
Livestock grazing	✓"	✓"	✓"	✓
Cutting and carrying of grasses during dry (Drought) season	✓"	✓"	✓	✓
Commercial cattle rearing by local community	✖	✖	✓"	✓
Crop farming	✖	✓"	✖	✓
Firewood collection	✓"	✓"	✓	✓
Collection of row materials wild fruits and barks	✓"	✓"	✓"	✓
Collection of medicinal plants	✓"	✓"	✓	✓
Collection of sands and gravels	✖	✖	✓"	✓
Wild honey collection	✓"	✓"	✓	✓
Charcoal making	✖	✓"	✓	✓
A forestation	✓"	✓"	✓"	✓
Hunting	✖	✖	✖	✖
Wildlife ranching	✖	✖	✓"	✓"
Fishing	✖	✓"	✓"	✓
Bee keeping	✓"	✓"	✓	✓
Prevention of disease	✓"	✓"	✓	✓

11.5 BDBNRMP Strategic management programs

The primary management strategic objective for BDBNMP been stated as conserve preserve manage and enhance the natural, physical, ecological and cultural resources of BDBNRMP for the benefit of present future, generations and local, regional national and international communities will be executed by management programs. This strategic plan comprises goals, objectives, and strategic actions in five development and management strategies described as follows.

11.5.1 Natural Resources development program

BDBNRMP consists of natural vegetation type, which is characterized by various types of wood lands with riverine and riparian vegetation cover and riverside wetlands. BDBNRMP has unique biotypes and habitats in the river islands in evergreen riverine forest patches to deciduous upland vegetation. It also situated at the mouth of upstream sources of the longest Nile river main sources Blue Nile. Permanent rivers course with dense island forest patches fragmented by water ways have impressive attraction to visitors. The Abay and its tributaries provide, water and habitat for fishery resources and to the local communities besides being the main water sources of people and animals and spectacular beauties of hill tops of viewpoints..

Regardless of BDBNRMP consists of natural or near natural vegetation type, which is characterized by various types of riversides, valleys, woodlands, fauna and flora. It does not have any strategic conservation and management plan and strategy for conservation of such valuable resources. Therefore, it needs close management attention and to develop cooperative management systems with different stakeholders for resources that BDBNRMP comprises upper course of Blue Nile that crosses national boundary. This strategic development program strives for effective conservation and sustainable utilization goal and objectives of natural resources.

Goal: Respected, enhanced, and perpetuated Park's natural resources to ensure a high level of satisfaction for residents and visitors

Objectives

- Improve value-added amenities at natural resource sites.
- Explore innovative means to repair, maintain, and improve parks's natural resources.
- Raise awareness of all stakeholders about the responsible use of natural resources.
- Increase collaboration among government agencies, the visitor industry, and the community.
- Raise awareness of commercial operators, information providers and others about the responsible use of natural resources.
- Review and enforce rules and develop certification programs for commercial operations in natural resource areas.

Strategic natural resources development

- Improve the structure, function, and spatial distribution of the park vegetation and maintain the natural forest and riverine ecosystems healthy and productive, and contribute to the attainment of the goal of biodiversity and landscape conservation.
- Realize, monitor, manage and conserve diversity, distribution, and relative abundance of major wild animals with their ecological linkage and processes of the park by alleviating major threats and ensure continuing sustainability of the ecosystem.
- Develop the sustainable and integrated use of water and related natural resources to pursue the overall objective of the park in conserving and using river course and associated vegetation and scenic beauty for sustainable tourism.

Strategic natural resources development actions

Vegetation cover and distribution

- ◊ Conducting vegetation inventory to qualify and quantify the forest resource
- ◊ Identify and quantify possible none extractive forest use in the natural forest patches

- ◊ Identify and demarcate possible economic forest zones based on forest inventory report and community participation
- ◊ Establish participatory forest management groups by considering the management of other forest sites such as hotspot, restoration, and agro forestry sites.
- ◊ Identification of multipurpose species that suit the local environment
- ◊ Multipurpose tree/shrub seedling production
- ◊ Identify possible agro forestry practices, such as backyard tree planting, farm boundary plantation and woodlot development, scattered trees on crop land, which can be easily adapted by the local community
- ◊ Providing trainings on agro forestry for community representatives,
- ◊ Develop systems that foster rehabilitation and maintenance indigenous species on degraded natural sites and exotic and productive species in farmlands and settlement areas

Strategies for Wild animals and their habitats managment

- ◊ Conduct a study to better understand the feed, habitat and population dynamics and of Hippo and others wild animals.
- ◊ Conduct wild animal inventory at different habitats
- ◊ Develop population monitoring plan over time in different season
- ◊ Delineate an ecologically dominant species with particular emphasis to rare and endangered species of plant and animals
- ◊ Support and facilitate the resources for monitoring and protection departments to protect threats of Hippo, reptile and bird species against habitats disturbance and poaching
- ◊ Advocate and collaborate with communities and neighbouring urban and rural settlements for protection of threatened species feeding and resting sites
- ◊ Monitor other species and their feed and prey bases with in the fragmented natural home range of wild animals
- ◊ Promote the natural interdependence of different species indicator species eg.Papio anubis help other animals as an alarm for enemies
- ◊ Protect existing population from poaching threats
- ◊ Investigate the status and design any possible re-introduction option for unviable population species with associated restoration techniques
- ◊ Identify natural features contribution for tourism and sustainable conservation schemes

Measure of success

Specific to issues related to natural resources, the following measurements provide an indication of success:

- ◊ Increased level of funding for the management of park's natural resources in local and region budgets
- ◊ Cleaner and well-maintained restrooms at targeted natural resource sites
- ◊ Safer access and adequate paved parking at targeted natural resource sites
- ◊ Improvements (quality and quantity) in park concessions (where appropriate)
- ◊ Improved levels of resident satisfaction with park's natural resource sites
- ◊ Improved levels of visitor satisfaction with BDBNRMP's natural resource sites

11.5.2 Water resources management progrm

The water resources issues facing the Park are supposed to be both many and varied. Based on the brief field survey and information during preparation of strategic plan field survey, the following are identified as significant issues/themes related to water resources strategic development are Abay river water use, riparian water shade, scenic beauty of the river course and strategic management for tourism.

Goal: Develop sustainable and integrated use of water and associated natural resources and utilization culture to pursue the overall objective of the park and promoted recreational activities on and along river Abay and its source Lake Tana and its tributaries

Objectives

To develop integrated use of water and associated natural resources for healthy recreational activities on the river and its vicinities
To provide safe and adequate quantities of water for visitors and park personnel
To attain a healthy riverine ecology improvement on the river morphology that uses for recreation
To maintain better water and food supply availability to wildlife
To improve the condition of river side wetlands by reducing siltation
To improvement in the quality of water, especially surface water and drainage from surrounding buildings and settlement
To monitor trends of water volume change on the major water sources (wetlands, rivers, streams, ground water, well conditions, etc) with time and different activities.
To promote water conservation through sustainable design and public education

Strategic water resource development

- ◊ Develop the sustainable and integrated use of water and related natural resources to pursue the overall objective of the park.
- ◊ Insure that water resources are available to wildlife, aquatic organisms, and plants (riverine) in quantities and of a quality that promote the existence and well being of these organisms
- ◊ To maintain/improve the river side wetland functions in the Park ecosystems

Management strategies

- ◊ Provide safe and adequate quantities of water for visitors and park personnel
- ◊ Recognize importance of healthy watersheds, and in doing so promote efforts to reduce erosion and sediment production inside and outside park
- ◊ Recognize importance of riverside wetlands and associated plant and animal species and suitable use
- ◊ Identify water related issues and maximize the use of cooperative relationships with local communities
- ◊ Develop water resources and healthy for use and prevent pollution both on its source Lake Tana tributaries of river Abay

Strategic water resource development and action

- ◊ Identify areas of river course use, riverside habitats and associated plant and animals and scenic beauty
- ◊ Delineate activities that are causes for water pollution and the main sources draining to the river course
- ◊ Identify sites that can be used for boat recreation, river crossing, recreational sites and islands and water ways use for sustainable tourism development
- ◊ Develop systems to use river water shoreline sits that suites for infrastructure development for visitors' accommodation and recreational sites with minimum impact on natural setting

Measure of success

Observe developed sustainable and integrated use of water and related natural resources to pursue the overall objective of the park.

- ◊ Safe and adequate quantities of water provided for visitors and park personnel
- ◊ Attained healthy riverine ecology and improvement on the river morphology
- ◊ Maintain better water and food supply availability to wildlife
- ◊ Improved the condition of riverside wetlands by reducing siltation
- ◊ Improvement in the quality of water, especially surface water
- ◊ Change major water sources (wetlands, rivers, streams, ground water, well conditions, etc) with time and different activities.
- ◊ Promoted water conservation through sustainable design and public education

11.5. 3 Biodiversity conservation and management program

BDBNRMP was established to protect and preserve the environment, biotic and abiotic resources. The park is inclined to assist to maintain the diversity of ecosystem and its components species, genetic, varieties, physical resources (habitats, water and landscape) and ecological processes in its natural state. These are indispensable to support life in it and the improvement of local communities. Strategic mmanagement of ecological processes at different level using possible systems for sustainability reconciles the continuity of natural process and human demand from it. It helps to maintain rare and endangered species and their habitats to have viable population.

Goal: All ecological threats of BDBNRMP's key ecological components and processes, communities, species and mitigate associated problems, thereby ecological processes, species and other biophysical resources are protected and conserved to ensure long-term viability of the system.

Objectives

- ◊ To realize, monitor, manage and conserve Diversity, distribution and relative abundance of major wild animals with their ecological linkage and processes of the BDBNRMP
- ◊ To identify and characterize sites which are rich in biological diversity, but highly threatened
- ◊ To design s protection strategy for the local hotspot sites
- ◊ To restrict any socio-economic activities from identified local hotspot sites and improve their biological diversity

- ◊ To bring back the natural vegetation of some habitats such as riverine vegetation, and hilltop areas into their original forest vegetation type
- ◊ To diversify and maximize production from forest trees and ensure sustainable utilization
- ◊ Reduce the intense pressure on possible protection forests such as local hotspot and restoration sites
- ◊ To diversity the source of forest products and reduce the intense pressure of the community on natural forest

Strategic biodiversity conservation and management

- ◊ Minimizing human intervention that destroys principal ecosystem components
- ◊ Delineate specific ecological systems together with local community
- ◊ Implementing restorative actions on degraded priority principal ecological components that promotes healthy future for the entire biotic and abiotic resources
- ◊ Showing the exceptional resource values (ERVs) of the BDBNRMP as the key features that characterize the area and make it national and international significance.
- ◊ Mobilizing community for effective protection of principal ecosystem components
- ◊ Developing system to reduces driving forces for ecological degradation
- o Preparing suitable systems to maintain natural cover of forests
- ◊ Restore natural integrity and connectivity of habitats to desired state
- ◊ Intensive community awareness creation on wildlife and their use while they are in their natural range
- ◊ Mobilizing expert groups for intensive study and arrange necessity inputs
- ◊ Develop systems for viable population restoration and minimized disturbance based on different species
- ◊ Monitor and control illegal acts (hunting, encroachment and disturbance) on wild animals and their habitats
- ◊ Develop guiding principles where appropriate harvesting of excessive resources will be undertaken in the core zone, fully monitored ,and careful transportation done for community uses

Strategic biodiversity conservation and development actions

- ◊ Conduct regular monitoring on the status of principal ecosystem components (PEC) to prioritize and implement immediate actions of preventing undesired human impact
- ◊ Develop activity plan for conservation techniques at spatial and temporal scale
- ◊ Ensure conservation activities on PEC to sustain ERVs ecological perspective at their desired state and KEAs
- ◊ Prioritized conservations in respect to positive and negative effect in the long run or during implementation
- ◊ Minimize human and domestic stock intervention and implementation of agreed systems
- ◊ Conduct a research to better understand of the ecosystem process pattern effect on principal ecosystem components
- ◊ Investigate options for maintaining ecological process impact of tourism dynamicity and feature viewing
- ◊ Developing means of bridging the growing gap between people and nature in damage and recoverable ecological integrity
- ◊ Develop suitable monitoring and control sites on poachers and other adverse effect on PEC
- ◊ Establish well equipped forces and facilitated systems to control illegal acts of poachers on time

- ◊ Collect data on PECs, KEA and threats as per monitoring plan and priority setting for better e control and illumination of undesired threats.
- ◊ Reduce overgrazing and poaching around water points and critical feed sources
- ◊ Construct hand dug temporary water well and broaden/or remove silts so as to increase water holding capacity of natural ponds
- ◊ Prioritize critical habitats and areas for protection and feeding at different ecosystems components
- ◊ Preventing fire by instituting fire breaks and fire rotation and maintaining water sources
- ◊ Minimize roads crossing critical wildlife habitats and should stop at a natural barrier
- ◊ Extend or increase protection to migration corridor outside the park
- ◊ Develop a control system that makes it difficult for wild animals to be illegally captured and used and used in trade as domestic stock
- ◊ Develop system that works on critically endangered species recommended for consideration in breeding programme
- ◊ Areas with suitable tree species in the buffer zone should be demarcated for honey production under strict in conservation zone ensuring not to be cut

Measure of success

- ➢ Field observation and vegetation cover assessment results and natural state of biophysical resources and principal ecosystem components
- ➢ Monitoring, conserving ecological linkage and processes of the BDBNRMP biophysical resources
- ➢ Sustain sites rich in biological diversity, but highly threatened
- ➢ Rehabilitated back natural vegetation of some habitats such as riverine vegetation, and hilltop areas into their original forest vegetation type
- ➢ Diverse and maximized production from forest trees and ensures sustainable utilization
- ➢ Reduced intense pressure on possible protection forests such as local hotspot and restoration sites
- ➢ Diversified source of forest products and reduced intense pressure of the community on natural forest

11.5.4 Tourism and recreation management program

Apart from not used as a tourist attractions so far important cultural heritage sites are present on the park and the landscape and natural features are an integral component of the overall natural landscape of the area.

3.

In the BDBNRMP, tourism is concentrated at Blue Nile fall situated at the east edge of the park extensively used. Lake Tina and Blue Nile falls as well as Gondar and the historical route to SMNP, Aksum, and Lalibela. BDBNRMP also the best tourism development site especially for cross-country over land passenger or travelers from Europe through Spain, Morocco, Sudan to South Africa via Ethiopia and Kenya crossing Metema and Bahir Dar to Addis Abeba.

Protected area visitors expect to find facilities, recreational and learning opportunities within the park, but in BDBNRMP, not all demands can be met, as some of these expectations may be not found yet. In this strategic plan the park rules and regulations clearly defined and in use, tourist movement and activities will be monitored. Follow up will be regularly conducted for improved services and better management. Restriction or regulation of access may become necessary, depending on the increase of tourist numbers; however, before restricting the number of visitors in the park, further study is recommend to park carrying capacity during the implementation of this strategic plan..

Goal: Provide a diverse and quality tourism product unique to the community that enhances the BDBNRMP visitor experience and enriches residents' quality of life.

OBJECTIVES

• Develop new and strengthen existing practical visitor activities and products.
• Develop new, and rejuvenate existing physical elements of the tourism product.
• Identify and support niche products with potential for successful market development.

Strategic tourism and recreation management

- Investigate all opportunities to Protect , care and promote for all Indigenous places , objects ,and culture in partnership with the Local community and stakeholders
- In consultation with the traditional community, submit cultural sites and stories that relate to the park for inclusion and be considered as a heritage resource.

- Provide local employment and generate additional income through the sale of agricultural products, artifacts and infrastructure development, by identifying a number of spectacular sites that will attract people to the park in different seasons,
- Facilitate partnerships between traditional community, BDBNRMP management, and commercial entities to provide facilities and services for visitors,
- Contribute both to local and national economy through domestic and international tourism,
- Develop visitor accommodation and information center, that will encourage visitors to visit natural and cultural attraction sites
- Encourage local tourism in the effort to appreciate and enjoy both the cultural and historical diversity as well as the natural endowment of the park,
- Provide tourist facilities in accordance to the above stated objectives in close cooperation with the Amhara Regional state tourism Bureau and Ethiopian Tourism Commission
- Promote apparent tourism activities within the park and in Bahir Dar to expand more to natural areas along Abay river as one of economic sector
- Develop a recreation and safety guideline with BDBNRMP on the promotion and use of park Recreation areas
- Minimize the probability of visitor injuries and assaults through updated safety signage, safety messages in brochures, verbal messages in the information centre and law enforcement.

Strategic tourism and development actions

◊ Heritage and cultural assessment, research and documentation on cross cutting issues
◊ Enforcement of bylaws documentation to be implemented on support systems
◊ Community awareness to be implemented tourism in community development
◊ Developing and approving creation and safety guidelines
◊ Update park safety information to public
◊ Establish information signs at key locations
◊ Provide interpretation
◊ Promote greater public understanding and appreciation
◊ Construct infrastructures (based on demand) including Transportation facilities and services, water supply, electric power, solid waste disposal, toilet, telecommunications

◊ Construct camping sites
◊ Standard service provision like parking,
◊ Designate and manage sustainable camping areas and day visit areas
◊ Maintain self-registration stations at strategic locations
◊ Prepare and avail necessary information

Measure of success
Specific to issues related to the tourism product, the following measurements provide an indication of success:
• Improved visitor satisfaction survey responses for specific products
• Improved resident sentiment survey responses
• Diverse native tourism product offerings spread throughout the park to visitors or transfer to others

11.5.5 Community development progrm (Outreach)

The community: People and Communities in BDBNMP are those living within and adjacent to the park. They are an integral part of the park resources that require proper intervention and communication.. These Residents from within and nearby and visitors from further are also part of this park. Communities are diverse, and different people at different stages in their lives want different things from their environment. Local communities with different livelihood and wealth status such as subsistence farmers who have farm plots, casual labor working in agricultural and other investment sites and collectors and gatherers extracting plant and water resources. Service providers transport in river crossing and trekking sites and loading with pack animals. Investors both in agricultural and industrial outputs; and recreational centers and hotels; guides for tourists particularly based at Bahir Dar and Tis Isat are some to mention. Strategic intervention and working with them are the priority issues on participatory management of the park and addressing issues of primary stakeholders.

Goal: Facilitate interaction among all visitor industry stakeholders that improves the lines of communication and enhances greater understanding of roles, values, and concerns on natural habitats, biodiversity, scenic beauty, tourism, and associated benefits to the community and the region as well.

OBJECTIVES
- Raise the awareness of stakeholders' concerns about biophysical conservation tourism, among the various players and develop programs to address concerns
- Increase stakeholders' knowledge and understanding of sustainable tourism issues, contributions and impacts.
- Support efforts that involve stakeholder participation, collaboration, interaction and discussion on conservation and management of sustainable tourism issues and efforts.
- Provide and promote opportunities that involve resident and visitor interaction.

Strategic community/outreach/ development

o Empower people and local community initiatives to engage in park conservation and management duties
◊ Increase accountability to resident groups and local communities on BDBNRMP
◊ Develop and train conservation objectives to the community

- ◊ Minimize conflicts between park values and surrounding land.
- ◊ Encourage and facilitate the involvement of the local community in conservation and park management programs.
- ◊ Involve especially the local community in preservation of their good tradition indigenous cultural abilities on managing the BDBNRMP vegetation.
- ◊ Consult the local community to explore the benefits of partnership arrangements that will support future decisions on issues of common interest and promote economic development in the park.
- ◊ Talk to communities; listen to ideas and solutions being suggested
- ◊ Act on good ideas and share information to avoid unnecessary repetition of consultation.
- ◊ Encourage and support community groups that use or have an interest in the park to work together for technical support, managerial support and financial support
- ◊ Work to establish a strong and collaborative relationship with the relevant Indigenous communities, and explore means to involve and work with the communities in reflecting cultural wisdom, interests and aspirations in the management of the park, as appropriate
- ◊ promote business and employment opportunities
- ◊ initiate and run various schemes that help local business people
- ◊ Encourage a wide variety of opportunities for employment and support for local businesses.

Strategic community development actions

- ◊ Conduct a clear and continuous dialogue between the park authority and the community
- ◊ Involve more people in the park management process
- ◊ Identify legal and illegal interventions and buildings as well as farming activities
- ◊ Remove illegal activities and residents within the park
- ◊ Create conservation groups and organize promotion activities
- ◊ Constant sensitization of park issues
- ◊ Update Park information to public
- ◊ Community relations in the way to sustainable conservation and tourism development
- ◊ Conduct a clear and continuous dialogue and consolations among the community how equally they can be concerned for the park
- ◊ Forming conflict resolving methods
- ◊ Facilitation of Economic diversity and innovation
- ◊ Provision of business infrastructure
- ◊ Skill trainings on conservation and services to visitors
- ◊ Business advice that suites park management objectives
- ◊ Initiate and run various schemes
- ◊ Marketing support and advice
- ◊ Capital formation and grants provision

Measure of success

Specific to issues related to communications and outreach efforts, the following measurements provide an indication of success:

- ◊ Reduction or illumination of illegal activities and settlements
- ◊ Answers in resident sentiment surveys regarding attitudes about conservation of habitats and biodiversity and tourism remain positive and/or improve

- ◊ Answers in visitor satisfaction surveys about quality of the visitor experience remain positive and/or improve
- ◊ Outreach programs are regularly scheduled and provided on an as needed basis
- ◊ Funding levels for conservation and tourism programs and efforts are maintained and/or increased

11.5 .6 Park operation (Administration) progrm

In BDBNRMP, the current management of the resources is supported by the existing administration, infrastructure and facilities .In the coming 10 years this plan addresses the support systems needed to implement the management programs. These include Administration –comprising-staffing, staff training, welfare and remuneration, and accessibility support -funding sources and financial management, capital development and equipment needs. As BDBNRMP is a very new Park and has limited resources there are deficiencies in all of these areas that need attention. Administrative **m**anagement of the Park requires a range of activities which enable the Park office in Bahir Dar and the city administration to carry out its legislative obligations and to implement this strategic management plan.

The administration staff comprised one administrator, one audit, one finance expert, one casher, one store man, and one driver. The Park does not have any working office building, although it is on the way to construct its own. These existing infrastructures serve the management of BDBNRMP through supporting the assigned personnel and facilitating visiting and monitoring. Further upgrading, rationalization and relocation of infrastructure have to continue as appropriate.

The park management is still at infant level where it demands effective and efficient workforce, and Provision of suitable services and facilities for its proper management. In addition to facility; provision demands like Park infrastructure, Roads, Communication equipment, Energy supply, Water supply are required too. Most staff requires a broad range of skills and competencies including a basic understanding of ecosystem values and functions, visitor needs and aspirations, infrastructure maintenance standards and requirements, community issues and cross-cultural awareness.

Goal: Ensure sufficient and highly qualified workforce provided with meaningful careers, infrastructure and advancement opportunities for efficient management of the park.

Objectives

- ➢ Provide an adequate source of quality workforce to support the needs of BDBNRMP's native resource conservation and visitor industry.
- ➢ Ensure a well-trained and educated visitor industry workforce and infrastructure.
- ➢ Ensure that the community has sufficient employment and advancement opportunities within the visitor industry.

Strategic park management program

- ◊ Administer the Park effectively in line with legislation, the BPR, the General Policy for parks, other General Policies, and this strategic plan.
- ◊ Provide services and facilities to assist in efficient management of the park and contribute to the safety of park visitors ,researchers and neighbors

- ◊ Install and maintain infrastructure and built assets necessary for effective park management as required in BDBNRMP
- ◊ Fail to carry out law enforcement activities in the Park in line with the National Parks Act and other relevant legislation.
- ◊ Provide for the passing of any bylaws necessary to enable the implementation of policies within this management plan.
- ◊ Ensure that staffing levels, expertise and motivation are adequate
- o Provide appropriate infrastructure and equipment for effective management
- o Ensure that all park infrastructures is appropriate to the chosen setting of the park section, and is in accordance with the park zoning scheme.
- o Apply appropriate environmentally sustainable design principles to all infrastructures, within reasonable financial and technical considerations.
- o facilitate the construction of the already designed access road and post site houses
- o Prepare operational guidelines for the construction of roads and vehicles within zoning scheme
- o Train all park staff to ensure effective use of the communications systems used in the park.
- o Investigate alternative power supplies and enhancement of energy efficiency for use on the park
- o Maximize efficient use of water in services and facilities on the park.

Strategic park management operation actions

- ◊ Revising and understanding legislation, General Policies
- ◊ Carry out law enforcement activities
- ◊ Process and pass any bylaws necessary for the management of this park
- ◊ Fulfill quality and quantity of the staff and employees
- ◊ Provide appropriate infrastructure and equipment
- ◊ Regular communication with upper and lower authorities
- ◊ Building access roads with the desired design and standard
- ◊ Fulfill office building facilities and tourist information center
- ◊ Fulfill telecommunications inside the park
- ◊ Build post site houses
- ◊ Build watering points
- ◊ Staff training on management of park infrastructures

Measure of Success

Specific to issues related to workforce development, the following measurements provide an indication of success:

- ◊ Increase in the number of educational programs on Ethiopia's natural environment and native Ethiopian culture and hospitality, international culture and language, management, and safety and rescue training available
- ◊ Regular coordination between the visitor industry and training/education providers
- ◊ Survey of resident sentiments regarding job opportunities within the visitor industry workforce remain positive and/or improve
- ◊ Visitor satisfaction surveys regarding service levels of visitor industry workforce remains positive and/or improves
- ◊ Answers to questions in workforce sentiment surveys are positive
- ◊ More Travel Industry Management courses provided statewide

11.5.7 Cross cutting issues management program

Running through the Management Plan Ambitions involves a number of cross-cutting themes that are of particular importance in ensuring a sustainable future for then Park. Despite the cross-cutting themes cannot be dealt independently; they are catalysts in every other program. Poverty, HIV/AIDS, Gender inequality, undesired effect of tourism and act to visitors that hamper tourism product conservation, enjoyment of visitors and benefit of the community are an evil act which require to combat before prevalence. The success of major programmers can not happen unless they are implemented. Some of these cross cutting issues are included the following way; Working with partners (stakeholders): there are list of Authorities, organizations and communities, who are 'stakeholders' operating within the BDBNRMP which is important to its proper management.

All the community, stakeholders and the management are important actors in the proper management of the park and conservation of resources. Hence they have to be planned and action has to be taken accordingly.

Consequently, developing support from local communities and neighbors for park management activities is highly desirable, requires an ongoing consultation, and has to be planned and properly managed. Moreover, educating community on HIV/AIDS and other negative impacts assist to exist in positive relation of park resources and user as well as park management developing and sustaining effective conservation and tourism. In natural areas, sustainable tourism is dependent on conservation of biophysical native resources and positive relation between the park and the community in the way that minimize problems of negative effects on sustaining native resource, culture of the people and economic benefit of the community.

Goal: Honored and perpetuated community culture and community participation in conservation and maintaining effective systems of development thereby undesired acts and tourism effects significantly minimize for the benefit of tourism resource sustainability and culture of the community .

OBJECTIVES

- Strengthen the relationship between the visitor industry and the local community.
- Strive to nurture local culture by creating visitor experiences, activities and marketing programs that are respectful and accurate.
- Support local programs and cultural practitioners, craftsmen, musicians and other artists to preserve and perpetuate local culture where appropriate.
- Combat poverty, HIV/AIDS, gender inequality and undesired tourism acts

Cross cutting issues Management strategies

- ◊ Sort cultural and introduced undesired acts with respective solutions
- ◊ Promote the involvement and support of stakeholders so that The rights and interests of Indigenous peoples are recognized and the Park's Conservation is ensured
- ◊ Encourage scientific research, which adds to knowledge of the Park's resources
- ◊ Establish formal links with stakeholders with a view to co-manage and conserve the BDBNRMP resources.
- ◊ Establish a capacity for conflict resolution between the management and external stakeholders.

- ◊ Encourage sound conservation and farm land management practices on farm land adjoining the park
- ◊ Develop local bylaws which they will be governed by and have good consequences for park management.
- ◊ Consolidate Park boundaries where possible i.e. clear demarcation of the development and buffer zone.
- ◊ Co-operate with adjoining landholders and the local administration to manage boundary and adjacent land use issues.
- ◊ Increase awareness and support of park management activities including prescribed burning, pest plant and animal control and visitor management activities within neighbors.

Cross cutting issues management actions

- ◊ Stakeholder networking and effective communication
- ◊ Educating on means of combating undesired acts
- ◊ Stakeholder forum formation and consultations for fund raising
- ◊ Stakeholder monitoring and evaluation
- ◊ Conduct research programs on: Ecosystem, NRM, Wildlife ,Birds ,Reptiles ,Water resources ,Vegetation ,Socioeconomics.
- ◊ Develop sustainable conservation and use schemes on the resources of the park and culture of the people
- ◊ Presentation of research results
- ◊ Applying the result on park conservation
- ◊ Continuous advice and monitoring
- ◊ Regular discussion with local community and stakeholders
- ◊ Park boundary consolidation
- ◊ Implementing laws and bylaws

Measure of Success

Specific to issues related to cross cutting issues and culture, the following measurements provide an indication of success:

- ◊ Increasing the number of representatives from the indirect issues and community on visitor industry organizations and other stakeholders
- ◊ Residents and visitors express satisfaction and appreciation for native culture
- ◊ Educational programs and material have been developed for educating visitors and those working in the industry on authentic Ethiopian language, culture, music and crafts, and Ethiopian sovereignty issues
- ◊ Park management program review by representatives from the native community and reflect sensitive and accurate portrayals of native community and culture
- ◊ Native community have identified cultural sites that can be visited and those that are to be restricted, and have developed protocol for all sites

12. Research and gap analysis

This strategic plan developed only to show existing conditions and directions for park authorities in which they can deal within park management. Activities and the scope of all stakeholders, boundaries of work and spatial extent are not addressed. Furthermore, proximity level of community and these can be addressed as the main stakeholder from surrounding villages is not delineated. Investigation and further studies are required to mobilize the duties and responsibilities of stakeholders for development of management plan.

Various development interventions that would not be allowed in the conventional park definition may not be addressed in this type of park management and administration. However, in terms of conservation, the conventional and new park that is going to be established entertain similar objectives, hence, it is possible to adopt partially the laws and regulations of the respective protected area category to the newly established park. Thus this type of new park development needs its own rules and regulations to full fill the gaps created due to allowing development interventions in addition to the conservation laws and rules.

The enacted park establishment law indicates the exact location of the boundary of the park with no its buffer zone and includes where not boundary signposts are located. The legal system should also indicate, among others, the duties, and responsibility of the managing bodies such as investors, existing institutions and government development authorities with strong bond with BDBNRMP board, park management officials and field scout..

In addition, other external advisors have given their valuable inputs in this strategic plan involved. However, Urban plan engineer, Forester/Agroforestor/ expert, Water Resources specialist, Economist,(Investment opportunities) and Cultural and heritage management expert were not participated. Hence, existing historical, cultural and management aspects particularly related to Abay and the communities are not exhaustively addressed. Experts with similar area and the organizer (consultant) tried to accomplished works of non-existing expert's activities the development strategies. However, the works were not exhaustively accomplished and these gaps can be fulfilled during general park management plan development in the near future.

This strategic development plan believed to be used as a guide and road map to establish detail management plan specific operational activities and actions to be executed to conserve and protect landscape and biodiversity of the park and effective conservation and sustainable utilization through sustainable tourism industry.

The board organized from the regional bureau offices to lead overall activities, decisions, enforcing laws and regulations of the park. The duties and responsibilities of the park Board are are discussed as a principal actor in decision making and provision of work direction. However, activities and resources of the park are not presented in detail which will be addressed in other plans on different activities of the park.

There should be a mechanism that allow the community to participate in all phase of the parks. Hence, community may get benefit from direct employment in the interventions/opportunities created due to the presence of the park and sales of goods and services. The community should also get access on infrastructure, communications, safe water supplies, better health, and education. Even though many

of the farm community in the demarcated area are aware of the benefit they could get from the proposed park interventions/opportunities created many people still expressed their fear in that the government may expropriate their land and property without reasonable compensation. The interest of farmers and their families need to be the central point to the establishment of the park. Farmers themselves must realize the need to establish the park and act on their priority. Therefore, government interest must reconcile to the farmers /communities' interest.

For BDBNRMP office and the board should move forward to execute the above strategic actions so as to develop comprehensive long term management pan..

- Undertake the immediate revision of the study documents of previous studies and screen out the very immediate concerns of the park and start some interventions which are highly needed right now.

- Develop sustainable management plan and look for means of implementation like financial, human, and related resources.

- Facilitate required conditions and inputs to execute all activities discussed in the above implementation strategies lead by respective management programs and technical human resource developed with respective goal, principal objectives, and activities.

- Implementation modalities and indicators for the response of monitoring and evaluation are also developed so as improve the park in effective conservation, management, and sustainable utilization through tourism industry.

- The area is expected to be widened in all sides in the next phases to include the currently designated buffer zone and even more areas, the aforementioned area, for the time being is sufficient for the establishment of the park.

- The boundaries of the park comprising its total area and lengths on both sides of the river require further resource assessment.

13. Implementation of strategic development framework

13.1 . Development and conservation activities

Boundary demarcation and bacons construction; one of the first prerequisites for the preservation, conservation and then to bring sustainable utilization of the park should be the delineation and bacons construction of the park boundary. It is a priority issue and requires an urgent practical decision and implementation. With boundary demarcation and bacons construction, zoning of the park is an important point as it ensures to maintain the overall environment quality in tourism development of the area.

Human Resource Development; As protected area personnel are usually the primary information concerning the flora and the fauna of the site, they should play a central role in tourism management activities. Tourism development and park management by its nature requires human resources of multi-disciplinary backgrounds. To upgrade their capacity, short-term and formalized training has to be

provided related to environmental management; working and negotiating with commercial operators; content and delivery etc...

Zoning for visitor use; zoning of the park is an important point as it ensures to maintain the overall environment quality in conservation and tourism development of the area.

Conservation and rehabilitation: Reconcile sustainable conservation demand and utilization system of the community. Identify particular tourism destinations and possible communication along the river and types of facilities required as local and external resources with minimum impact on vegetation and natural setting.

Community Awareness Creation; Awareness Creation among the local communities concerning the benefits of the park and the need for protecting, preserving of the park resources is one of the critical issue that should be performed.

Promotion of tourism products properly and enhance accessibility of information to tourists; Promoting the existing tourism resources and services of the park by identifying the right target tourists and the right promotional mechanisms that increase tourist arrivals is found to be a priority issue

Infrastructure Development: Tourism development without infrastructure service development is unthinkable. The establishment and upgrading of the existing infrastructure and facilities is a must to sustain tourism development in the area.

Quality Services Improvements; Quality Services that are provided to the visitors such as accommodation, catering and other services pertaining to the proper and appropriate improvements based on need assessment.

13.2 Encourage the Involvement of Private Investors

Tourism actor capacity building The design for the capacity building program and determining the type of training needs was based on a community needs assessment survey. The training program not only provides main-line tourism services such as guide training, cooking and up-grading not only the use of appropriate language skills, but is also divided into several other indirect components of tourism such as training in traditional cultural performance, screen printing for souvenir tee-shirts, weaving, handicraft production and tourism management.

Tourist Guides Training: Guide training is very important for new tourist destination area. Therefore, shall be conducted but this should be carefully discussed with the communities themselves. For both park tourism officer and tourist guides both short and long term training. However, short, technical courses have had little impact. Longer courses, including learning by doing and on the job training, have proved necessary. Important topics to consider include: handling visitors, customer care and hospitality skills; marketing and communication; and basic language skills.

Service provision skills and marketing Training: Training of service providers such as hotel owners, community leaders how they involve in tourism activities is vital for new tourist destination areas, and trainings shall be conducted but this should be also carefully discussed with the communities themselves. For these sectors short and technical courses are recommended in the following courses,

how to handling visitors, customer care and hospitality skills; marketing and communication;; working and negotiating with commercial operators and other relating subjects.

Promotion equal access to benefits: The study area multi faceted traditional activities and cultural practices and all community members could be involved on the conservation and sustainable utilization of the park equally. Therefore, the park management should work to ensure equal access to the resources obtained from tourism development among the local community; regional and federal government.

Install trekking signs and site maps: The installation of trekking signpost and sitemaps are vital in tourism development sector. However, to construct signpost, the material should be environmental friendly, attractive and transparent. The plan should also give high emphasis to install signpost and sitemap with the collaboration and willingness of local community, otherwise the signposts will be damaged immediately after the installation, and the signposts shall start from Debre Mariam Monastery to each proposed campsites and lodges along with the park boundary.

Revenue-Generating Mechanisms: The increasing significance of tourism as a source of income, employment opportunities, and regional development and as a major factor in the balance of payments for many countries has been crucial. Community based ecotourism development in a particular area can enhance revenue generation mechanisms by creating facilitating their fascinating indigenous tourist resources such as natural, cultural and historical assets of the area.

Organization/establishment of ecotourism societies or associations: Tourism activities in the Millennium Park are opportunities to generate income for the local community, by giving different service for both domestic and international visitors through eco-tourism societies. For example by establishing ecotourism society in all buffer zone villages and even in Bahir Dar. Tourism can create jobs such as guiding visitors, and selling products such as agricultural products, handcrafts, blacksmiths, pottery and conducting traditional art i.e. dance, and drama.

13.3 Recognize resources, challenges and cope up strategies

Park natural and cultural resources, associated challenges and innervations in different parts are differing in proximity to town interacting community, livelihood, land use and holdings and managing institutions. Hence, the park has been roughly delineated in three categories (The upper, the middle and lower part) that could be suitable for development and threat reduction intervention in park management and utilization approaches. This could be vital in addressing various issues of the park based on natural settings and the interests of the community in mosaic and interrupted distribution of natural and cultural issues that require respective intervening and solutions generation mechanisms.

First category (**The upper part of the park**): It covers areas from the outlet of Abay river from Lake Tana to Sebatamit with urban and suburban complex of natural and cultural community. This area mainly comprises different natural habitats of riverside wetlands, dense dry upland forest, islands with important species of Hippo, Papyrus and riverine indicator and conservation dependant species, plantation and rehabilitation sites for indigenous species. Different government and private institutions mandated for various activities also situated. Many of natural areas occupied by illegal landholdings and with improper land use systems mainly by subsistence dwellers. It also have residential and working buildings of different institutions, recreational infrastructures and development activities that are both good opportunities and potential resources and hops for better development of the park and

otherwise threats if they are not properly and closely work with park management officials to address conservation targets and management objectives as a principal stakeholders to sustain in effective use of existing natural and cultural resources.

Second category (The middle part of the Park): It comprises Sebatamit to Andasa dominated by more meandering and fragmented water ways interrupted by igneous rock, wetlands and dry upland and islands mainly managed by subsistence rural farming communities. Extensive grazing lands, Chat, teff, maize, and finger millet production often irrigated farming for chat and fruit crop production and Eucalyptus plantation. Cultivation very close to the river, overgrazing, charcoal production and deforestation area the major threats. Many of farming plots are with legal holdings by homogeneous rural community.

Third category (**The low part of the park**): It covers areas from Andasa to Mulilit the highest hill that found in the lower part of the park about five and three kilometers above below from Blue Nile fall respectively. The lower part of the park dominated by extensive grazing lands of riverside grasslands and encroached islands of Abogedam monastery with dense island forests, fragmented water ways, famous Blue Nile fall, Dry upland of Kachura and Mulilit viewpoints. Extensive, sugarcane and recently growing chat production, deforestation, overgrazing, illegal landholding and insufficient investment have become major issues of the area. The rural town of Tis Abay and institutions like office of Culture and tourism, Electric power station and few private investors, local guides and subsistence farming communities, schools, health station, recreational and transport service giving iron made both motorized and manual driven boat at near distance above Blue Nile fall. It is the only area currently used as tourist destination and through it significant amount of revenue has been generated area within the park boundary. This part of the park is more or less similar with the first part but differ in institutional capacity and buildings.

The following table shows summary of different habitats, natural and cultural resources, challenges, existing institutions, major activities and infrastructures at different parts of the park.

Table. 9. Locations for different activities and stakeholders intervention at different parts of the park

No	Location	Habitats	Challenges and threats	Existing Institutions	Activities/ Infrastructure	Owner (Implementer)	Expected action
The upper part of the park with urban and suburban complex of natural and cultural community							
1	**Debremariyam Islands**	Islands with Mixed habitats	Settlement and cultivation	Church Debremariyam	Boat recreation	Private Boat renters/drivers	Improve fruit production facilitation of Boat transport
2	**Cherechera to Godeguwadie**	Grasslands with igneous rock	Deforestation and overgrazing	Abay river outlet dam	A forestation, recreation and walkways	Visitors	Extensive re-vegetation with indigenous species along river shore and facilitation of trekking routs for visitors
2	**Godguadie to Textile**	Igneous dominated Wooded and	Unrestricted movement and institutional buildings	Buildings, main bridge Textile and Memorial Monument Cultural center	Offices, Car wash Factory Historical and cultural museum Recreation	Regional council Car wash association Memorial monument office	Protect illegal activities and landholdings Select suitable vegetable and fruit production systems Develop recreational sits with minimum impact on natural setting Protect water pollution from wastes Buildings should be 75-100m away from the river shore line and short in height
4	**Textile to BDU**	Wetlands and Igneous rock	Illegal landholding Pollution	Settlement and Chat production	Recreation and Crossing Boat	Private holdings Subsistence communities	Botanical garden Boat Transport School of culture Riverside trekking Papyrus harvesting and rehabilitation Wetland Management
5	**Monument to Bezawit**	Wetland plantation Reaforestation	Encroachment and Illegal landholding	Fruit and vegetable Nursery Recreational sites	Carwash, Cultivation and plantation Pig production	ORDA ARARI Private Holdings	Reduce Expansion of farmlands Establish recreational Sites Boat transport Promote fruit production Remove Il liege land holding
4	**Bezawit**	Upland Dense Forest and Grasslands	Grazing, Illegal landholding Cultivation Deforestation	Bezawit palace	Forestation Access road Viewpoint Recreational	Federal Palace Administration	Enhance aforestation in indigenous spp. Protect illegal land holding and cultivation Develop proper use/administration of palace Prevent expansion of exotic plantation and invasive species of Lantana camara and

No	Location	Habitats	Challenges and threats	Existing Institutions	Activities/ Infrastructure	Owner (Implementer)	Expected action
							spreading of Sisal and Eucalyptus
5	**BDU and Tekelehayimanot**	Wetland Islands Wooded with igneous rock Hippo -habitats	Grazing Illegal landholding Encroachment Ownership conflict Unrestricted movement	BDU Tekelehayimanot Private Chat grower	Boat transport Recreational Forestation Walkways	BDU Private holdings Tekelehaymanot	Assure proper land holding Develop botanical garden Construct school of culture and gust house Protect unrestricted movement Develop wetlands Proper use of Papyrus pant Develop recreational walkways
6	**Bure Fesses Seyum Sefer to Shakuarie**	Dry upland Wetland Islands	Encroachment Settlement Illegal landholding Overgrazing Deforestation	Bahir Dar loader and un loaders association Two settlement	Irrigation farm Vegetable production Papyrus harvesting	Settlement Office of association	Irrigation demonstration A forestation on viewpoints at Burefeses and Shakuarie Protect riverside farming and devastation of wetland Proper use of papyrus
7	**Addis Alem (Gordema)**	Wetlands Grassland with igneous rock	Pollution of water by leather factory Overgrazing	Two leather factories Chat growers irrigation field	Chat production Grazing Leather production	Tow leather factories Chat Growers Grazers	Prevent draining of waste to the water Minimize or change chat production to other suitable system Develop systems of overgrazing A forestation and rehabilitation
The middle part of the park: extensive grazing lands of grasslands with igneous rock; dense island forests and fragmented irrigated farming plots interrupted by igneous rock							
1	**Sebatamit, Arefame and Reti**	Grassland with Igneous rock Dense island forest Open grassland	Overgrazing Encroachment Cultivation Deforestation	Trekking routs and Papyrus boat for water crossing	Chat production Irrigation Fruit crop	Subsistence farmers Laborers	Forestation and viewpoints Minimize overgrazing Protect illegal land use Awareness on the value of the park Recreational camping site Posit site and entrance road

No	Location	Habitats	Challenges and threats	Existing Institutions	Activities/ Infrastructure	Owner (Implementer)	Expected action
2	Forkit, Meskela, Kurt Jibgodo, Durem and Dong Ambo	Grassland with Igneous rock Dense island forest Open grassland Wetlands	Overgrazing Encroachment Riverside erosion Cultivation Deforestation	Subsistence farming community	Grazing Chat production Charcoal production	Farming community	Forestation Minimize overgrazing Protect charcoal production Awareness on the value of the park entrance road papyrus management
3	Andasa, Ytefit, Tigza , Sebato, Gores, Rashailu and Bushit	Open grassland Wooded land Dense island forest Open grassland Wetlands Dry upland	Overgrazing Encroachment Riverside erosion Cultivation Deforestation Pollution Fuel wood collection	Subsistence farming community Andasa holy water	Grazing Charcoal production Fire wood collection	Andasa rural town Farming community Priests of Andasa holly water Patients	Forestation viewpoints Minimize overgrazing Protect pollution Awareness on the value of the park Recreational camping site Posit site and entrance road Riverside trekking and crossing boat Change current works of wood collection
The lower part of the park: extensive grazing lands of grasslands with dense island forests, fragmented water ways, famous Blue Nile fall, dry upland and irrigated farming plots							
1	Dasera, Tis Abay Abogedam, Blue Nile fall, Kchura and Muilit	Open grassland Wooded land Dense island and fal l and encroached forest Wetlands Dry upland	Overgrazing Charcoal production Deforestation Encroachment Expansion of farmlands and settlement Fuel wood collection Use conflict	Monastery Culture and tourism office Hydro electric power station Small rural town Private investors	Chat and sugar cane production Livestock raising Boat transport Trekking routs Recreational sites	Subsistence community Culture and tourism EELPA Investors Government sectors Religious institute	Forestation viewpoints Minimize overgrazing Protect pollution Awareness on the value of the park Recreational camping site Posit site and entrance road Riverside trekking and crossing boat Change current works of wood collection

Table.10. Strategic Programs, operational activities, target sites of implementation, responsible principal stakeholder (S) and time frame.

	Strategic Programs	Operational Activities	Responsible stakeholders	Implementation years EC				
				2003	2004	2005	2006	2007
1	**Natural Resources development program**	Conducting vegetation inventory document assessment to qualify and quantify the forest resource	**BDBNRMPO and Reserchers**	**X**	**X**			
		Identify and quantify possible none extractive forest use in the natural forest patches	**BDBNRMPO and Reserchers**	**X**				
		Identify and demarcate possible economic forest zones based on forest inventory report and community participation	**BDBNRMPO and Reserchers**		**X**			
		Establish participatory forest management groups for management of forest sites such as hotspot, restoration, and agro forestry sites.	**BDBNRMPO**		**X**			
		Identification of multipurpose species that suit the local environment and production nursery	**BDBNRMPO and Reserchers**	**X**				
		Identify possible agro forestry training and practices for community representatives	**BDBNRMPO and BDU**	**X**				
		Develop systems and foster rehabilitation and maintenance of indigenous species	**BDBNRMPO, BOARD, BARD,**	**X**				
		Conduct a study to better understand the feed, habitat and population dynamics of Hippo and others wild animals inventory.	**BDBNRMPO and Reserchers**	**X**				
		Monitoring and protection of threats on Hippo, reptile and bird species against habitats disturbance and poaching	**BDBNRMPO and Reserchers**		**X**			
		Identify natural features contribution for tourism and sustainable conservation schemes	**BDBNRMP and BCTPD**	**X**				
		Protect existing wildlife population from poaching threats	**BDBNRMP and Community**	**X**				
		Monitor and remove invasive species	**BDBNRMPO and Community**	**X**	**X**	**X**	**X**	**X**
		Establish botanical garden	**BDBNRMP, BDU**		**X**	**X**	**X**	
2	**Water Resource Deveopment Programe**	Identify areas of river course, riverside habitats and associated plant, animals, scenic beauty and distinct places utilization	**BDBNRMP and Researchers**		**X**			
		Delineate activities that are causes for water pollution and the main sources draining to the river course	**BDBNRMP and Researchers**		**X**	**X**		

	Strategic Programs	Operational Activities	Responsible stakeholders	Implementation years EC				
				2003	2004	2005	2006	2007
		Identify sites that can be used for boat recreation, river crossing, recreational sites, islands and water ways use for sustainable tourism development	**BDBNRMP and Community, BCTPD**	**X**				
		Develop systems to use river water shoreline sits that suites for infrastructure development for visitors' accommodation and recreational sites with minimum impact on natural setting	**BDBNRMP and Community, BCTPD**	**X**				
3	**Biodiversity and managemen t program**	Conduct regular monitoring on the status of principal ecosystem components (PEC) to prioritize and implement immediate actions of preventing undesired human impact	**BDBNRMP and Community, BCTPD**	**X**				
		Develop activity plan for conservation techniques at spatial and temporal scale	**BDBNRMP and Board, City Adminstration**		**X**	**X**	**X**	**X**
		Minimize human and domestic stock intervention and develope implementation of agreed systems	**BDBNRMP and Community,**		**X**	**X**	**X**	**X**
		Investigate options for maintaining ecological process impact of tourism dynamicity and feature viewing	**BDBNRMP , Community, Researchers**	**X**	**X**	**X**	**X**	
		Develop suitable monitoring and control sites on poachers and other adverse effect on PEC	**BDBNRMP and Community,**	**X**	**X**	**X**	**X**	
		Establish well equipped forces and facilitated systems to control illegal acts of poachers on time	**BDBNRMP and Community, CA, SA**		**X**	**X**		
		Construct hand dug temporary water well and broaden/or remove silts so as to increase water holding capacity of natural ponds	**BDBNRMP, ORDA, BWRS, BDU**	**X**	**X**	**X**	**X**	**X**
		Areas with suitable tree species in the buffer zone should be demarcated for honey production under strict in conservation zone ensuring not to be cut	**BDBNRMP, BDU, ARARI, ORDA**		**X**	**X**	**X**	**X**
		Put sign posts safe walk ways and transport services on crtical habitats and PEC	**BDBNRMP**	**X**	**X**			
4	**Tourism and recreation managemen**	Heritage and cultural assessment, research and documentation on tourism management issues	**BDBNRMPO, BCTPD and Researchers**	**X**				
		Community awareness to be implemented tourism in community development	**BDBNRMP**	**X**	**X**	**X**	**X**	**X**

	Strategic Programs t Program	Operational Activities	Responsible stakeholders	Implementation years EC				
				2003	2004	2005	2006	2007
		Developing and approving creation and safety guidelines	**BDBNRMP, Community and Security affairs**			**X**		
		Update park safety information to public	**BDBNRMP and Security affairs**	**X**	**X**	**X**	**X**	**X**
		Establish information centers and signs at key locations including rules and regulations	**BDBNRMPO and BCTPD**	**X**	**X**	**X**	**X**	**X**
		Construct infrastructures (based on demand) including Transportation facilities and services, water supply, electric power, solid waste disposal, toilet, telecommunications	**NGOs, BDBNRMP, BWRD, EELPA, TELE**		**X**	**X**	**X**	**X**
		Construct camping and post sites and trekking routes and available facilities and pack animas for human and pack animals	**BDBNRMPO, BCTPD, Community, Investors**	**X**	**X**	**X**		
		Training of local guides and other service giving personals to visitors	**BDBNRMPO, BCTPD, BDU**		**X**	**X**	**X**	**X**
		Delineate attraction sites in their respective category and detail	**BDBNRMPO, BCTPD, Researchers**	**X**				
	Community development progrm (Outreach)	Conduct a clear and continuous dialogue between the park authority and the community	**BDBNRMPO, BCTPD and Community**	**X**	**X**	**X**	**X**	**X**
		Identify legal and illegal interventions and buildings as well as farming activities	**BDBNRMPO, CA and Community**	**X**				
		Remove illegal activities and residents within the park	**BDBNRMPO, SA, CA, and Community**		**X**	**X**	**X**	**X**
		Create conservation groups and organize promotion activities	**BDBNRMPO, SA, CA, and Community**	**X**				
		Develop farming conflict resolving methods	**BDBNRMPO, SA, CA, and Community**	**X**				
		Provision of business infrastructure	**BDBNRMP, SIO, Community**		**X**	**X**	**X**	**X**
		Select priority economic activity centers that suites for resources and tourism development	**BDBNRMP, SIO, Community**		**X**			
	Park operation (Administration)	Revising and understanding legislation, General Policies	**RC, Board, CA, BDBNRMPO**			**X**	**X**	**X**
		Develop management plan and tourism strategic document	**BDBNRMP and Consultant**		**X**	**X**		
		Carry out law enforcement activities	**Board, CA, SA, BDBNRMPO**	**X**	**X**	**X**	**X**	**X**
		Fulfill quality and quantity of the staff and employees	**BDBNRMPO, Board, CA,**	**X**				

	Strategic Programs	Operational Activities	Responsible stakeholders	Implementation years EC				
				2003	2004	2005	2006	2007
	progrm	Provide appropriate infrastructure and equipment	BDBNRMPO, NGOs, Potential investor, BDU, CA		X	X	X	X
		Building access roads with the desired design and standard	BDBNRMPO NGOs, Potential investor, BDU, CA		X		X	X
		Fulfill office building facilities and tourist information center	BDBNRMPO, NGOs, Potential investor, BDU, CA		X			
		Build post site and campsit houses and watering points	BDBNRMPO, NGOs, Potential investor, BDU, CA		X	X	X	X
		Staff training on management of park infrastructures	BDBNRMPO, BCTPD, BDU, CA			X	X	X
		Construct Gust houses and cutural and recreational centers	BDU, Potential investors		X	X	X	
	Cross cutting issues management program	Stakeholder networking and effective communication	BDBNRMPO, BCTPD, BDU, CA	X	X	X	X	X
		Educating on means of combating undesired acts	BDBNRMPO, BCTPD, BDU, CA, SA	X	X	X	X	X
		Stakeholder forum formation and consultations for fund raising	BDBNRMPO, Board, BCTPD, BDU, CA, SA, Community	X	X			
		Stakeholder monitoring and evaluation	BDBNRMPO, Board, BCTPD, BDU, CA, SA, Community	X	X	X	X	X
		Conduct research programs on: Ecosystem, NRM, Wildlife ,Birds ,Reptiles ,Water resources ,Vegetation ,Socioeconomics	BDBNRMPO, BCTPD, BDU, Researchers		X	X	X	X
		Continuous advice and monitoring on Women and Associated problems with effective solution	BDBNRMPO, BWA	X	X	X	X	X
		Regular discussion with local community and stakeholders on main streaming HIV/AIDS and Women and Childern affairs	BDBNRMPO, BWA, HIV secretariat	X	X	X	X	X
		Develop Mechanisms to reduce negative impacts of tourism	BDBNRMPO, Board, BCTPD, BDU, CA, SA, Community			X	X	X
		Park boundary consolidation in implementing laws and bylaws	BDBNRMPO, CA, SA, Community	X				

14. Monitoring, evaluation and revision of the strategic plan

14.1 Monitoring and evaluation systems

Monitoring and evaluation are also a key component of future adaptive specific attraction sites management and music nature of resources and intervention mechanisms; so that the overall benefits from this development plan implementation could be maximized reduction mechanisms to negative impacts through continuous monitoring and evaluation and corrective measures for the impediments.

Monitoring and evaluation are conducted with planed time interval. However, sometime random inspection can be carried out when unexpected problem or challenges that require immediate solution can be generated. Monitoring and evaluating of the plan implementation and associated impacts require revision mainly after its implementation besides modification in the mean time. The plan must be used as a base for specific management plan and integration with other attraction sites.

Table. 11, Indicators and means of verification in monitoring and evaluation

Indicators (outputs)	**Means of verification**
Improved protection and reserved heritages	Observation and visiting limited accessed areas and conservation schemes evaluation and reports on conservation effectiveness
Rehabilitated natural settings, vegetation cover and maintained habitats	Observation of areas show designated output and reliable field reports on rehabilitation performance
Construction of institutional and residential buildings at desired level	Required buildings within the park built at least 100m away from the river shoreline and short in height only connected with trekking route to river shore
Removal of illegal landholdings	If area is legally owned at required condition
Resolved use conflicts and competition	None or reduced use conflict appeals and whiteness reports
Constructed and maintained access roads	Reach to destination site by car or designated means of transport at required time at normal condition
Facilitated accommodation and reception	Visitors and field evaluation report and condition assessment report
Increased benefited community	Change in to good life style
Increasing satisfaction level of tourists	Tourists' feedback and number increase
Required information provided to tourists	Feedback from tourists
Diversifying tourist products	Number of tourists `and products in type
Provided required quality services	Feedback from tourists
Promote tourism resource nationally and internationally	Increased tourist number
Increased the involvement of the community as a stakeholder	Number of local people involved in respective tourism activity
Increased benefit of local community	No of community involved. Expected gain and available public services rendered
Protect and preserve natural resources	Rehabilitated natural habitats and viable population
Strong coordination among stakeholders	Report and increased composition of different actors and decision measure

Infrastructure coverage and condition	Frequent access and density
Clean and safe environmental set up	Tourist comments and satisfaction report
Protected and well managed biophysical resources	Evaluation and observation reports

Monitoring and evolution report should address in assessing: Effective organization of conservation and development of tourism is an essential institutional element to achieve proper development and continuous management of the tourism sector. Organizational structures for conservation and tourism development in Amhara region currently exist can facilitate to be more effective. An important aspect of organization is achieving close co-ordination among government agencies and between the public and private sectors on heritage conservation and tourism development.

The respective institutions, woreda and kebele level government, private and community stakeholders and other institutions working on conservation and tourism also execute these activities up to their terrestrial limit or administration level. Furthermore, their work with relevant stakeholders at regional and national level on activities designed to execute on the attraction sites in their mandated sites. At all required level, and same time they are accountable for impediments generated by themselves or if they are causes to those factors haphazardly affect the resources of the park or sustainable use..

14.2 Major considerations and approaches in park management

- Natural and cultural resource and tourism development strategies and programs must be based on realities existing today coupled with the needs of current and future generation that could ensure sustainable conservation and tourism development. Tourism development must include conservation and formulation of environmental resources, cultures and enterprise sustainable development demand.

- The need to build a strong cooperation with all relevant sectors, particularly with rural development agencies and the community that owned the resource and immediate human and natural environment

- Essential participatory approach in conservation, facilitation, construction of tourism infrastructures call for people-centered development. That is, individuals and communities need to feature prominently in the process. It is a call for sharing responsibilities and benefits, improving hospitality, increasing local knowledge on tourism, sharing problem-solving and sensitivity of tourism development to the environment, protection, conservation, and judicious utilization of natural resources.

- The need to consider tourism as a supplement rather than a displace to any rural or urban undertaking strongly reminds that there is a tourism product of some type and amount in whatever endeavor one is engaged in.

- The need to pursue a market oriented tourism development notes that tourism is a big business. Therefore, like any other product produced for the market, tourism product needs to be profitable. To be profitable its production should be efficient and cost-effective.

- The urgency to integrate and mainstream tourism development incorporating commitment to develop tourism not only at the policy but also at the technical and operational level that could bring attitudinal change at various levels; raise the institutional structure of tourism in order to make optimal use and participation of the private sector in tourism development.

- The infrastructural and other livelihood activities development plan need to have mechanisms that provide legal protection and ensure the security of resources and tourist hustle and avoiding bad mannerism, to have a rapid and sustained growth in the tourism sector.

- Focus on the promotion of domestic tourism and community managing destination sites recognizing the indispensable value of domestic tourism that can be an important source of employment, knowledge sharing, building civic and cultural relationship and network among the peoples of Ethiopia, and market for tourism facilities and services besides better management through committed ownership of natural and cultural resources.

- Facilitation with primary objective of promoting private investment in the tourism industry: The draft regional policy document considers the private sector role in tourism development. It recognizes the need to undertake a study or a series of studies aimed at generating measures and recommendations to increase the participation of private capital in the sector.

- All stakeholders have access to improve and facilitated any development efforts with full recognition of the principal conservation and management objectives of the park. Furthermore, they are requested to execute their mandates far from significant impediments to natural and cultural resources of the park.

15. Out puts

At the end of the strategic plan implementation time the following outputs will be an effect of the park with proper execution of designated activities in respective program.

◊ Removed or reduced of cultivation, settlement, overgrazing, use conflicts and illegal landholdings by 75% from limited accesses zone of the park (Keblee 8 riverside settlement areas, Peda Tekelehayimanot river shore and nearby wetlands, Shakuarie hill top, Arefame, Durem and Dong Ambo, Andasa, Around Tis Isat (Bue Nie Fall) and all islands.

◊ Established, organized and capacity build of two local guide associations at Bahir Dar and Tis Abay and two ecotourism association at Sebatamit and Andasa.

◊ Re-vegetated of degraded sites at Riverside of Cherechera to Godguwadie, Bezawit, Shaquwarie, Kutitit, Abalo, Ras hailu and Around Blue Nile fall to recover near to their natural state by indigenous species with effective protection with 75% survival rate

◊ Established five out posts at Godeguwadie, Bezawit, Arefame, Andasa and Kachura

- ◊ Established and facilitated three campsites at Arefame (Kutetit), Andasa and Tis Abay (North west of Tis Abay Town)

- ◊ Facilitated and promoted community**,** potential investors and institution**s** to construct **four** eco**l**odges at Bezawit, Arefame (Sebatamit), Andasa and Tis **Ab**ay.

- ◊ One botanical garden established and required p**l**ant species collected, nursery and seed sources de**l**ineated and owned **by** BDU at East of its main campus.

- ◊ Three boat transport and recreation association at Kebele 8 to 11, Pedat to Bezawit and Tis Abay crossing sites established, facilitated and promoted on the course of the river.

- ◊ Based on detail studies and delineated management zone with respective socioeconomic factors addressed in gap analysis General management plan developed and approved in 2011 (end of 2003 E.C)

- ◊ Organized community groups for sustainable harvest and protection of wetland species Mainly Papyrus and seepage grass etc at required time

- ◊ Generate income from tourism Around Bahir Dar and river course recreation, observation of landscape and Bezawit palace and increase revenue from tourism at Tis Abay by 20%

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Annex 1 Woody pants and uses in BDBNRMP

S/N	Scientific Name	Family Name	Local Name	Plant Form	Major Utilization for
1	*Acacia abyssinica Hochst. ex Benth*	Mimosaceae	Yabesha gerar	Tree	1, 2, 5, 6, 7, 8, 9,
2	*Acacia polyacantha Wild sub sp campylacatha*	Mimosaceae	Nech gerar	Tree	1, 2, 3, 5, 6, 7, 8, 9,
3	*Acacia seyal Del.*	Mimosaceae	Key Gerar	Tree	1, 2, 5, 6, 7, 8, 9,
4	*Achanthus eminens C.B Clarke*	Acanthaceae	Kosheshela	Shrub	1, 2, 5,
5	*Achanthus sennii chiove.*	Acanthaceae	Kosheshela	Shrub	1, 2, 5,
6	*Acokanthera schimperi (A.DC.) Schweinf*	Apocynaceae	Merez	Tree	1, 2, 3, 7, 8, 9,
7	*Agava sisalana perr. ex Eng./*	Agavaceae	Kacha (Chiret)	Tree	1, 2, 6,
8	*Albizia schimperiana Oliv.*	Mimoseceae	Sesa	Tree	1, 2, 5, 6, 7, 8, 9,
9	*Albizia malacophylla (A.Rich.) Walp.*	Fabaceae	Sendel	Tree	1, 2, 5, 6, 7, 8, 9,
10	*Aloe berhana Reynolds /*	Aloaceae	Eret	Shrub	3, 6,
11	*Annona chrysophylla BoJ.*	Annonceeae	Gishta, yebere leb	Shrub	4,
12	*Apodytes dimidiata (A.Rich)Boutque*	Leacinaceae	Donga	Tree	1, 2, 6, 8,
13	*Arundo donax L. Schum.*	Poaceae	Shembeko	shrub	1, 3, 5, 6, 7, 8,
14	*Bersama abyssinica Fresen.*	Melianthaceae	Azamir	Tree	1, 2,
15	*Boswellia pirottae Chiov*	*Burseraceae*	Yetan zaf	Tree	1, 2, 3,
16	*Bridelia micrantha (Hochst.) Baill.*	Euphorbiaceae	Yeneber Tifer	Tree	1, 2,5, 6, 8, 9,
17	*Brucea antidysenterica J.F. Miller /*	Simaroubaceae	Yedega Abalo	Shrub	3, 6,
18	*Buddleja polystachya Fresen.*	Buddlejaceae	Anfar	Tree	1, 2,
19	*Caesalpina decapetala (Roth) Alston /*	Caesalpinioideae	Yeferenji keteketa/Ater	Woody Climber	2, 6,
20	*Caesalpina spinosa (Molina) Kuntze /*	Caesalpinioideae	Konter	Woody Climber	2, 6,
21	*Caloptropis procera (Alt) Alt.f./*	Asciepladaceae	Tobiyaw	Shrub	3,

22	*Calpurnia aurea (Alt.) Benth.*	Fabaceae	Zegeta	Shrub	1, 2, 3,
23	*Capparis tomentosa* Lam.	Capparidaceae	Gemero	Woody Climber	3, 6,
24	*Carissa edulis (Forssk.) Vahl*	Apocynaceae	Agam	Shrub	1, 2, 5, 6, 7, 8, 9,
25	*Cassia didymobotrya*	Caesalpinioideae	Serkabeba/ Gemagmit	Shrub	2,
26	*Cassia siamea (Senna siamea)*	Caesalpinioideae	Yeferenji Zegeta	Shrub	2, 6,
27	*Cassia singueana (Del.)*	Fabaceae	Gufa	Shrub	2, 3,
28	*Casuarina equisetifolia L.*	Casuarinaceae	Shewashewe/ Erzelibanos	Tree	1, 2,6, 8,
29	*Catha edulis (Vahl) Forssk. ex Endl. /*	Celastraceae	Chat	Shrub	4, 7,
30	*Celtis africana Burm. f.*	Ulmaceae	Kewoot	Tree	1, 2, 6, 7, 8, 9,
31	*Cissus qudrangularis L.*	Vitaceae	Yezhon Anjet	Shrub /Climber	1,
32	*Citrus aurantifolia Christm.). Swingle*	Rutaceae	Lomi	Tree	3, 4,
33	*Clausena anisata (Wild.) Benth.*	Rutaceae	Limich	Shrub	3, 7,
34	*Clemanths longicauda Steude. Ex. A. Rich*	Ranunculaceae	Azo hareg	Woody Climber	3,
35	*Clutia abyssinica Jaub & Spach*	Euphorbiaceae	Feyelefej	Shrub	2,
36	*Coffea arabica L.*	Rubiaceae	Buna	Shrub	4,
37	*Combretum collinum Fres.*	Combretaceae	Avalo/ Tinjut	Tree	1, 2, 3
38	*Combretum molle (R.Br. ex Don.) Engl. & Diels*	Combretaceae	Avalo	Tree	1, 2, 3, 5, 7,
39	*Commiphora africana (A. Rich.) Engl.*	Burseraceae	Ankua	Tree	2, 5, 6, 7, 8, 9,
40	*Cordia africana Lam. /*	Boraginaceae	Wanza	Tree	1, 2, 3, 4, 5, 6, 7, 8, 9,
41	*Crica papaya L.*	Caricaceae	Papaya	Tree	4, 7,
42	*Croton macrostachyus Del.Hochest. ex. Del.*	Euphorbiaceae	Bisana	Tree	1, 2, 3, 6, 8, 9,
43	*Cucomis prophetarum L.*	Cucurbitaceae	Yemeder Embuwayie	Shrub	5, 6,
44	*Cupressus lucitanica Mill*	Cupressaceae	Yeferenj Tid	Tree	1, 2, 6, 7, 8,
45	*Cussonia ostinii Chiov.*	Araliaceae	Gedetamo/ Chakmit	Tree	1, 8,
46	*Delonix regia (Boj. ex. Hook. f..). Rafin.*	Caesalpiniaceae	Yederedawa zaf	Tree	1, 2, 6,

72	*Grewia bicolor Juss*	Tiliaceae	Sefa / Sumaya	Tree	1, 2, 3, 4, 5, 7, 9,
73	*Grewia ferruginea Hochst .ex. A. Rich*	Tiliaceae	Lenkuwata	Tree	1, 2, 3, 4, 5, 7, 9,
74	*Hibiscus ludwigil Eckl & Zeyha*	Malvaceae	Nacha	Shrub	1,
75	*Hypericum quartinianum A Rich*	Hypericaceae	Telembosh/ Amja	Shrub	5,
76	*Jacaranda mimosifolia D. Don.*	Bignoniaceae	Jacaranda	Tree	1, 2, 6,
77	*Jasminum abyssinicum Hochst ex. DC.*	Oleaceae	Terohareg	Shrub	1,
78	*Jasminum grandiflorm L.*	Oleaceae	Tembelel	Woody climber	1,
79	*Juniperus procera Endl*	Cupressaceae	yabesha Tid	Tree	1, 2, 6, 7, 8,
80	*Justicia schimperana (Hochst ex Nees)*	Acanthaceae	Semisza/ Sensel	Shrub	1, 6,
81	*Lannea schimperi (Hochst. Ex A. Rich.) Engl.*	Anacardiaceae	Worchebo/ Duduna	Tree	1, 2, 8, 9,
82	*Lantana camera L. /*	Verbenaceae	Yewof Kolo	Shrub	2, 6,
83	*Lantana trifolia L. /*	Verbenaceae	Yeregna Kollo or Kessie	Shrub	1, 3,
84	*Leucaena leucocephale (Lam,) De Wit*	Fabaceae	Lukinia	Tree	1, 2, 5,
85	*Maerua anolensis DC*	Capparidaceae	Not determin	Tree	6,
86	*Mangifera indica L.*	Anacardiaceae	Mango	Tree	4,
87	*Maytenus arbutifolia (Hochst ex. A. Rich.) Wilczex.*	Celastraceae	Atat	Srub	1, 2, 5, 6,
88	*Maytenus gracilipes Supsp arguta (Loes.) Sebsebe /*	Celastraceae	Geram Atat	Shrub	1, 2, 5, 6,
89	*Maytenus senegalensis (Lam.) Exell*	Celastraceae	Kokoba	Tree	1, 2, 3, 5,
90	*Melia azedarach L.*	Meliaceae	Neem	Tree	1, 2, 6,
91	*Milletia ferruginea (Hochst.) Bak.*	Fabaceae	Birbera	Tree	1, 2, 3, 6,
92	*Mimosa invasa Mart. Ex. Colla. /*	Mimosoideae	Yesew Neger	Shrub	5,
93	*Mimusops kummel A.DC.*	Sapotaceae	Ishe	Tree	1, 2, 3, 4, 5, 6, 7, 8, 9,
94	*Musa paradisaca L*	Musaceae	Muz	Plantain	4, 1
95	*Nuxia congesta Fresen.*	Longanaceae	Keskessie	Tree	2,
96	*Ocimum lamiifolium Hochst. ex Benth. /*	Lamiaceae	Dama kessie	Shrub	2, 3,

97	*Olea capensis subsp welwitschii (Knobl)*	Oleaceae	Qerer/ Seged Woyira	Tree	1, 2, 3, 5,
98	*Olea europaea (Wall. ex DC.). Ciofferri*	Oleaceae	Woyira	Tree	1, 2, 3, 5, 6, 7, 8, 9,
99	*Opuntuia ficus-indica (L) Miller*	Cactaceae	Beles Kulkual	Tree	3, 6,
100	*Osyris quadripartita Decn. /*	Santalaceae	Keret	Tree	5, 6,
101	*Otostegia integrifolia Benth. /*	Lamiaceae	Tinjut	Shrub	2, 3,
102	*Otostegia tomentosa subsp ambigiens (chiov.) Sebald*	Lamiaceae	Nechelo /Tinjut Mesel	Shrub	1, 2, 3,
103	*Persea americana Mill. /*	Lauraceae	Avocado	Tree	4,
104	*Phoenix reclinata Jacq.*	Arecaceae	Zembaba/ Selen	Tree	1, 3, 6, 7,
105	*Phragmanthera regularis (Sprague) M. Gilbert*	Loanthaceae	teketela	Epiphyte	6,
106	*Phytolacca dodecandra L. Her*	Phytolacaceae	Endod	Woody climber	3, 6,
107	*Piliostigma thonningii* (Schumach.) Milne-Redh	Fabaceae	lafdi/ Y/ wanza/ Alamati	Tree	1, 2, 3, 4, 5, 6, 7, 8, 9,
108	*Pittosporum viridifolium Sims. /*	Pittosporaceae	dengayie Seber/ Ahot/	Tree	1, 2, 3,
109	*Podocarpus falcatus (Thumb) Mirb. /*	Podocarpaceae	Zegeba	Tree	1, 2, 3, 6, 7, 8, 9,
110	*Premna schimperi Engl. /*	Verbenaceae	Checheho	Shrub	1, 2, 3, 7,
111	*Psidium grajava L. /*	Myrtaceae	Zeyituna	Tree	4,
112	*Pteroloblum stellautm (Forssk.) Brenan. /*	Fabaceae	Kentefa	Woody Climber	2, 5, 6,
113	*Rhamnus prinoides L Herit*	Rhamnaceae	Gesho	Tree	3, 4,
114	*Rhus glutinosa Hochst. ex A. Rich*	Anacardiaceae	Embus kamo	Tree	1, 2, 3, 4, 5,
115	*Rhus vulgaris Meikle*	Anacardiaceae	kamo	Tree	1, 2, 3, 4, 5, 6, 7, 9,
116	*Ricinus communis L. /*	Euphorbiaceae	Gulo/ Chakma	Tree	1, 3,
117	*Rumex nervosus (Vahl) /*	Polygonaceae	Embacho	Shrub	2, 3,
118	*Sapium ellipticum (Hochst.). Pax*	Euphorbiaceae	Arboji	Tree	1, 2, 5, 6, 7, 9,
119	*Schefflera volkensii Harms.*	Araliaceae	Getem	Tree	1,
120	*Schinus molle L. /*	Anacardiaceae	Kundo Berbere	Tree	1, 2, 3, 6, 7,
121	*Securinega virosa (Roxb. ex. Wild.)*	Euphorbiaceae	Wonahi	Shurb	1, 2,

122	*Sesbania sesban (L.) Merr.*	Papilionoideae	sesbania	Tree	1, 2, 5,
123	*Sida ovata Forsk*	Malvaceae	chifreg	Shrub	3,
124	*Solanum giganteum Jacq. /*	Solanaceae	Embuway) White leaf	Shrub	3, 5, 6,
125	*Solanum indicum L. /*	Solanaceae	(Embuway) pale green	Shrub	3, 5, 6,
126	*Steganotaenia araliaceae Hochst. Ex, A. Rich*	Apiaceae	Shenkore/ Enduka	Tree	1,
127	*Stereospermum kunthianum Cham*	Bignoniaceae	Zana	Tree	1, 2, 3, 8, 9
128	*Syzygium guineense F. White*	Myrtaceae	Dokma	Tree	1, 2, 3, 4, 5
129	*Tapinanthus globiferus (A.Rich) Tiegh. /*	Lortanthaceae	Teketela red	Epiphyte	6,
130	*Verbascum sinaiticum Benth. /*	Scrophulariaceae	Ketentina	Shrub	3,
131	*Vernonia amygdalina Del. In Caill.*	Asteraceae	Sete Gerawa	Shrub	1, 2, 3, 5, 6
132	*Vernonia auriculifera Hiern. /*	Asteraceae	Wondie Grawa/ Kotkoto	Shrub	1, 2, 5, 6,
133	*Vernonia leopoldii (Sch-Bip. ex Walp.) Vatke /*	Asteraceae	Chibo	Shrub	2,
134	*Ximenia americana L.*	Oleaceae	Enkoy	Tree	1, 2, 3, 4, 5
135	*Zizyphus mucronata Var.*	Rhamnaceae	Abetere/ Kurkura	Tree	1, 4, 3, 5, 6
136	*Zizyphus spina- christi (L.)Wild.*	Rhamnaceae	Gaba / Kurkura	Tree	1, 2, 3, 4, 5
137	Not determind	Not determind	Denbeto in MKBNF	Shrub	1,2
138	Not determind	Not determind	Zshankurt in PTH	Tree	1, 2, 4
139	Not determind	Not determind	Teji in SH, BAB, TKBNF	Tree	1,2, 9
140	Not determind	Not determin	Yewonz Ababa	Shrub	1

Major uses 1= Construction, 2= Fuel and charcoal, 3=Medicine and Sanitation 4= Food, 5 = Feed, 6= Fence and shed, 7= Sale, 8= Furniture and 9= Farm tools.

Annex 2 Wild animals in BDBNRMP

No.	COMMON NAME	SCIENTIFIC NAME
1	Aard Vark	Orycteropus afer
2	Abyssian Cat	*Geneta abyssnica*
3	Colobus Monkey	Colobus guereza (abyssinicus)
4	Abyssinian Hare	Lepus abessinicus
5	Anubis Boboon	*Papio Anubis*
6	Bush Pig	*Potamochoerus porcus*
7	Common (Golden) Jackal	*Canis aureus*
8	Crested Procupine	*Hystrix cristata*
9	Grimm's Duiker	*Sylvicapra grimmia*
10	Grivet Monkey	*Ceropithecus eothiops*
11	Hippopotamus	*Alcelaphus boselaphus*
12	Leopard	*Panthera ardus*
13	Ratel (honey badger)	*Mellivora capensis*
14	Serval Cat	Leptailurus serval
15	Spotted Hyaena	Crocuta crocutata
16	Warthog	Phacochoerus poreus
17	Crocodile	*Crocodiles niloticus*
18	Phyton	*Spp*
19	Variety of snakes	*Spp*
20	Lezarda	*Spp*
21	Chamelon	*Spp*

Annex 3. Bird Species in BDBNRMP

No	Common name	Scientific name
1	Abdim's Stork	*Ciconia abdimii*
2	African Pochard	*Aythya erythropialm*
3	African darter	*Anahinga rufa*
4	African fish eagle	*Hailaeetus vocifer*
5	African hoopoe	*Upupa epops africana*
6	African little Sparrow-hawk	*Accipiter minullus*
7	African pied wagtail	*Motacilla aguimp*
8	Black collared lovebird	Agapornis swinderniana
9	Black kite	*Milvus migrans*
10	Black-billed barbet	*Lybius quifsobalito*

No	Common name	Scientific name
11	Black-Headed Heron	*Ardea melanocephala*
12	Black-Shoulder Kiet	*Elanus caeruleus*
13	Black-winged stilt	*Himantopus himantopus*
14	Blure-eard glossy starling	*Lamprotornis chalybaeus*
15	Bronze sunbird	*Nectarinia kilimensis*
16	Carmine bee-eater	*Merops nubicus*
17	Cattle Egret	*Ardeola ibis*
18	Crowned crane	*Balearica regulorum*
19	Cormorant	*spp*
20	Variety of dove	*spp*
21	Egyptian Goose	*Alopochen aegyptiaca*
22	Egyptian goose	*Alopochen aegyptiaca*
23	Egyptian vulture	*Neophron percnopterus*
24	Ethiopian swallow	*Hirundo aethiopica*
25	Fan-tailed raven	*Corvus rhipidurus*
26	Glossy Ibis	*Plegadis falcinellus*
27	Goliath Heron	*Ardea goliath*
28	Great White Egret	*Egretta alba*
29	Green pigeon	*Treron australis*
30	Green-Backed Heron	*Butorides striatus*
31	Grey headed gull	*Larus cirrcocephalus*
32	Grey headed sparrow	*Paser griseus*
33	Grey Heron	*Ardea cinerea*
34	Grey-headed kingfisher	*Halcyon leucocephala*
35	Hammer cope	*Spp*
36	Helmented guineafowl	*Numida meleagris*
37	Hooded vulture	*Necrosyrtes monachus*
38	Indigo bird	*Hypochera chalybeata*
39	Kittltz's plover	*Charadius pecuarius*
40	Laughing Dove	*Streptopelia senegalensis*
41	Little Egret	*Egretta gazetta*
42	Little Grebe	*Podiceps ruficollis*
43	Mourning dove	*Streptopelia decipiens*
44	Namaqua Dove	*Oena capensis*
45	Nubian woodpecker	*Campethera nubica*
46	Olive thrush	*Turdus olivaceus*
47	Open Bill Stork	*Anastomus lamelligerus*

No	Common name	Scientific name
48	Pied crow	*Corvus albus*
49	Pied kingfisher	*Ceryle rudis*
50	Red cheeked cordone-bleu	*Uraeginthus bengalus*
51	Red-billed firefinch	*Lagonosticta senegala*
52	Ring-necked dove	*Streptopelia capicola*
53	Ruppell's Vulture	*Gyps rupellii*
54	Rupple's-headed glossy starling	*Lamprotornis purpureiceps*
55	Rupple's-long railed starling	*Lamprotornis purpuropterus*
56	Sacred Ibis	*Threskiornis aethiopicus*
57	Speckled pigeon	*Columba guinea*
58	Spurwing Goose	*Plectopterus gambensis*
59	Spur-winged plover	*Vanellus spinosus*
60	Squacco heron	*Ardeola ralloides*
61	Tawny eagle	*Aquil rapax*
62	Three Banded Plover	*Charadrius tricollaris*
63	Vulture	*Torgos tracheliotus*
64	Wattled Ibis	*Bostrychia carunculata*
65	Weaver spp.	spp
66	Well's wagtail	*Motacilla capensis*
67	White Face Tree Duck	*Dendrocygna viduata*
68	White headed vulture	*Trigonoceps occipitalis*
69	White Pelican	*Pelecanus onorotalus*
70	Yellow Billed Egret	Egretta intermidia
71	Yellow billed stork	*Ibis ibis*
72	Yellow-Billed Duck	*Anas undulata*

Source: Abraham Marye, 2009.

Annex .4 Investor indifferent areas of the park land size and purpose of investment

No	Investor/owner name	Area in m^2	kebele	service
1	Azene Hassen	1508	10	Horticulture
2	Suleman	500	10	Horticulture
3	Alyu Kemal	640	10	Horticulture
4	Abdu Ismael	832	10	Horticulture
5	Nurie Yasin	3023	10	Horticulture
6	Siraj Abdu	1840	10	Horticulture
7	Sheh Ahmed Hamid	4532	10	Horticulture
8	Kedir Mustofa	3228	10	Horticulture
9	Ali Fenta	4112	10	Horticulture

No	Investor/owner name	Area in m^2	kebele	service
10	Ahmed Wal	966	10	Horticulture
11	Kasaw Gebrie	10372	10	Horticulture
12	Abdela Wale	966	10	Horticulture
13	Umer Yenus	1820	10	Horticulture
14	Mustofa Tadese	8624	10	Horticulture
15	Dawd Gebrie	990	10	Horticulture
16	Biks Hamza	2112	10	Horticulture
17	Senite Mussie and Friends	3040	8	Silk production
18	Mesfina Admasu and others	4000	11	Silk production
19	Yeshebir Gasah and his friends	10050	11	Horticulture
20	Abay Dar youth Car washing Association	1000	10	Car washing
21	Woito Tribe community	50000	8	Fattening
22	For 24 youths	1200	11	Horticulture
23	Ene Gedif Ewnetu	500	8	Bee keeping
24	Zenbe Gebeyehu and others	6000	8	Fattening
25	Birhan Dessei	850	8	Fattening
26	Mesfina Admasu and others	7000	11	Horticulture
27	Alehegn and Getasew and others	4800	17	Silk production
28	Tazebew wale and others	750	8	Fattening
29	Aderajewe Agumas	1500	11	Fattening
30	Gashaw Alebachew and others	30000	7	Horticulture
31	Wondwesen Masresha	5000	8	Silk production
32	W/ro Tafesech Ezezew	3200	11	Cultural medicine
33	Habtamu Alehegn	400	11	Horticulture
34	Aderajew Agmas	2750	11	Flower plantation
35	Aseged Fisseha	5000	11	Horticulture
36	W/ro Fissum Assefa	5000	11	Horticulture
37	Dr Assefa	5000	11	Fattening
38	Tariku and Fekadu Bishaw	1200	10	Car washing
39	Aderajew Agmas	680	11	Fattening
40	Mesfin Admasu	4000	11	Silk production
41	Zineb Dagne	600	8	Milk production
42	Gennanaw Addis	500x8	8	Bee keeping
43	Anley Emeru	500x3	8	Bee keeping
44	Fogera gulf PL association	3000	8	Fattening

No	Investor/owner name	Area in m^2	kebele	service
45	Tinkish Yehar Limat Mahiber	4500	8	Silk production
46	Ene Hirut Asfaw	2516	8	Silk production
47	Ene Lemenih Lingerih	5200	8	Silk production
48	Mustefa Tadesse	4000	10	Horticulture
49	Yakob Eshete	2002	11	Poultry
50	Ene Behulu Kassa	20900	8	Flower plantation
51	Bezawit yesetoch atikilt frafre	50000	11	Horticulture
52	Sable Legesse	300	11	Poultry
53	Lemat Mahiber (Lewetatoch)	1980	11	Horticulture
54	Ashref Endustry	5000	8	Fattening
55	Abebaye Hunegnaw	10000	11	Horticulture
56	W/ro Fitsum Assefa	3010	11	Library
57	Edget Betiret PL association	2500	11	Fattening
58	Aseged Fisseha	5000	11	Horticulture
59	Abay Koda Fabrica	40000	7	Tannery
60	Worku Mogess	20000	11	Silk production
61	Mekedem Ethiopia	42500	13	Horticulture
62	Ene Merem Mohammed	450	8	Bee keeping
63	Fitsum Assefa	3970	11	Forest
64	Alazar Tilahun	49800	11	Horticulture
65	Yearegaweyan Mahiber	49800	8	Horticulture
66	Ayele Kassa	975	11	Horticulture
67	Alemayehu Teka	5000	8	Silk production
68	Arega Eshetu	10000	11	Forest
69	Zewde Taye	4850	10	Fishing
70	Ene Solomon Kassie	25000	17	Horticulture
71	Ene Fisseha Hunachew	2500	17	Horticulture
72	W/ro Takele Legesse	300	11	Poultry
73	Assegid Fisseha	5000	11	Milk production
74	Abay Tannery PL association	40000	7	Tannery
75	Melese Tegegne	3000	11	Biological centre
76	Bahir Dar textile factory	198418	8	Textile
77	Bahir Dar University (peda)		7	Education
78	Sera Amerar Maseltegna	193674	7	Training
	total	1014730		

Source Bahir Dar Municipality as cited by Berhanue, et al 2007.

Annex 5: Pioneers, technical team report and researchers on different issues of the park

Name	Activities	Title of prepared research document
H.E. Ato Ayalew Gobezie President of ANRS	Principal investigator	Initiated the dignified idea to establish the park as Abay (Bahir Dar Blue Nile Millennium Park)
Berhanu Gebre Mohamed from PaDPA(team leader) Kassie Dessie Nigussie from EPLAUA Mequanint Gebeyehu from EPLAUA Negash Atinafu Asfaw from BoCT Wondyifraw Molla Birhane from BDCA Yitayal Abebe Ashetih from EPLAUA	Study and Park establishing docment preparation technical team	The Establishment of Blue Nile Millennium Riverside Park April 2007, Bihar Dar Proclamation document
Abraham Marye (2009)	MSC thesis	Diversity, *Relative Abundance and Utilization of Woody Plants and Habitats in BDBNRMP*. MSC thesis, Bahir Dar University, Bahir Dar Ethiopia (2009).
Getachew Tesfaye (2009)	MSC thesis	Integration of GIS in to the planning and implementation of BDBNRMP. MSC thesis, Bahir Dar University, Bahir Dar Ethiopia (2008).
Iris Andrejak (2008)	MSC thesis	Planning the Blue Nile Millennium park GIS and RS based Concept for development Cooperation and Education Capacity Building at Bahir Dar University Ethiopia,
Maru Molla (2010)	MSC thesis	Floristic Composition and Structure of vegetation in BDBNRMP. MSC thesis, Bahir Dar University, Bahir Dar Ethiopia (2010).
Selemon (2010)	MSC thesis	Distribution and Ecological adaptation of Lantana camera in Bezawit Natural forest in BDBNRMP. MSC thesis, Bahir Dar University, Bahir Dar Ethiopia (2010).

Annex 6. Important Terms on the natural forest sites of BDBNRMP

Biodiversity: variability in life forms measured commonly by the total number of species found in the area which provides building blocks to adapt changing environmental condition. It also described as a variety of distinct life in ecosystems or habitats, the number and variety of species within them, and the range of genetic diversity molecular level within the populations of each of these species. In terms of human uses and needs, biodiversity can be looked as a living capital stock on which development is based. Biodiversity comprises all flora and fauna in terrestrial and aquatic ecosystems. Different groups of flora (trees, shrubs and herbs, cultivated, laboratory and aquatic plants), animals (mammals, birds, reptiles, amphibians, insects) and microorganisms (fungi, algae, virus etc) in various taxonomic groups and associated cultural and management values.

Among components of biodiversity forest resources particularly woody plants should not be discarded since human use them to sustain the demand of livelihood of the community. High level of biodiversity are associated with greater ecosystem stability and better to cope up environmental stress. Animal or plants with low genetic diversity are much more susceptible to stress and vulnerable to extinction. Biodiversity can be quantitatively expressed

Transect is a line or a belt of vegetation selected for sampling continuous strings of contagious quadrats set in a line across vegetation gradients. In this document transect lines are three parallel 2000m distance lines at river shoreline, 100meter and 200m away from the river shoreline in each forest patch and 50meter away from river shoreline round band transect line (78km) along the Abay river in the whole park.

Forests are ecosystems or assemblage of ecosystems dominated by trees and other woody plants that comprises greater than 0.5ha with 5% to 100% tree cover primarily not used for settlement, cultivation and infrastructure. Forests can be classified in its plant form composition such as high canopy trees, shrubs, grasses and herbs naturally grown with different proportion and layer. Currently Ethiopia has only about 2.5-3% high canopy natural forest cover which was about 40 before half a century. However, there are natural vegetation cover areas in various parts of the country as vital sources of biodiversity and require urgent need of conservation and sustainable utilization.

Forest patches are small reservoir of natural vegetation at different parts of the BDNRMP that have grater than 50% of trees and shrubs cover. Each forest patch were comprised greater than 40ha with different natural habitats such as woodland, grassland, wetlands, scrub, igneous outcrop, wooded grassland and islands in different proportion. All forest patches have no similar number of habitat, vegetation cover, utilization and threats. Forest patches in BDNRMP were fragmented by natural and anthropogenic factors and scattered in different parts of the park are important for biodiversity conservation.

Riparian: vegetation, habitats and animals pertaining to bordering the river that extends and connected to upland ecosystems. It also includes the land immediately surrounding water and strongly influenced by water. Daily and seasonal moisture and temperature is dependant on the content of the water. It is largely dominated by evergreen vegetation species which decreases away from the water. It is known that riparian habitats are supported with high level of natural biodiversity, the combination of water, abundant vegetation, fragmented vegetation by water ways, and connected to uplands provided opportunity for many species and it is exceptionally rich in wetland, riverine forest and upland bird species. Riparian areas create important corridors that link a variety of ecosystems together. Variability in plant species found in a short distance in the unique peaces of landscape. As riparian habitats contain different types of vegetation it is structurally very complex with several vegetation strata and layer. The structural diversity attracts many wildlife species and people. It also attracts native people for agriculture and settlement. Historically, riparian habitats are centers of civilization in agricultures and development of modern towns as they are conducive and qualified in natural inputs for agriculture production and scenic beauty. Typical disturbances include logging, high way, call and gravel mining, pollution and modification of natural setting. To day riparian habitat areas are invites dependable economic sectors that attract a variety of activities serving as urban recreational, wildlife reserves, and industrial activities. However, unless natural settings and ecological processes reconcile with sustainable use of natural settings these resources could end up with extinction in the near future. Hence, sustainable conservation, economical management and utilization are vital to serve both existing and coming inhabitants of this particular ecosystem and healthy connection and stable ecotone with adjoining ecosystem and ecological process.

Vegetation gradient is obvious changes in the type and cover of vegetation across a landscape as a result changes in slop, moisture regime as the distance from a water body increases, the vegetation may change from herbaceous, shrub and tree to a grassland or change in elevation an altitude increase a vegetation may change tall tree to small tree. Here vegetation gradient is the composition and richness of woody species in islands, river shoreline, and definite distance interval away from river shoreline to the direction of uplands away from water body.

Woody plants are vascular plants considered as collective plant life forms in a certain ecosystem, habitats and population of different species that comprises trees, shrubs and woody epiphytes and climbers. .

Trees: are woody plants normally being at least 10cm in diameter at breast height or 1.3m above ground and >4meter in height at its matured stage.

Shrub: Shrubs and small trees with DBH 1-4cm or extends to 10cm do not form canopy and 1meter to 4meter in height when it attains its matured stage.