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List of Abbreviations

AFWA:	Awash Fentale Woreda Administration
AFWOCT:	Awash Fentale Woreda Office of Culture and Tourism
AL:	Awash Loge
ANP:	Awash National Park
ANPBP:	Awash National Park Baboon Project
ARAS:	Afar Region Administration and Security
ARBoCT:	Afar Region Bureau of Culture and Tourism
BMNP:	Bale Mountains National Park
CBD:	Convention on Biological Diversity
CNRM:	Community Natural Resource Management
CSA:	Central Statistics Agency
EEPA:	Ethiopian Environmental Protection Agency
EPRDF:	Ethiopian People Republic Democratic Front
ESAT:	Ethiopian Sustainable Tourism Alliance
EWCA:	Ethiopian Wildlife Conservation Authority
EWNRS:	Ethiopian Wildlife and natural Resource Society
FWOCT:	Fentale Woreda Office of Culture and Tourism
GDP:	Gross Domestic Product
GIS:	Geographic Information System
IBCR:	Institute of Biodiversity Conservation and Research
ICDP:	Integrated Conservation and Development Project
IUCN:	International Union for Conservation of Nature
LFC:	Labata Fentale Charity
LUCC:	Land Use Cover Change
LULC:	Land Use Land Cover
MARD:	Ethiopian Ministry for Agriculture and Rural Development
MoFAP:	Minister of Federal Affairs and Peace
MSP:	Merti Sugarcane Plantation

NGOs:	Non Governmental Organizations
NYZS:	New York Zoological Society
ORBCT:	Oromia Region Bureau of Culture and Tourism
ORLAEP:	Oromia Region Land Administration and Environmental Protestation
PHEEC:	Population, Health and Environment Ethiopian Consortium
SMNP:	Simen Mountain National Park
SPPS:	Statistical Package for the Social Science
USAID:	United States agency for International Development
UTM:	Universal Transverse Mercator Projection
WCS:	Wildlife Conservation Society
WildCODE:	Wildlife Conservation and Environmental Development Association
WSD:	Wildlife for Sustainable Development

CHAPTER ONE

1.1 Introduction

The International Union for Conservation of Nature (IUCN) (1994) defined protected areas as "land 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". The Convention on Biological Diversity (CBD), however, uses a different definition–"a geographically defined area which is designated and managed to achieve specific conservation objectives" (Phillips, 2003). Both the IUCN and the CBD agree that protected areas are used as environmental conservation units and use different terminologies such as national Parks, wildlife sanctuary, nature reserve, game reserve, game ranch and nature conservancy (Mulder and Coppolillo, 2005). The IUCN clarified the implication of different types of protected areas under six management categories (IUCN, 1994; Table 1.1).

Table 1.1 Categories of protected areas and targeted management objectives

Category	Type	Primarily management objective
Ia	Strict Natural Reserve	Scientific purposes
Ib	Wilderness Area	Wilderness protection
II	National Park	Ecosystem protection and recreation
III	Natural Monument	Conservation of specific natural feature
IV	Management Area (Habitat/Species)	Conservation through management intervention
V	Landscape/seascape protection	landscape/seascape conservation or recreation
VI	Managed Resource Protected Area	sustainable use of natural resources

The first three categories were established mainly for biological diversity and natural formations without human intervention while category four, five and six allow intervention of humans. A national Park is described as a category II protected area type in which land and/or sea designated mainly for ecosystem protection and recreation through maintaining the ecological sustainability of ecosystems for present generation and without consuming share of future generations (IUCN, 1994).

The protected area movement began with the establishment of Yellowstone National Park in the United States of America in 1872 (Chape, 2005). In the early1870s protected areas expanded and concerns of environmental conservation was enhanced with the emergence of the concept of managing protected areas (Pimbert and Pretty, 1995).

In most African countries excluding few non-colonized nations such as Ethiopia, national Parks were established during the colonial period mainly for the purpose of hunting and tourism with little consideration to the interests of local communities (King, 2007). The negligence of local communities towards protected areas has led to increasingly severe social and ecological impacts in many countries (Pimbert and Pretty, 1995). For instance in East African countries such as Kenya, Uganda and Tanzania the establishment of national Parks did not portend the local communities who were immediately faced with challenges of displacement and human–wildlife conflict (Kameri-Mboti, 2005). Despite Ethiopia's non-colonized status, the country adopted the classical conservation models of western notions which created many challenges to the livelihood of indigenous people within and around national Parks (Asebe, 2012). Observably, in most African countries the establishment of protected areas following the Western approach made resource management more difficult and led to the deterioration or disappearance of irreplaceable biodiversity (King, 2009).

In Ethiopia, 40 protected areas cover about 16.4% of the country's land area (186,000 km2), and include national Parks, wildlife reserves and sanctuaries, and controlled hunting areas. These form the foundation of the national conservation strategy (Ashenafi and Leader-Williams, 2005). Principally, the conservation strategy is an integral part of

sustainable development of the country in providing protection of sources for important ecosystem services (Gobeze et al., 2009).

Although protected areas were often created primarily for the purpose of biodiversity conservation, they also provide other essential benefits such as recreation, tourism, grazing, agriculture, timber and fuelwood, and others at local and at the national level (Bekele, 2003). However the economic benefit from direct fees is minimal. According to Ethiopian Wildlife Conservation Authority (EWCA) (2009), the country earned about $19,000 US Dollar from entrance fees to national Parks in the year of 2008/09. Gobeze et al. (2009) summarized the economic importance of forest resources in Ethiopia under six major benefits i.e. source of foreign currency, alternate energy sources, additional value to the GDP, job opportunity, source of revenue for millions of nationals, source of raw material for other economic sectors. However, the country's immense biodiversity potential is underutilized in the tourism industry due to lack of awareness, lack of integration between the local communities and law enforcement. Of the eight conservation areas in the arid, semi-arid and dry parts of the country only the Awash National Park is gazetted (Environmental Protection Authority, 1998).

The performance of most protected areas was evaluated. Results show that most failed to accomplish their primary management functions, experienced low overall management efficiency due to limited financial support, had deficiency in management and other staff (Gobeze et al., 2009). Almost all national Parks in the country are characterized by the employment of an exclusive conservation approach, limited effectiveness, conflict within local communities and conflict between various stakeholders (Jacobs and Schloeder, 2001; Asebe, 2012).

1.1.1 Background

1.1.1.1 Management Approaches of Resources in Protected Areas

Earlier in the1970s and1980s discussion on management of protected areas, i.e. local empowerment, popular participation, democratization, and devolution of power became the nucleus (Treves et. al, 2005). The 1980s was the period of a "paradigm shift" from emphasis on interest of top level stakeholders to interest of local stakeholders (Stevens, 1997). The conservation of resources in protected areas began to be evaluated in terms of economic value, contribution to social welfare, guarding local security and to countries' development across multiple scales (Treves et al, 2005).

The traditional management method of classical /'fortress' /management approach of the western experience was the first approach implemented throughout the world (Pimbert and Pretty, 1995). According to Philips (2003), the old paradigm was unable to ensure the participation of local communities in the management process. As a result a new paradigm emerged. However the shift to a new paradigm was not simple because management approaches of national Parks were influenced by several factors including political, economic, and ethical dimensions and values of the area (King, 2009). These factors influenced the environmental conditions of most developing countries critically (Neumann, 1991).

Currently, the debate over protected areas is on the way protected areas were managed in the past versus the way they are being managed now. The rights of access to natural resources of local people and levels of exclusion (fortress approach) or inclusion (different levels of participation: collaborative, co-management or community-based approach) are some of the tensions raised in the debates (Pimbert and Pretty, 1995). Consequently, the main focus of the 2003 World Parks Congress was to announce a 'new paradigm' which focused mainly on the benefits of those Parks to local people in alleviating poverty and the reengineering of the governance system of protected areas (Philips, 2003).

Consequently, the classical approach to biodiversity conservation was replaced by Integrated Conservation and Development Project (ICDP) with the objective of enhancing biodiversity conservation through active involvement of local communities (Lock and

Dearden, 2005). However, the attempt made by ICDP was not successful. As a result, the devolution of management responsibilities and authority decentralization took place as a means to maintain ecosystems and their life-support functions (Penang. et al, 2004). Moreover, in the modern approach, the objective of conserving of biodiversity has extended into the Millennium Development Goal of the UN, which aspires to eliminate severe poverty and hunger (Treves, et. al, 2005).

Philips (2002) expands on the important and noticeable difference in the main elements of the paradigm shift from the classical view to modern view of management of protected areas: in the classical paradigm the main objectives of the establishment of protected areas were mainly for spectacular wildlife and scenic protection managed for the satisfaction of visitors and tourists whereas the modern paradigm has offered value for social and economic benefits and managed with local people with the aim of restoration and rehabilitation.

With regard to the governance system the former paradigm granted the responsibility to the central government with little regard to local opinions while the latter one has made an attempt to run protected areas by multiple partners to meet the needs of local people (Philips, 2002). The perception towards protected areas is also quite different between the classical paradigm (viewed as a national asset with national concern) and modern paradigm (viewed as a community asset with an international concern). In the modern paradigm tourism and recreation service of protected areas is one of the prioritized management objectives (IUCN, 1994).

In the old paradigm local people were considered the “problem” and did not participate in the process of resource conservation (Pimbert and Pretty, 1995). Furthermore Parks were isolated from human intervention through the ‘fence and fines’ traditional biodiversity conservation technique (Philips, 2003). As a result, protected areas were designed in terms of their biological & scientific value and enjoyment, without giving due attention to needs, constraints and opportunities of local people (Philips, 2003) and was fully governed by a centralized system (Sounder, 2010).

The modern and decentralized conceptual frameworks commonly characterized by recognizing community participation is collectively termed as Community Natural Resource Management (CNRM) (Chang and Lin, 2011). The CNRM is variously named as community forestry, community wildlife management, co-management, buffer zone management, participatory multipurpose community projects, communal area management for indigenous resources, and others (Western and Wright, 1994). According to Kellert (2000) all theses community-based natural resources management approaches have shared certain characteristics in common i.e. community involvement, devolution of power, recognizing resource sharing and property right and applying indigenous knowledge of local people. According to IUCN (1994) co-management or joint management of protected areas is one of the suggested methods of governing Parks with equal accountability and decision making power to all stockholders.

Therefore, Phillip (2003) suggests that the current management approach of protected areas should be re-engineered in line with the principles of a new paradigm; 'new conservation' whose central issue is to find out ways of putting people in the conservation activities (Pimbert and Pretty, 1995). Brown (2003) noted that the new conservation approach has challenges and will not be successful because of the pluralist nature of the approach, greater intervention of local people in decision making and re-engineering of the institutional structure.

1.1.1.2 Decentralization and Resource Management

Decentralization can be defined as the transfer of power, in the arena of politics and administration, from a central government to local government (Agrawal and Ribot, 1999). Such kind of power transfer can take place mainly in two forms i.e administrative/deconcentration decentralization and political/democratic decentralization (Ribot, 2002). In administrative type of decentralization government policy would be in line with the need and preference of local people through the devolving of power to

appointees of the central government in addition to transferring ownership right of the local (Loop, 2002) . Political or democratic decentralization, the most effective form of decentralization, recognizes the real decision making power of local people according to the stated jurisdiction and their prior preference in which power would transfer from central to local people through stakeholders or institutions (Ribot, 2002).

Theoretically, decentralization is considered the most appropriate approach in managing natural resources because resources can be well identified and utilized rationally by the local people (Larson, 2002) as well as local governments are better positioned than a central government to deliver public services and managing resources (Zou and Davoodi, 1997). Central government agencies are not the most efficient in monitoring the use of extensive forest or rangeland areas (Ribot, 2002). As a result, decentralization has emerged as the most significant tool of environmental and development policy in the last two decades (Agrawal and Gupta, 2005). Bruner et al. (2001) reported that the effectiveness of managements of national Parks are influenced by governance issues, such as policies and laws, boundary demarcation and reimbursement to local communities. The governance of national Parks has a role to determine the achievement of objectives and the sharing of costs and benefits, which are key to sustainable resource utilization (Borrini Feyerabend, 2003).

Decentralization and devolution hold promise for improving forest management and moving towards sustainability (Larson, 2002). As demonstrated in Cambodia, the genuine devolution of power and fiscal decentralization has a positive impact on protected areas, and promotes community development and sustainable use of natural resources with consideration to the needs of the local communities (Seilava, 2002). But, there remain prerequisites that should be fulfilled for decentralization to be effective. Agrawal and Gibson (1999) state that, well-organized institutions at the grass-root level, a systematic follow-up and ensuring accountability, empowerment of the local people in the institutions, social awareness and sustainable funding are the major pre-requisites for the success of decentralization with regard to its effect on the management and use of

protected areas. Larson (2003) highlighted the practice of decentralization could not be effective unless its system of implementation reflects the economic interest of the various stakeholders.

Most environmentalists are paying attention to the implementation of decentralization because it gives them a chance to reshape the institutional structure of resource management at different levels (Agrawal and Ostrom, 2001). Those who advocate for decentralization and local democracy are also interested in the decentralized system of use and management of natural resources (Ribot, 2003) because an appropriate management and utilization of natural resources serves as a fulcrum in terms of equitable resource allocation (Gregersen et al., 2004).

The implementation of decentralization manifests itself through opportunities created to local people, participation in decision making and equitable benefit sharing (Ribot, 2002b). Decentralized resource management system could be successful, if "new commons" are created and local stakeholders are capacitated to pass decision on the disposition of resources (Agrawal and Ostrom, 2001).

Globally, the implementation of decentralization in terms of effective environmental resources management is at early stage (Ribot, 2003). However, 60 % of the world's forest is found in eleven countries in which three of them are not in the system of federal government (Gregersen, et al., 2004). On the other hand, in the case of Nepal, where Community Forest Program was practiced and India, where Joint Forest Management program was implemented, decentralization was successfully implemented without fulfilling the required pre-conditions, such as the active participation of local actors to launch the program (Agrawal and Ostrom, 2001). Many African countries have already designated more than 10% of their territories into protected areas such as Central African

Republic with 12%, Benin and Tanzania with 11.5%, Senegal with 10.8% and Rwanda with 10.4% (MacKinnon et al, 1986).

In 1995 Ethiopia implemented a system of decentralization (devolved power from federal to local governors) (Loop, 2002), as a result, pre-and post-1995 represents a time before and after decentralization (Tegegne and Taye, 2007). In practice, the implemented decentralization process was more of political rather than fiscal. Although, theoretically, decentralization enhances resource management (Loop, 2002), in this case little attention was given to the impact the process may have on natural resources and social conditions in the country (CIB Report, 2009). About 16.4 % (186,000 km^2) of the land in Ethiopia is protected (Ashenafi and Leader-Williams, 2005). The Ethiopian Wildlife Conservation Agency (EWCA) under the federal government is responsible for the administration of 10 national Parks and 2 wildlife sanctuaries (Council of Ministers Regulations, 2008). After the decentralization in 1995, in addition to the EWCA, regional governments also were granted the right to make structural arrangements to implement decentralization in terms of creating conducive environment for a sustainable resource management (Hurni, 2003).

The implementation of Ethiopian federal structure has created nine ethnic-based regional state governments and two autonomous administrative urban centers through the implementation of decentralization in 1991 (Ayalew, 2002). The system provides internal self-governing authority to each regional state including preparing its own environmental and development plan (Loop, 2002). Consequently, the federal government handed over the existing 12 national Parks to the newly established regional governments except Awash National Park (Federal Negarit Gazeta, 2007). In 2008 the governing mandate of regional states over the country's major wildlife conservation areas was given back to the federal government under the Ethiopian Wildlife Conservation Authority (EWCA) (Council of Ministers, 2008). The introduction of decentralized system of government in Ethiopia was reported to have a positive impact in some cases and a negative impact on other cases on management of resources in different parts of the country.

For example, this central administrative approach was shown to have failed to recognize the role of local communities and institutions in forest management (Gobeze et al., 2009; Bekele, 2003). Though the introduction of decentralization in Ethiopia is in its infancy, it has had a positive impact in the case of wetland management through increased number of local participants (Maconachie, 2008). According to Bekele (2003), decentralization was unable to solve management problems of forest resources in the country. On the other hand Hurni (2003) reported that a decentralized system of resources management in the Amhara Regional State produced a positive impact on the status of Simen Mountain National Park.

1.1.1.3 Land Use and Land Cover Change

The central theme in LULC issues is the interaction between humans and the environment they live in (McCusker and Weiner, 2003). The magnitude of such an interaction is broad (Moore, 1993) to include the interface between resources, stakeholders and institutions at multiple levels (Levin and Weiner, 1997). Moreover, LULC has a direct relationship with productivity of the land and biological diversity in protected areas (Geist, 2002). As a result, monitoring its dynamics and impact, and identifying root causes of its change are critical to environmental sustainability efforts (Tekle and Hedlund, 2000; Sherbinin, 2002). Lambin et al. (2003) summarized the fundamental causes of land use changes under two major categories i.e. endogenous causes (resource scarcity, change in social organization, resource access, attitudinal change, increased vulnerability) and exogenic causes (outside policy intervention and changing market opportunity). At the country level, root causes of LULC change could be demographic, institutional, political, socio-cultural, developmental and/or environmental (Wood et al., 2000). However, their impact on resources remains almost always the same (Lambin et al., 2003).

At regional level, the gain or loss of different land use types in and around protected areas (national Parks, forest reserves etc.) are mainly impacted by interactions between

institutional and environmental factors (Sherbinin, 2002). The consequence of those LUCC can only be observed in a longer time frame (Gallcia and Garcia-Romero, 2007). Land use conversion due to increasing human and livestock population is a common experience in protected areas of most Eastern African countries (Pomeroy et al., 2003). Such a conversion of natural vegetation cover to other use types such as farmlands, grazing lands, human settlements and urban center has been shown to be a cause to loss of biodiversity, deforestation and land degradation (Maitima et al., 2009). Moreover, such changes, from forest to various land use types, in East Africa, including Ethiopia, was ranked as the highest in Africa at a rate of 0.94 % (1990-2000) and 0.97 % per year (2000-2005) (FAO 2007). Unfortunately, the effect of such loss doesn't reveal the dramatic impact on the livelihood of the human populations unless its dynamics is examined within a focused & local context (Garedew et al., 2009).

Historical evidence shows that environmental problems such as surface runoff and sedimentation from the highland of Ethiopia and Eritrea have increased due to poor conservation and drastic land use/cover changes (LUCC) exacerbated by population pressure (Hurni et al., 2005). In Borena district, southern Wollo of Ethiopia, the quality and quantity of land use is disproportionately influenced by a combination of natural (steep slope, harsh climate) and human factors (high population, intensive land use and policy issues) (Abate, 2011). In the Afar rangelands where the climate is characterized by high temperature and low and irregular rainfall and where the Awash National Park (ANP) is partly located, LULC is indicated to be the main cause for reported poor living conditions of pastoral and agro-pastoral communities and a threat to sustainable resource conservation in the region (Tsegaye et al., 2010). In addition, the expansion of private and state farms at the expense of pastoralists' grazing land in the catchment area of Lake Beseka was reported to be the primary cause of LUCC between 1973 and 2008 (Megresa, 2012). The status of protected areas in Ethiopia was relatively in poor state until the end of the 1990th (Jacobs and Schloeder, 1993). A similar assessment after a decade also showed the continuation of the devastating situation caused by intense cultivation and high demand for grazing land in and around national Parks, except for some positive developments reported in Bale Mountain and Semien Mountain National Parks

(Duckworth, 2002). More recently, there has been more emphasis towards the development of an immediate intervention strategy to implement *in situ* and *ex situ* conservation programs and a focus on the sustainable use of resources in national Parks (IBC Report, 2009). Furthermore, there is a growing concern about the magenitude of loss of species in protcted areas and the shortage of reliable data to design and implement remedial conservation steps (Duckworth, 2002). For example several national parks in Ethiopia are reported as to have declined in size over the years including Awash National Park (Jacobs and Schloeder, 1993).

In Ethiopia land use and land cover change studies mostly focused on changes in cultivated areas, forest lands, and grazinglands and watershed areas in terms of temporal and special changes. Most of those land use land cover change studies focused on the north western parts of of the country (Woldeamlak, 2002: Gete and Hurni 2001) with few studies in the south western part of the country (Tsegaye et al., 2010). Land use land cover changes in Ethiopian national parks are little investigated. Consequently, the current study on land use land cover changes of Awash National Park in the south eastern part of the country, would contribute critically towards our understanding changes within the context of the broader Ethiopian National Parks.

1.1.1.4 Policy Issues and Ethnic Conflict

Both globally and regionally, countries have been practicing different approaches to the management of protected areas. Within Africa, in countries like Burkina Faso, Cameroon, Guinea, Malawi and Zimbabwe the implementation of decentralized management system was negatively affected by the unaccountability of local stakeholders in maintaining resource equity (Oyono, 2002). In the case of Ghana lack of sufficient funding at local level was a reason for ineffectiveness of resource decentralization management system (Porter & Young, 1998). In Zambia decentralized management system of forests was affected by resource misuse due to unavailability of appropriate guidelines (Onyach-Olla & Porter, 2000). Ethiopia, where this study was conducted, has a recent and limited experience in the implementation of decentralized use and management of natural

resources in protected areas (Institute of Biological Convention, 2009) and a current evaluation of the impact of the process is wanted.

Ethiopia is a center of both faunal and floral diversity with an estimated 6,500 to 7,000 species of plants of which 12% are considered endemic (Tewolde-Birhan, 1991, Mohammed & Ababu, 2003). Protected areas in the country include 15 national Parks, 4 wildlife sanctuaries, 7 wildlife reserves, and 18 controlled hunting grounds (Mohammed & Ababu, 2003). Status of protected areas in Ethiopia is reported to be relatively poor (Jacobs & Schloeder, 1993) and severely damaged during or after the civil war that brought the current government to power (Shibru & Kifle, 1998). Certainly, this in turn has contributed to the loss of conservation-related income. According to USAID (2008), despite good framework for natural resource management, the implementation on the ground in Ethiopia was affected by limited participation of stakeholders. The same report also identified gaps in the resource management policy and its implementation which leads to conflicts between federal and regional officials and other stakeholders.

1.1.1.5 Stakeholders and their Participation in Use and Management of Resources

Stakeholders are individuals or groups who affect or are affected by certain decisions and actions in relation to a project/activity (Freeman, 1984). Protected areas are impacted (negatively/positively) by stakeholders who are directly or indirectly involved in resource utilization or management duties (Geoghegan and Renard, 2002). As a result, environmental conservationists have given due attention and studied the nature of interactions between stakeholders in the process of resource conservation in protected areas (Heritier, 2010).

Successful conservation management programs require a harmonized interaction between practitioners, policy makers and the various stakeholders including local communities (Bajracharya et. al., 2002). The absence of support from stakeholders, particularly from

local communities and key decision makers makes it difficult to achieve the goals of integrated management strategies, i.e. sustainable utilization of resources (CBD, 2010). The role of grassroots level stakeholders is so critical that it can't be substituted by efforts of other stakeholders (Borrini-Feyerabend and Brown, 1997).

Stakeholders may have varying interest in the same resource and their nature of interest may vary in time and space (Barrow et al., 2002). According to Clarkson (1998) based on their level of stake and contribution, stakeholders can be classified as key (authority), primary (local), and secondary (networking) stakeholders. Key stakeholders are noteworthy for decision making and implementation duties since they have power and financial capacity to back their success in intervention. Primary stakeholders are characterized by high level of dependency on natural resource and they are likely to affect or be affected by any intervention. Secondary stakeholders are acting as networking group which do not directly depend on resources but they have a mediating role and filling gaps between the former and the latter group of stakeholders in the use and management activities (Clarkson, 1995).

In Africa the role of indigenous communities in the effective implementation of land resource management has expanded over time (Wily and Mbaya, 2001; Nepal, 2002). For instance, the implementation of community-based natural resources management with sharing rights of and responsibilities to local people have been documented in sub-Saharan African countries including Namibia, Zimbabwe, Tanzania, Cameron, Kenya and Ghana (Roe et al., 2009).

The consequences of political changes on the sustainable use of natural resources in protected areas can be viewed differently even by the various parts of the same government. For instance, through a recent political decentralization in Ethiopia, the government recognized the peoples' rights to participate in the management and protection

of the environment (Negarit Gazeta Proclamation No 9/1995). Notwithstanding this effort, the Ethiopian Environmental Protection Agency (EEPA, 1996) noted that because the legal framework allowed local inhabitants to get additional revenue from sales of items such as charcoal and wild animals, the lack of parallel efforts to create awareness of local communities to go along with the proclamation has resulted in the devastation of biodiversity in protected areas. On the other hand, the Ethiopian Ministry for Agriculture and Rural Development, reported that the country, in principle, has given due attention to communities' participation and benefits in line with maintaining the well-being of biodiversity (proceeding of the International Conference, 2007).

Several case studies show that the practicality of empowerment of local communities depends on the level of devolvement of power from national & state to local authorities, citizens and endogenous people (Kellert et. al., 2000). Overall, the change in philosophy has to emphasize empowerment, equity, trust and learning (Reed, 2008). Chambers (1997a) elaborates on the issue of empowerment as the ability to differentiate groups and interests, recognize what people know and share to develop new understanding, establish community-level organizations and the accepting the occurrence of conflicts and negotiations with and within stakeholders.

The concept of participation has a broad interpretation (Lee and Julie, 2003). The participation level of stakeholders is established by their level of influence on the decision making process (Tippett et al., 2007), their technical capability to engage effectively with the decision (Richards et al., 2004), and how 'free' the participatory procedure to be involved in the decision making process is (Lee and Julie, 2003).

Normative stakeholder analysis approach is being advocated increasingly to enhance the legitimacy of stakeholder involvement and empowerment in decision making process on natural resources management (Reed et al., 2009). Stakeholder identification and

involvement is recognized as a key step towards achieving partnerships and collaboration within the conservation process (Bramwell and Lane, 1999). There are three stages of using the stakeholder analysis approach: identifying key stakeholders, determining their interest and establishing strategies for involvement (Allen and Kilvington, 2001). The application of stakeholder analysis is appropriate to assess issues related with level of involvement, interest, conflict (if any), and capacity, of stakeholders which are main focuses of the study regarding the involvement of stakeholders in the use and management process. Therefore, the study was conceptualized by the Stakeholder Analysis which is dealing with the role of various stakeholders at different level on the management of resources in protected area.

The issue of stakeholders involvement in national parks of Ethiopia is little explored except for some conflict-related studies between park management and local communities (Nishizaki, 2005: Hurni et al., 2008 and Regassa, 2012). Without filling these research gaps, it is difficult to evaluate the role of stakeholders in the use and management of resources in National Parks in Ethiopia. This study, therefore, will make an attempt to lay the foundation in the form of baseline data on the various stakeholders in Awash National Park, and may shed light on stakeholders' relevance at the national level

1.2 Objectives of the Study

The sustainable use and management of resources in protected areas depends on the type of conservation strategy implemented. Therefore, the overall objective of this study was to document and evaluate the use and management of resources in Awash National Park, Ethiopia, within the context of decentralization. .

The specific objectives were to:

1. Examine the pattern of land use and land cover changes over the last 34 years and assess the impact of decentralization on Land use Land cover changes in the Park

2. Investigate the use policy for resources, conservation strategies and relate to resource-based ethnic conflicts before and after decentralization

3. Identify and assess pressure exerted on the Park by surrounding communities and visitors.

4. Identify stakeholders and determine their degree of participation in the use and management of resources in Awash National Park

5. Investigate the views of various stakeholders about the impact of decentralization on the use and management of the Park.

1.3 Research Questions

The key leading questions of this research were derived from the research objectives and are presented as follows:

1. What types of land-cover changes and/or patterns occurred before and after decentralization?

2. What are the implications of land cover changes on biodiversity conservation in the Park?

3. Did decentralization (pre-and-post 1995) impact the use and management of resources in the Park?

4. What are the views and perceptions of communities in and surrounding the Park and what is the implication of those views and perceptions?

5. To what extent did environmental policies and laws affect resources utilization and the management of the Park?

6. What were the major issues that interfered with conservation activities in the Park during the terms of the three consecutive governments (the Imperial, the 'Derg' and the current government (EPRDF)?

To what extent do various stakeholders participate in the conservation activities and what are their attitudes towards the current state of the Park and its future?

1.4 Significance of the Study

The change from the old to the new paradigm requires that protected areas are to be managed by local knowledge of the community instead of by natural resource experts (Phillips, 2003). An active involvement of stakeholders at different stages in the utilization and management of resources in protected areas s has contributed a lot to alleviate problems related to sustainable resource management (Boillat, 2007). In Ethiopia, the participation of local communities in the management of national Parks did not receive due attention during policy formulation (Hurni and Ludi, 2000). Studies similar to ours are needed to understand the ongoing management system of the national Parks and assess the participation level of stakeholders and recommend appropriate management strategy to ensure sustainability of resources in Parks.

The study attempts to develop recommendations with regard to ways of restoring and maintaining the various functions attributed to the natural resources of the Park, and its much broader implications will contribute to sustainable natural resource management in the country and beyond. The fact that Awash National Park is located in multiple administrative regions while being managed by a central authority and communities engaged in diverse activities (pure-pastoralism and agro-pastoralism) provides a unique opportunity to evaluate the interplay of the various stakeholders. Furthermore, the study will generate baseline data that will strengthen research on protected areas in Ethiopia and in other countries with similar socio-economic conditions and share similar conditions vis-a-vis pressure on natural resources of protected areas.

1.5 Rationale

The rationales for the selection of ANP for this study were multiple. Firstly, since the Park is one of the only two national Parks in Ethiopia to be gazetted as area of ecosystem protection and recreation, it would be ideal to judge the status of all the country's national Parks in terms of use and management of resources across over a 45 years period. Secondly, the Park is located where a number of regional states share boarders and a number of conflicting ethnic groups are found. This problem is shared by other national Parks in the country. Thirdly, the Park is the only one which remains under the control of the federal government when the mandate of all other national Parks was given to regional states, and this makes it appropriate to evaluate the impact of decentralization. Fourth, research shows that faunal and floral resources of the Park are threatened, but there has not been any study addressing the issue of use and management of resources in the Park. Developing appropriate management strategies for the country's national Parks requires site-specific investigation that takes into consideration the relevant socio-economic and cultural aspects of local communities within the context of ongoing conservation efforts and degree of success.

CHAPTER TWO

Theoretical Context and Understanding

2.1 Theoretical Context

The sustainable use of well-managed resources should be a central idea in any discourse on the value of protected areas with regard to ecological, social and economical importance to a country's sustainable development (Pimbert and Pretty, 1995). The management of protected areas is often influenced by the complexity of institutional structures, rules, and policies which may be formal or informal (Gibson et al., 2005). A country's poor institutional structure and gaps of environmental policies is one of the vital

difficulties to deal with the needs and aspirations of resource users living in and around protected areas (Pimbert and Pretty, 1995). In response, protected area management authorities should develop a system which enables them to measure their management efficiency in the context of globally promoted theoretical frameworks (Gibson et al., 2005). Theoretical frameworks provide a system to evaluate the effectiveness of the management practice to achieve the desired impact on conservation (Parrish et al., 2003).

2.1.1 The concept of Sustainable Resource Management

According to the World Commission on Environment and Development (1987), sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This indicates that sustainable development must meet human needs through wise use of resources for present and next generation. King (2004) discusses the complex nature of sustainability in a model showing sustainability as a central idea interacting with the environment, the economy and equity issues. The involvement of local communities in resource conservation is key to the concept of sustainability (Pimbert and Pretty, 1995).

The Rio summit of the 1992 created an opportunity to ensure there is very strong correlation between the concept of sustainable conservation and the role of local communities through their knowledge and practice (Beltrán, 2000). Since the 1950s on one side a global expansion of national Parks was linked with the introduction of a sustainable development paradigm as guideline for conservation. At the same time concerns for the loss of biodiversity continued to grow (King, 2009). Unfortunately, this worldwide concern towards natural resources and high rates of species destruction was a reality in tropical and developing countries, a region that represents much of the worlds' biological diversity (Spiteri and Nepal, 2005).

In most African national parks the problem of sustainable resource management started with the adoption of western approach typically characterized by forceful eviction of indigenous populations around the area (King, 2003). More recent expansion in those

developing countries also lacks the idea of sustainable development where the protection of biodiversity plays a central role to enhance economic development through investment and tourism (King, 2007).

2.1.2 Political Ecology Approach

Political ecology first emerged in the 1970s (Steward, 1995) and it became key as a new approach in development discourse in the 1990s (Schubert, 2005). The approach was defined as the confluence of cultural ecology (focuses on the practice of different human strategies of ecological success) and community ecology (Steward, 1955). In its contemporary definition political ecology is an interdisciplinary approach that focuses on the investigation of issues related to human and environment interactions in order to understand the relationships of social, political, and environmental processes (Zimmerer, 2000).

Political ecology is an approach that addresses how and why the relationship between society and nature has changed in time and space or has not changed (Offen, 2004), and the significance of those interpretations on social justice and nature conservation (Sounder, 2010). In the context of small scale forestry in Ethiopia, the political ecology approach has six major elements: power relation among different actors, social history/different government systems, environmental history/status of the land based resources at different periods, discourse/ political narrative, connection to local or global market and conflicts over access (Guillozet, 2010).

The primary concern of the political ecology approach is the distribution of political and economic power from central to local government and how power relations affect natural resource use and management (Offen, 2004). Secondly, it is grounded in the social and environmental history of the particular area which is relevant to make an analysis of a contemporary policy and to understand conflicts that may happen due to sharing of benefits from resources in protected area (Adams and Hutton, 2007). Thirdly, the approach deals with the story of those in position of power as well as those who are

powerless on use and management of land-based resources (Blaike and Brookfield, 1987). Fourthly, the approach attempts to understand how local phenomena and relationships are embedded in regional, national and global scales of interaction. Finally, the political ecology provides a useful framework for dissecting and analyzing the root causes of conflict over resources (Guillozet, 2010).

Currently, the value of political ecology has increased as a way-out approach of the growing conservation difficulties (Schubert, 2005) because this approach gives due attention to issues performed by different stakeholders (Sounder, 2010). It recognizes the role of the central government as key stakeholder in governing protected areas (Neumann, 2004). Local communities, the private sector and associations and NGOs are also considered stakeholders in the conservation activities (Bryant, 2002).

The Political Ecology Approach works well with other approaches which aim to study the degradation or rehabilitation of natural resources considering the role of different authorities and in the context of variation in time and space (Sounder, 2010). According to Robbins (2004) components of the approach could be categorized under four major areas i.e. 1) Political and economic isolation of marginal people, 2) Resource based conflicts between people in different class, gender and ethnicity, 3) Political implication of biological losses and 4) The linkage between socio-politics struggle and implication of environmental protection on livelihood. Sounder (2010) found that these categories can't be feasible unless the interaction between different stakeholders at different level are recognized as vital factors. For instance, the interaction between Global North and Global South, organization and local people, marginalized and non-marginalized, female and male should be taken into consideration.

According to Walker (2002) "resilience Social-Ecological System of participatory framework" is one of the other proposed approaches in order to manage natural resources and maintaining elements in sustainability. The same author noted that the implementation of this framework should give emphasis to involvement of stakeholders through developing a stakeholder-led conceptual model which enables the feasibility of

their future visions and evaluation of the process and outcomes in terms of policy and management implications. Potts (1998) showed that sustainability of resource management in protected areas in terms of value to tourism requires an approach uniting the themes of social development and ecological sustainability which is in line with views of communitarian perspective. Therefore, the application of dual approach, political ecology combined with stakeholder approach is fundamentally in favor of communitarian perspective aimed at enhancing communities. This is critical in order to assess social, economical, political and ecological values of resources to various stakeholders. According to Geoghegan and Renard (2002) stakeholder approach is one of the best approaches in terms of identifying and defining those who have influence on, or can be affected by, the management processes of protected areas.

2.1.3 Stakeholders Approach

The term ‘stakeholder’ or other terms such as actors or social actors are used to indicate those individuals, groups and institutions who are interested or are active players in a particular system including social actors who have a direct importance and interest in a given territory or set of natural resources (Borrini-Feyerabend and Brown, 1997; Freeman, 1984). Nowadays, participation of stakeholders in environmental conservation programs has been increasingly incorporated into each county’s environmental policy (Reed, 2008). As a result, the integration of stakeholders approach with other community based approaches is considered key to practicing an effective and sustainable resource conservation system (De Groot et al., 2006).

Participation was a central idea in the historical development of the stakeholders approach with emphasis on its different interpretations in the context of social, political and methodological aspects of studies (Law-rence, 2006). The interpretation of participation was given from different points of views i.e. based on their degree of participation (Davidson, 1998), nature of participation (Rowe and Frewer, 2000), common theoretical foundation (Beierle, 2002) and designer of stakeholders (Tippett et al., 2007). Arnstein (1969) described stakeholders’ involvement appropriately as ‘‘ladder of participation’’ in

which stakeholders' involvement ranges between passive dissemination of information to active involvement of actors in decision making.

The participation of stakeholders often includes individuals, community-based groups, authorities at different level, non-governmental bodies, businesses enterprises, international agencies and others (Davidson, 1998). Local communities who are living in or adjacent to protected areas are the most essential stakeholders in the conservation of a given area or set of natural resources (Clarkson, 1998). These people often have direct and strong demand for park resources for their day to day living, cultural identity and wellbeing (Pretty, 1995).

2.1.3.1 Stakeholders Analysis

Stakeholder analysis is an instrument which is used to identify and describe stakeholders on the basis of power and interest (Freeman, 1984) set of connections and interface with other stakeholders (Borrini-Feyerabend and Brown, 1997) and the importance of a given resource to the stakeholders (Pretty, 1995). Therefore, it is considered as an appropriate approach to investigate existing patterns of interaction among stakeholders (Borrini-Feyerabend and Brown, 1997), to predict resource based conflicts among stakeholders (Clarkson, 1998). These aspects on the other hand are pertinent input for policy designers at national and international level (Rowe and Frewer, 2000). Stakeholders analysis emphasizes on empowerment, equity, trust and learning as evaluating criteria their actual participation (Reed, 2008).

Stakeholder analysis categorizes each stakeholder in the range of terms like primary, secondary and key stakeholders (Clarkson, 1998) internal and external organizations (Gass et. al., 1997) macro and micro scale level (Grimble et al., 1995). Such type of categorization is a stepping stone towards agreement on collaborative management of natural resources through recognizing the role of all stakeholders and local governance authority (ODA, 1995). Furthermore adopting this approach is a key to assess the

competence of different stakeholders in order to engage them in the appropriate type of participation (Borrini-Feyerabend and Brown, 1997).

In relation with a national Park management system the stakeholder analysis approach has an essential role. It helps to identify and describe various stakeholders at different levels on the basis of several factors. For example, Estifanos (2008) in the study of stakeholder analysis at Abijiata-Shalla Lake National Park, Ethiopia, identified interest groups and stakeholders at local, regional and national levels and their policy makers. Stakeholders identified in that study included indigenous people, government and non-governmental organizations and conservation agencies, local entrepreneurs, local and foreign tourist and others (Estifanos, 2008).

Our study was conceptualized following political ecology and stakeholder analysis both of which deal with the role of various stakeholders at different levels on the use and management of resources in protected areas.

CHAPTER THREE

Methodology

3.1 Introduction

The data for this study fall into three categories: land use and cover change, socio-economic attributes and document analysis (policies and legislations designed at different government régimes and levels). Clarkson's (1998) stakeholder classification into three groups, i.e. 'authority' stakeholders (government officials at federal, regional and sub-district level and Park administrators & workers), 'local' stakeholders (pastoralists and agro-pastoralists), and 'networking' stakeholders (NGOs and tourism workers), were our main target groups of social attributes.

As the qualitative method is appropriate to evaluate views, perceptions and experience of respondents while quantitative method is more appropriate to gather data amenable to statistical analysis (Yin, 1994), we employed both qualitative and quantitative techniques in our study to consider socio-economic, political and physical attributes. Here we give a detail explanation on our research techniques, data collection instruments and methods of analysis employed to study the use and management of resources in the protected area of Awash National Park, Ethiopia. The methodology we employed was specifically tailored to answer the following research questions.

3.2 The study area

3.3.1 Location

Awash National Park (ANP), Ethiopia, was the first national Park to be established in the country and only one of two gazetted National Parks in Ethiopia(Blower, 1968; Negarit Gazeta, 1969). The Park lies within $8^0$45' -$9^0$15' N and $39^0$45'-$40^0$5' E where the Ethiopian Rift Valley joins the Afar Triangle, in the Eastern part of Ethiopia. In administrative terms it is located between Afar and Oromiya regional states of Ethiopia (Figure 3.1). The Park is surrounded in the west by Sabober plains while Metehara town and adjacent Kebeles border it in the southwestern direction. Kasem River and Sabure town are found North West and North of the Park, respectively. Its southern border is demarcated by the Awash River. As defined by the existing boundary markers (beacons), the ANP has an approximate size of 756 km^2, and is located 225 km from the capital Addis Ababa. At the time of establishment the Park was given a classification of "strict conservation area" defined as excluding all kinds of human use in the area like settlement, exploitation of natural resources, and grazing (Moore, 1982).

3.3.2. Biophysical resources

3.3.2.1. Climate

Climatically, the study site is semi-arid or "Qolla" climatic zone and experiences an annual rainfall between 277 and 653 mm which falls in two distinct rainy seasons (Daniel,

1977). The crucial factor is not only the little amount of rainfall which is 540 mm per year in average but also the distribution of the rainfall across seasons. The maximum rainfall is recorded between June and September with a second short rainy season from February to April. The highest number of rainy days are in August (15 days).The total amount of rainfall in both rainy seasons has decreases by 26 mm per decade over the 43 years though the change is not statistically significant (Figure 3.2). Nowadays the area receives unreliable and inadequate amount of rainfall and the distribution is highly variable from one year to another, which makes the area prone to recurrent drought (Jacobs and Schloeder, 1993).

The average temperature of the study area is 26.6^0C. The area experiences a daily temperature fluctuation between 18^0 and 34^0C (Tessema et al., in press). Trends of temperature distribution show that maximum, minimum and mean temperature of the Park has increased by 0.4, 2.3 and 1.4^0C per decade over four decades (Figure 3.3).There is a significant change in temperature between 1966 and 2006 ($P = 0.001$; Figure 3.3).

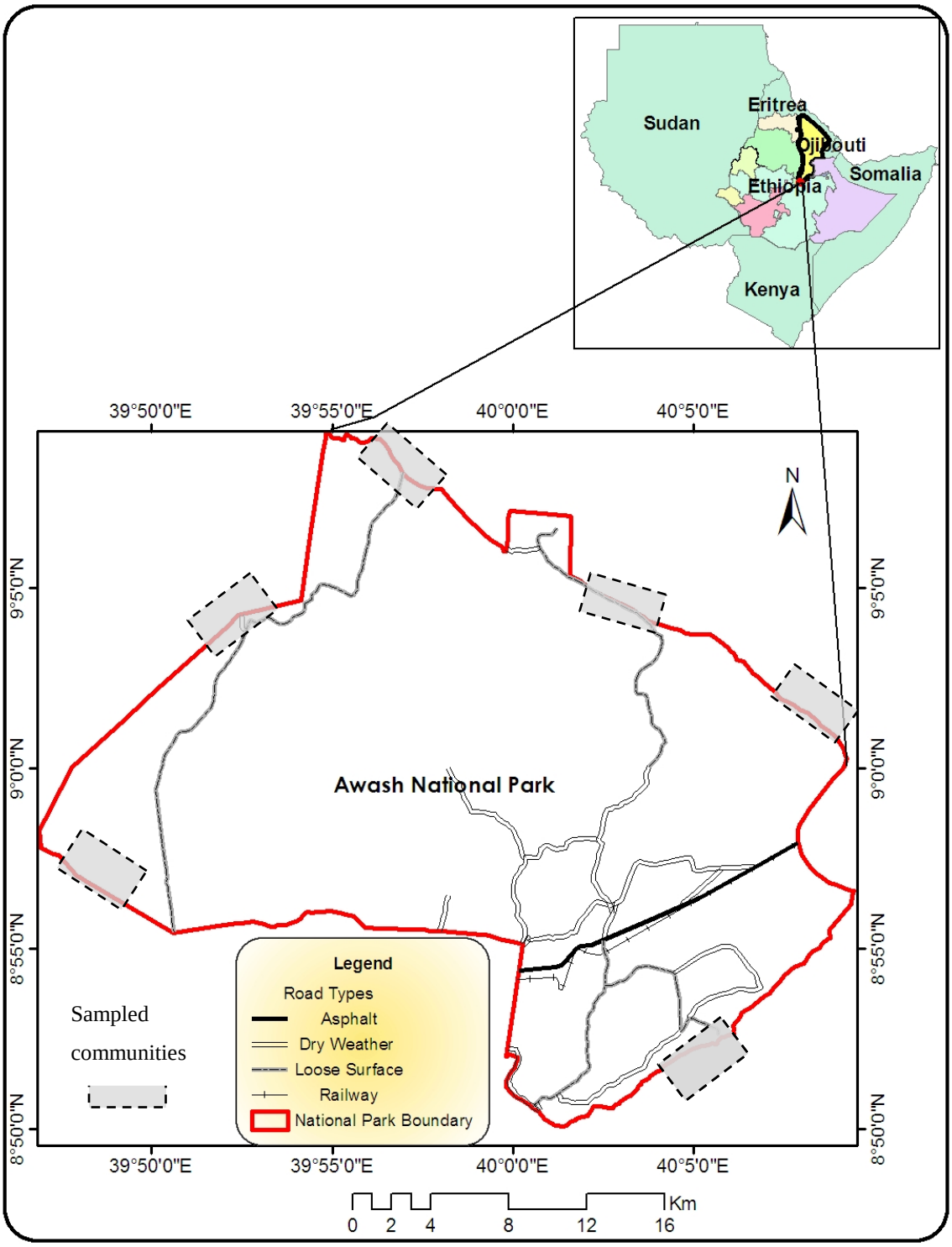

Figure 3.1 Map of the study area (source: Modified from Ethiopian Mapping Authority, 1987) showing park boundary & sampled communities

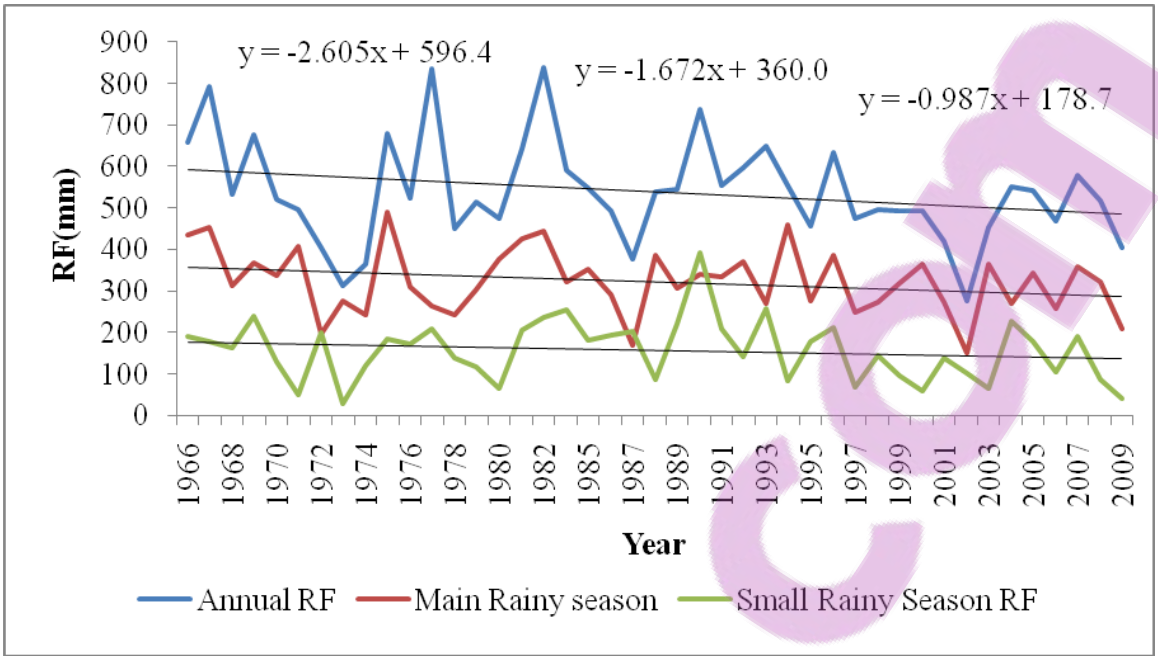

Figure 3.2 Trends of annual Rainfall in Awash Nation Park (1966-2009) (Source: Metehara station)

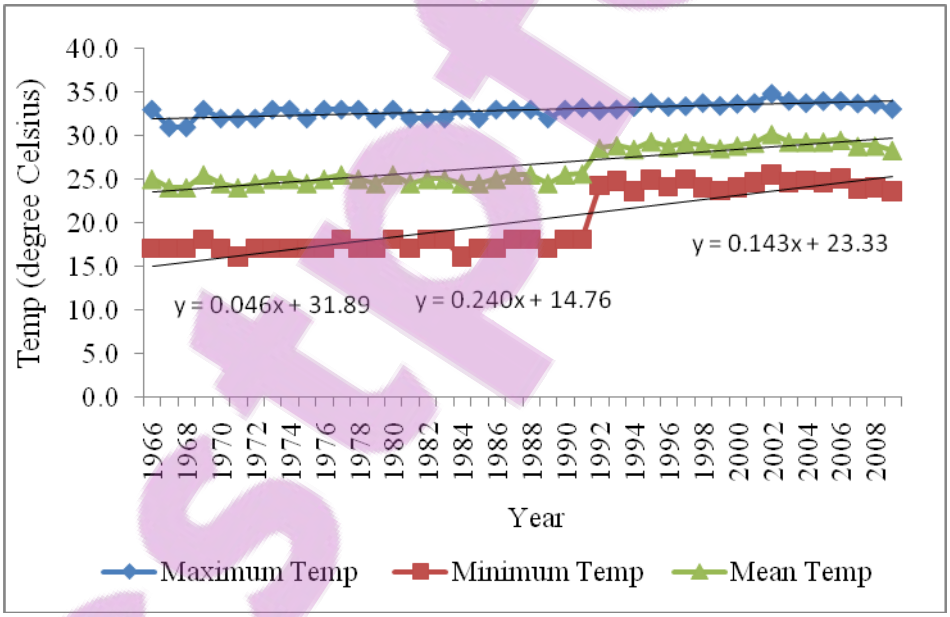

Figure 3.3 Trends of annual Temperature at Awash National Park (1966-2008) (Source: Metehara station)

3.3.2.2. Geology

Geologically, it is located in one of the most active regions in the world and has extraordinary interesting features from the physiographic point of view (Stager, 1990).The formation of the present structure, hydrology and the soil of the ANP was due to rifting and volcanic activities. It has diverse topographical features ranging in altitude from 2007 meter above sea level at the top of Mount Fentale and below 1000 meter above sea level across most of the plains (Jacobs and Schloeder, 1993).

3.3.2.3 Soil

The soil types in the Park are grouped according to the volcanic nature of the parent material. Seven types of soil were identified in different parts of the Park (Jacobs and Schloeder, 1993). These include eutricregosol at the base of Mountain Fentalle, mollicandosol around Metehara, eutrichistosols in most of lowland plain including IllalSala, eutricfluvisols at the bank of Awash river, orthicsolnchak soil around Kesem Kebena plain, gleyicksolonchack soil around the hot spring area and calcaric fluvisol soil around Beseka lake and the hot spring area. The clay content of the soil also determined by the intensity of gazing pressure (heavy or light) on particular sites (Tessema et al., 2009). The same author reported that areas with high grazing pressure as areas of high proportion of bare land as well as high herbaceous species.

3.3.2.4 Flora

There are 8 major vegetation types dominated by grass and acacia land type (Jacobs and Schloeder, 1993) which are classified under Acacia-Commiphora woodland (Sebsebe and Friis, 2009). The total abundance of woody species in the Park is not influenced by grazing pressure rather (Tessema et al., 2011). The bushland and woodland are most commonly found vegetation types in areas with shallow andosols and alluvial soil (Jacobs and Schloeder, 1993).

3.3.2.4.1 Invasive plant species

An invasion by imported plant species has been observed in and around the Park boundary. For instance, *Parthenium hysterophorus* plants are found in adjacent fields that are used for livestock grazing and sometimes for cropping. According to our botanist assistant the substantial impact of *Parthenium* has been observed in arable and grazing land in the Gelcha, Benti and Kobo areas. Consequently, a significant amount of forage production for livestock and sorghum grain was lost. The Park warden noted that the invasion of this specie is not only a thereat for forage and crop production but also to wildlife population. No one could explain the economic value of this species in terms of forage or other purposes in the area.

3.3.2.5 Fauna

The ANP was protected at first as a private hunting reserve for Emperor Haile Selassie I (Petrides, 1961) and was designed to protect wild animals such as Beisa Oryx (*Oryx beisa*), Lesser kudu, Soemmerring's gazelle, Hamadryas baboon and Swanes Hartebeast (Jacobs and Schroeder, 1993). Beisa Oryx (*Oryx beisa*) is the flagship species which is commonly found in Illalsala grassland and wooded grassland of the Park all year. The Park is home for 467 species of birds 6 of which are endemic (Hillman, 1988).The exact Figure of species of reptiles, amphibians, and invertebrate in the Park is unknown. Some wild animals such are leopards, lions, black-backed and golden jackals, caracals and wildcats are also rarely seen in the Park (Jacobs and Schloeder, 1993).

3.3.3 Human Population and Livestock

With the exception of the pastoralist communities, people in the Fentale and Awash Fenatle district live in towns and rural labor camps. Both populations have increased in a short period of time (Jacobs and Schloeder, 1993): between1994 and 1997 the population of Fentale district increased from 60,048 to 82,225 (National Census Report, 1997). The same census report showed the total population for Awash Fentale district during the same period to increase from16, 567 to 29,775. Table 3.1 shows that the estimated total

population for studied sub-districts is 14,221. The average household size is more than 7 which is greater than the national figure given to Fentale (i.e.5) and Awash Fentale (i.e. 6.1) (CSA, 2007).

Table 3.1 Human & livestock population and infrastructural development

District	Sub-district	Human population				Livestock population	Infrastructure*						
		Both Sexes	Male	Female	House-holds		School		Health center		Veterinary center		Source of water
							in	Out	In	out	in	out	
Awash Fentale	Sabure,	2,078	1,325	920	398	18740		2		3		1	Handmade well and Fielwuha
	Doho	2,803	1,422	1,210	296	30128		2		3		1	Handmade well
	Dudub	797	423	378	83	7267		2		1		1	Motorized well
	Total	5678	3170	2508	777	56132		6		7		3	
Fentale	Benti	548	556	559	148	5623	2		1			0	Metehara town
	Debiti	483	450	435	124	40865	2		1			1	Awash river & motorized well
	Dega Hedu	168	403	369	129	23123	1		1			0	Metehara town
	Ilala	1199	561	537	195	7485	1	1				1	Awash river
	Fete Ledi	548	735	600	170	992		1		1		1	Hand dug well
	Gelcha	483	622	579	148	5008	1	1	1			0	Awash river & Metehara town
	Haro Kersa	168	416	455	108	32087	3		1			1	Awash river & handmade well
	Kobo	1199	651	616	198	5187	1		2		1		Irrigation canal
	Total	8543	4393	4150	1220	120370	11	3	7	1		4	

Source: Fentale and Awash Fentale Districts annual report of 2008 and * Field survey

The lifestyle and type of settlement of Afar and Kereyou-Ittu communities are associated with livestock rending. According to the aerial survey by Jacobs and Schroeder (1993) the total population of livestock in the three communities in 1990 was 106,301. Approximately after two decades survey results show this figure to have grown to 120,370 (Table 3.1).

Among the eight sub-districts in Fentale district seven of them are fully or partially located within the territory of the Park. Whereas the three sub-districts in Awash Fentale are found outside the Park. Women and elders usually stay at home while young male and female member of the family move with their livestock and do different jobs (firewood and palm leaves collection) far from their settlement.

3.3.3.1 Surrounding rural communities

The communities surrounding the ANP are predominantly pastoralist and agro pastoralists in which their main stay relies on the income gained from the sale of animals. There are a total of 11 sub-districts and of these three belong to the Afar and the remaining eight are settled by the Kereyou-Ittu. Moreover, the ANP is a site where the boarders of a number of regional states meet and where a number of conflicting tribes, nations and nationalities are found (Daniel, 1977).

3.3.3.1.1 Afar

The Afar, inhabiting the Awash-Fentale District, are amongst the largest pastoral groups in Ethiopia. They are settled to the north and north east of the Park. Their economy is predominantly dependent on livestock herding with a recently remarkable shift to agro-pastoralist activities. Nowadays, they practice crop production using irrigation instead of depending on rain-fed agriculture. Overall, there is a growing tendency to get additional income through farming and other activities. The Afar women have the responsibility of generating money from selling of palm, charcoal and fuelwood on a daily base.

Palm tree is exclusively found within the western boundary of the Awash-Fentale District. The Afar community especially women whose residence is near the Filwuha area generate money by selling palm leaves. The community organizes their own traditional management system for sustainable use of the palm trees. During severe drought palm trees are utilized not only for income generation but also as source of fruit for human consumption.

3.3.3.1.2 Kereyou

The Kereyou are the indigenous community who belong to the Oromo ethnic group. Historically they were the dominant land users of Fentale district and the Metehara plain until early 1950's (Jacobs and Schloeder, 1993). They are predominantly engaged in livestock herding with growing tendency to practice both rain-fed and irrigated agriculture (Ayalew, 2009). The total population of the Kereyou was estimated about 34,365 while animals (cattle, sheep, goat, donkey and camel) stood at about 163,000 (Fentale District Report, 2010). They are not integrated into the surrounding urban society and still they are marginalizing in the different social and economic aspects (Jacobs and Schloeder, 1993). Land alienation is one of the critical problems of the Kereyou community (Eyasu, 2001). They have been affected by drought conditions at several times. Consequently, they use a more intensive model of pastoralism during dry spells (Piguet and Hadgu, 2002). The establishment of the Kereyou in the area of Lake Beseka, Sabore Plains and Metehara was due to restriction of their movement by the Argoba tribe, who are also engaged in animal husbandry, to the north west of Fentale (Jacobs and Schloeder, 1993). The Kereyou are characterized by good behavior and by a non-provocative and tolerant nature in their interaction with the Afar and other surrounding communities.

The lifestyle of the Kereyou has been changed into sedentary type due to the establishment of large scale agricultural development in their locality (Ayalew, 2009). Economically, they largely depend on the selling of their animals animal products like butter and milk to the surrounding urban population. The Kereyou women make money by selling firewood and rarely charcoal. Also, some Kereyous earn money either through farming or working for plantation and other conservation entities in the region (Jacobs and Schloeder, 1993).

3.3.3.1.3 Ittu

The Ittus are immigrants from west Harrerge (AsebeTeferi) area over the last twenty-five to thirty years with the good will of the Kereyous. They settled on the Kereyous' land and

shared their farming practice and permanent settlement style to the Kereyou (Ayalew, 2009). Ittus are agro-pastoralists and their attitude towards, and skills in, farming are better than that of the Kereyou have. Consequently, they are more responsible for changing the ecology of the area (Jacobs and Schloeder, 1993). They are largely engaged in the selling of charcoal and firewood to those who transport it to Addis Ababa and other towns. They first settled around Kobo, and then moved to the present location due to the establishment of ANP and other development projects in the surrounding (Jacobs and Schloeder, 1993). They belong to the same language group of the Oromo people.

3.3.3.2. The surrounding urban community

The current expansion of urban centers in other parts of Ethiopia has also been observed in small towns located around the Park. There are four urban centers nearby the Park including Awash Sebat Kilo & Sabure in Awash Fentale district and Metehara & Haro Adi in Fentale district. Most of the urban populations have their own private business since these towns are along the main highway from Addis Ababa to eastern towns. A large proportion of the urban population also works for government and non government organizations.

These towns have direct impact on the Park through their physical expansion to the Park territory or have an indirect impact such as through extraction of charcoal and fuelwood Sabore town is where charcoal from the Park is marketed. Most of charcoal makers are living in these towns. Charcoal makers living in urban centers usually made agreement with rural communities in the production of charcoal and share the income from it.

3.3.4 Sources of family income

Ninety-eight percent of the surveyed households reported that livestock & livestock products were the main sources of income for their family (Table 3.2). The Afar are more likely to depend on livestock and livestock products than the Kereyou-Ittu. Income from selling fuelwood, charcoal and palm leaves was reported to be the second source of

family income next to livestock. Relatively, a lesser proportion (24 %) of the surveyed population were involved in crop production. About 6 % Kereyou-Ittu reported having one member of their family being employed as Park scouts or guard for the Merti sugarcane plantation. Thirty two percent of the surveyed population work as seasonal employees at the plantation during sugar cane harvesting time. A very small proportion of respondents (4 and 2%) worked as daily laborers and private business owners respectively. The Kereyou-Ittu are more likely to get involved in permanent and seasonal employment than the Ittus.

Table 3.2 Occupation status and main source of income of the sample households in the study area

Study sub-districts	Source of income						
	Livestock & livestock products	Crop production	Sale of fuelwood, charcoal, palm leaves	Monthly salary	Seasonal employee income	Daily labor income	Private business
Sabure, Doho & Dudub (Afar side)	123	43	53	2	25	0	2
Debiti, Illal and Gelcha, (Kereyou-Ittu side)	83	89	84	4	43	9	3
Total number	206	132	137	6	68	9	5
Percentage	98	24	65	3	32	4	2

3.3.5 Infrastructure

Current infrastructure development around the Park is closely associated with the national economic development strategic plan. The sub-districts in and around the Park have 20 schools including kindergarten, 15 health centers and 8 veterinary posts. Of these 11 schools, 7 health centers and 1 veterinary post of the Fentale district are found inside the Park boundary, whereas those of Awash Fentale are outside the Park boundary (Table 3.1). None of the 11 sub-districts have access to clean water. Four sub-districts are using Awash river and hand dug wells including for their livestock. The other sub-districts get potable water from Metehara town. In some cases irrigation water is also use for human and livestock consumption.

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3.6 Uniqueness of ANP

Awash National Park is one of the few national Parks in the country with extraordinary biodiversity. It has rugged landscape and is located in the Great East Africa Rift Valley Zone surrounded by communities with rich indigenous tradition and culture. The geographic proximity to the capital and the rich animal diversity it hosts including more than 80 mammal species and more than 467 endemic and migratory birds has made the Park a preferred a destination for tourists. In addition to its rich biodiversity, the Park provides recreational outlets such as hiking through the rift valley. The natural hot spring swimming pools in Filwuha are unique in providing an unparalleled natural experience The Addis-Dire Dawa road and extensive road lines within the Park have made the Park accessible by vehicle, on foot or on camel and this has made it attractive to diverse travelers. Awash River is accessible at Awash River fall in the center of the Park. The museum located near to the headquarter of the Park with old and deteriorated visual and written exhibits makes the Park unforgettable. Moreover, the availability of other non-gazetted wildlife reserves and controlled hunting areas within the Awash Valley made the Park more preferable than other Parks in the country.

3.3.7 Other Conservation areas

There are seven conservation areas planned to serve as corridors of wild animals which may come in and going out of the boundary of the Park. These include Yangudirasa national Park, Awash West and Alledeghi wildlife reserves located north, northeast and west of the Park. They were established as buffer zone for the Park primarily for the protection of wild animals as well as grazing and cattle ranching areas of the local communities (Jacobs and Schloeder, 1993). Awash West, Afdem- Gewane and Erer-Gota controlled Hunting areas are found north of the Park extended into Afar triangle. In these areas all human activities including settlement as well as licensed hunting of certain species are allowed. Currently, all these conservation areas are not functional because of the newly established settlements and associated high demand for grazing and farm land.

3.5 Materials and Methods

3.5.1 Land use and land cover change

We used two sets of aerial photographs taken in two consecutive decades: 1972 (During the Imperial Regime) and 1984 ('Derg' regime), and a satellite SPOT image of 2006 (Present EPRDF government) to create the database (Table 3.3). We used a set of 1987 topographic maps of the study area at a scale of 1:50,000 to delineate the total study area. The fifty-two black and white aerial photographs, the satellite image and the two separate topographic sheets were obtained from the Ethiopia Mapping Authority (EMA). Global Positioning System (GPS) was used to collect ground control points. A high resolution scanner with 600 dots per inch resolution was used to scan aerial photographs maintaining the quality of images. For processing Geographic Information System (GIS) works we employed ArcMap 10 and ERDAS Imagine (version 9.2).

Table 3.3 Aerial photos and satellite images used in land use land cover change classification

No	Image	Sensor	Resolution/scale	Date of acquisition	Path and row
1	1972 Aerial photograph	Analogue Frame Camera	R=5 m/1:50000	December 1972	_
2	1986 Aerial photograph	Analogue Frame camera	R=5m/ 1:50000	February 1986	_
3	Spot Land* Resource Satellite	SPOT Satellite	R=5m/ floating	January 2006	167/54 168/54

Source: Ethiopia Mapping Agency (EMA) http://www.gclf.org*

We generated the LULC changes for the three referenced periods of 1972, 1986 and 2006 using the black and white panchromatic aerial photographs of 1972 & 1986, a 2006 multispectral SPOT image and a 1987 topographic map of the study area. These time periods were selected primarily because of photographic and satellite data availability.

Aerial photographs were scanned at 600 dots per inch in order to make photo mosaic according to Universal Transverse Mercator projection (UTM Zone 37). The 1:50,000 topographic map was used as base map for geo-referencing the photo mosaic and the SPOT image with a similar projection. The spatial database was produced from the photographs and SPOT image using Arc Map 10 and superimposed on delineated Park boundary (Esri, 2002). Field control points were the Addis-Djibouti railway line, the main asphalt road that crosses ANP, the Park administration buildings, the Awash River and other permanent structures. These long existing physical features were important for geo-referencing the images, to understand the features of the different land cover classes, support visual interpretation of the images and to select reference areas using as training sites for supervised classification

We conducted a field visit for ground truth and classified land use and land cover types based on tone, texture and pattern of the 1972 photo image. The final six major class types were achieved through merging of similar aspects of tone, texture and pattern of the photo image. Initially, unsupervised classification was employed which later was followed by ground truth to establish the six major land use and land cover types from the satellite image.

Clear land cover types were selected after working on sites to introduce the spectral character of the major class types. To generate the same land cover types from aerial photographs, we digitized the images on-screen using ArcMap 10 on the basis of reflectance character of the cover type. After having field collected ground truth using global positioning system (GPS), ERDAS Imagine image processer (version 9.2) was applied to analyze the multi-spectral SPOT image. Similar land cover types were classified through unsupervised classification and the result was further filtered until producing more generalized and highly disintegrated reflection form of aerial photographs. Several onsite field visits were conducted to verify land cover data and gather information from the community before generating a final LULC map.

3.5.2 Socio-economic survey

3.5.2.1 Household level (individuals)

A pilot survey was conducted prior to the actual data collection to identify target communities and refine our questionnaire. Based on the results from the pilot survey, we revised our semi-structured questions (for household interview) and open-ended questions (for key informants and focus group members) and identified six out of eleven sub-districts for sampling: Dudub on the eastern, Diho on the north-eastern, Sabure northern, Debti on the north-western, Illala on the western and Gelcha on the eastern side of the Park. The selection of these sub-districts was to increase diversity of representation with regard to the communities' level of dependency on Park resources as determined in pilot survey. Because of the implications of geographical proximity with regard to impact, our sampling was restricted to communities located within one kilometer distance from the Park boundary. Of the total 32 pastoralist/agro-pastoralist villages, we selected 20 villages through a multistage cluster sampling design (Robinson, 2002). We employed three levels of cluster: sub-districts within districts, residence time and farming life style. From these we selected 210 respondents which represnts 10.5 % of the total household population (135 agro-pastoralists and 75 pastoralists) through stratified random sampling.

The number of pastoralist respondents was fewer than agro-pastoralists due to the scattered population distribution of pastoralists over a larger area. The difference in gender in our sample was not avoidable (only 15% of our respondents were female) because of cultural and practical reasons. The most senior member of each visited household present at the time of the visit was considered head of the household and were asked for permission to conduct the interview. Both male and female respondents were happy and willing to participate.

3.5.2.2 Key informants

A total of twelve key informants, four from each cluster groups of stakeholders such as the 'authority' (EWCA, Oromia Region Natural Resources Office, Fentale Woreda

Culture and Tourism Office and ANP warden), the 'networking' (CARE Ethiopia, Ethiopian Tourism Commission Office, Awash Falls Lodge and Kereyou Lodge) and the 'local' cluster group (pastoralists and agro-pastoralists) were selected using a purposive random sampling technique and about a two-hours interview was conducted with each informant. The knowledge individuals demonstrated about the Park during the pilot survey was taken into consideration in selecting key informants. We assessed perceptions of sustainable resource management and structural changes in the management system, priorities and motivations, as well as challenges and requirements of the management of resources in the Park before and after decentralisation (pre-1995 and post-1995).

3.5.2.3. Focus Group Discussions

A combination of focus group discussions and individual and in-depth interviews are the most frequently used methods in social sciences research (Morgan, 1996). Also these methods are shown to be essential to explore opinions and experiences of the group members as whole and personal experiences of individuals over time (Duncan and Morgan, 1994; Morgan, 1996). We used focus group discussions used to explore perception and experience of respondents on particular issues (Barker and Rich, 1992). A total of six focus group discussions were conducted (one per sampled community) in the six sub-districts, namely Gelcha, Illala, Debti, (in the Oromia side) and Sabure, Diho and Dudub (in the Afar side). Each group included six members: elders, middle aged individuals, and youth that have been living for more than 25 years. A total of 36 local individuals were selected based on the distance of their residence from the Park and their overall knowledge of the area which was determined through our prior contact with local leaders.

3.6 Data collection

We used semi-structured and open-ended questionnaires as the main instrument to collect socio-economic data from target population. Both types of questionnaires were prepared fist in English and then were translated to local languages (Afar and Oromifa) to ensure

an understanding by respondents. The translated questionnaires were pre-tested during the pilot survey period to refine our questionnaire. Both forms of questionnaires were presented to household individuals, key informants and focus group discussion.

We collected data during the period of January and May 2011 and revisited the sites for updates in January 2013. The researcher was assisted by two Park employees who were working as a zoologist and botanist in the Park. They were familiar with the research site and spoke both local languages. The researcher and the two assistants discussed the objectives of the study, the conceptual and theoretical framework. We developed a common conceptual understanding of some of the vague conservation terminologies included in semi-structured questionnaires. In addition we agreed that the data was to be collected with full cooperation and free will of respondents. All data collectors well trained and agreed to respect all respondents through applying enumerators' conduct and ethics in the field. Leaders of the six sub-districts were also informed about the objective of the study and they were willing to inform the local people about the importance of the study. Leaders assisted us in some schedule arranging a meeting between the interviewer and interviewees. The average interview with informants lasted two hours and interview with environmental conservationists and Park warden lasted longer. All participants were willing to be recorded onto a hand-held recorder.

3.6.1 Primary data sources

3.6.1.1 Semi-structured questionnaire

Semi-structured interviews are used to assess communities' perception towards biodiversity conservation in private and government owned national Parks (Makindi, 2010) and to assess the attitudes of people towards deforestation (Pham and Rambo, 2003).

We used semi-structured interviews to identify and analyze the major driving forces for the observed LULC changes. Pastoralists and agro-pastoralists were also specifically asked to describe the consequences of the LULC changes on use and management of resources in the National Park. The perception of local communities towards the observed LULC changes during the Imperial period (before 1974), the 'Derg' regime (1974 to 1991) and the current government (from 1991 to the present) was investigated using the semi-structured interview.

The semi-structured interview was also presented to household level respondents to assess their perception towards the current status of the Park, causes of resource based conflicts, impact of policy issues towards sustainable conservation and gaps of environmental policy. We also used the household level interviews to evaluate the views and perceptions of local respondents towards issues related to their own participation in conservation activities, current and future existence of the Park, towards the authority managing the Park, their own conceptual understanding of conservation terminologies and attitude towards tourists.

3.6.1.2 Open ended questionnaire

According to Punch (1998) open-ended interview is an appropriate method to investigate the complex nature of views and perceptions of respondents by presenting unstructured and in-depth questions. The approach is also crucial to assess the present attitude of the respondents and gives a highlight of what they may think in the future on those questions (Berry 1999). Furthermore, conducting open-ended interviews allows respondents to explain their thoughts and avoid the language barrier (Knight, 2000).

The open-ended questionnaires were presented to key informants and at focus group discussions. We made an attempt to guide the interview towards certain key topics during the discussions. Towards that end, we used a checklist of open-ended interviews similar

to the method designed by Wenden (1982). The major topics for the discussion included the overall status of the Park between 1972 and the present (major threats of the Park, gaps in environmental policies and resource-based conflicts), their perception towards participation and interest in conservation activities, attitudes towards Park authorities, personal experiences and interactions with the Park, views towards resources of the Park, and views towards wild animals and views towards development projects around the Park.

The unfinished GIS maps and aerial photographs served as immediate reference during the conversations to address issues related to LULC changes. Respondents were asked to share their thoughts as to why observed changes had occurred. Pastoralists and agro-pastoralists were also specifically asked to describe the consequences of the LULC changes on use and management of resources in the National Park.

Identification of the various stakeholders charged with the task of using and managing of resources was gathered using direct observation, household survey, formal and informal interview and focused group discussion techniques. We combined two sets of data to decide on each potential stakeholder to consider them as a stakeholder or not. The first was the actual observed participation of stakeholders on the ongoing use and management activities in the Park. This was achieved through direct observation and from documented reports by Park workers and surveyors. The second was through household questionnaire and direct interview with key informants and focus group discussion members.

A preliminary list of stakeholders was prepared from the list of participants in a workshop organized for rescuing the ANP in August 2011. The identification of additional stakeholders was done after further development of the list in consultation with key informants including long time employees of the Park Administration. The prepared list of stakeholders was presented to the 12 key informants and the 36 members of six focus group discussions. The key informants were asked to identify each stakeholder whether it has a direct or indirect involvement. The key informants were also asked to

justify their choice by indicating perceived responsibilities, level of involvement, views, impact and interest of the identified stakeholder. They were also invited to name other stakeholders who should be included in the list but were not included yet.

3.6.1.3 Direct observation

Intensive field survey was conducted several times between January 2011 and January 2013. During the field survey we had an opportunity to observe the current state of resources in the Park, the involvement of various stakeholders in the conservation activities. The positive and negative impact of the Afar and Kereyou-Ittu communities on the Park and the vice-versa were the main target of the field survey. We made an attempt to observe issues related to boundary demarcation of the Park, and disagreement between Park authorities and sub-district leaders. Our formal and informal contact with local communities helped us understand the perception of the locals towards the Park, the cause and potential solutions of conflicts between the two communities. We took more than 15 pictures of the Park to use it as reference.

3.6.2 Secondary data sources

We gathered documentary data, i.e. progress reports, meeting minutes, project proposals and project evaluation on the past and the ongoing conservation activities, from government offices (federal, regional and local) and non-governmental organizations, . The country's environmental laws and proclamations and Council of Ministers Regulations were used as sources of data for policies and legislation issue.

Several research findings reported that population growth is one of the critically influencing factors for land use and land cover changes in Ethiopia (Hurni, 1993; Woldeamlak, 2003). Thus, population census data of the targeted population for 1984, 1994 and 2007 was collected from Central Statics Authority and sub-district offices.

3.7 Analyses of Land use land cover changes

Six land cover classes i.e. scattered bushland, shrubland, grassland, farmland, bare land and volcano crater were identified and the description was given in Table 3.4. The area of land under different land uses was used to calculate percent changes in land use cover. Chi-square goodness of fit test was used to test for significance.

Table 3.4. Description of LULC categories

Categories	Description
Scattered bushland	Trees and shrubs are common: dominated by bushes, short grass is also available and ground cover is poor
Shrubland	Area dominated short shrubs that are usually not greater than 6 meters in height and a canopy cover greater than 20 %. : dominated by grouped shrubs with good or poor ground cover
Grassland	Grass is the dominant vegetation type with widely scattered trees and shrubs but their canopy cover doesn't exceed 2 %
Farmland	plots for annual rain fed and irrigated cultivation
Bareland	little or no vegetation cover at all mainly on areas with volcano origin exposed rocks
Volcano crater	Volcano crater hole at the top of volcano origin mountain (Mt. Fentale)

The area of land under different land uses was used to calculate percent changes in land use cover. Summarized quantitative household data was tested using Chi-square goodness of fit test. Theory of Exponential (continuous population growth) was employed to check the status of the area's population growth and its effect as a driving force for LULC. Scio-economic data was analyzed using Statistical Package for the Social Science (SPSS, Japan Inc. Tokyo, Japan).

Open ended questionnaire were designed to construct a time line of historical events with regard to LULC changes. Interview data was summarized according to the 'ecological time lines' (Reid et al., 2000) to distinguish different events/causes and consequences of LULC change. Time line was developed in close reference to the three governments that

ruled the country, i.e. the Imperial (pre-1974), the "Derg" (from 1975 to1991) and the current EPRDF government (from 1992 to the present).

The primary and secondary data were analyzed according to De Groot (2006): identification and selection of stakeholders, prioritization of stakeholders and evaluation of involvement of stakeholders. After the identification process the selected stakeholders were grouped into three clusters based on their involvement, i.e. responsibility, interest and impact on the management of resources in ANP. These were 'authority' stakeholders, i.e. government officials at federal, regional and sub-district level and Park staff, 'rural' stakeholders, i.e. pastoralists and agro-pastoralists in the Afar and Kereyou-Ittu communities, and 'networking' stakeholders, i.e. NGOs, Environmental conservation associations, tour agents, and commercial sectors .

CHAPTER FOUR

Land use and land cover changes in Awash National Park, Ethiopia: impact of decentralization on the use and management of resources

Ethiopia's protected areas, sanctuaries and reserves, and the rich biodiversity of the country are under a serious threat (IBC Report, 2009). Implemented management approaches and human and livestock population pressure are identified as threat to all National Parks in the country (Duckworth, 2002). Also, the country's protected areas may have many additional challenges which are results of broader boarder conflicts among local communities (Ashenafi and Leader-Williams, 2005). Such factors have threatened the existence of most national Parks (Belay et al., 2011). The increasing livestock population and illegal exploitation of resources have impacted resources in Nechisar National Park (Demeke et al., 2011). Although Simen National Park was reported to show some positive development, infrastructural expansion in the surrounding area, deforestation, agriculture, hunting, and livestock grazing contributed to the deterioration of the Park (Hurni and et al., 2008). In Alatish National Park, habitat destruction to expand grazing land, poaching and forest fire were marked as primary

contributing factors to the decline biological diversity (Girma and Afework, 2008; Tilahun et al., 2012).

In the case of ANP, a number of animal and plant species are reported to be endangered or critically endangered (Jacobs and Schroeder, 2001). The Park has failed to protect the continuous decline of both faunal and floral communities even after the removal of human inhabitants out of the area which triggered subsequent conflicts among pastoralists in the area (Eyasu, 2008). In August 2011 a national conference of main stakeholders was held with the purpose of designing a mechanism to stop the radical habitat deterioration and species extinction that took place over the last four decades (EWCA, 2011). In light of current developments, understanding the patterns, causes, and consequences of (LUCC) would have a paramount importance to predicting changes relevant to the Park in the future and help develop effective conservation and management strategies.

4.1 Result and Discussion

4.1.1 Land use and land cover changes since 1972

The major LULC categories identified are given in table 2. Six major LULC types including scattered bushland, shrubland, grassland, farmland, bare land and volcano crater were identified and produced as LULC map of the study area (Figure 4.1).

4.1.1.1 Scattered Bushland

Over the three decades we studied, similar trends of LULC changed at different rates of conversion were shown in all cover types except the scattered bushland. Scattered bushland was drastically reduced by 38.5 % between 1972 and 1986 and by 29.4 % during the entire study period with a modest (9.1 %) recovery between 1986 and 2006 (Table 3). The annual rate of change of scattered bushland was also the highest, 20.61km^2 per year between 1972 and 1986 and 6.48 km^2 during the entire period. A number of reports from Ethiopia have shown similar findings where there was a high conversion of bushland to different land use types (Gete and Hurni, 2001; Emiru and Taye, 2012;

Fesseha et al., 2012). An exception was Siemen Mountain National Park (SMNP), Ethiopia, where forest cover increased by 33% from 1984 to 2003 (Menale et al., 2011).

In most East African countries, including Keya and Uganda, areas under forest cover were converted into grazing land, farmland or for charcoal production without changing the status of the protected areas (Olson et al, 2004). On the other hand in some developing countries like Costa Rica deforestation inside parks was negligible within the buffer zone of the park boundary (Azofeifa et al., 2003).

4.1.1.2 Shrubland

Shrub encroachment was highest, i.e. increased by 32.2 %, between 1972 and 1986 and by 10.3 % (77.4 km^2) during the study period (Table 3). The annual rate of expansion for shrubland, i.e.17.6 km^2 between 1972 and 1986, was similar to what Tsegaye et al. (2010) reported for Afar rangelands between 1972 and 2007. Menale et al. (2011) also showed an expansion of shrubland in SMNP, a Park with a rigorous management strategy of agriculture and grazing land. On the contrary, shrubland seems to have shrunk in the country's highlands (Kibrom and Hedlund, 2000; Woldeamlak, 2003; Getachew et al., 2011).

4.1.1.3 Grassland

Grasslands was the largest cover type in area between 1986 and 2006 and expanded by 14.2 % (106.4 km^2) between 1972 and 1986 as well as by 10.5 % (79.1 km^2) during the entire study period (Table 4.1). However, it slightly declined (by 3.6 %, i.e.27.3 km^2) between 1986 and 2006. Between 1972 and 1986 the rate of gain in grassland was 7.60 km^2 per year because of conversion of scattered bushland. Controlled burning within the boundary of ANP for the purpose of enhancing grass quality and reducing shrub and bush encroachment contributed to the expansion of grassland between 1993 and 1997 (Jacobs and Schroeder, 2001). Menale et al. (2011) reported a similar expansion of grassland in the SMNP. On the other hand, grassland seemed to decline in different areas of the

country where sedentary economic activity and permanent settlement was common (Gete and Hurni,2001; Woldeamlak, 2003; Emiru and Taye, 2012; Fesseha et al., 2012).

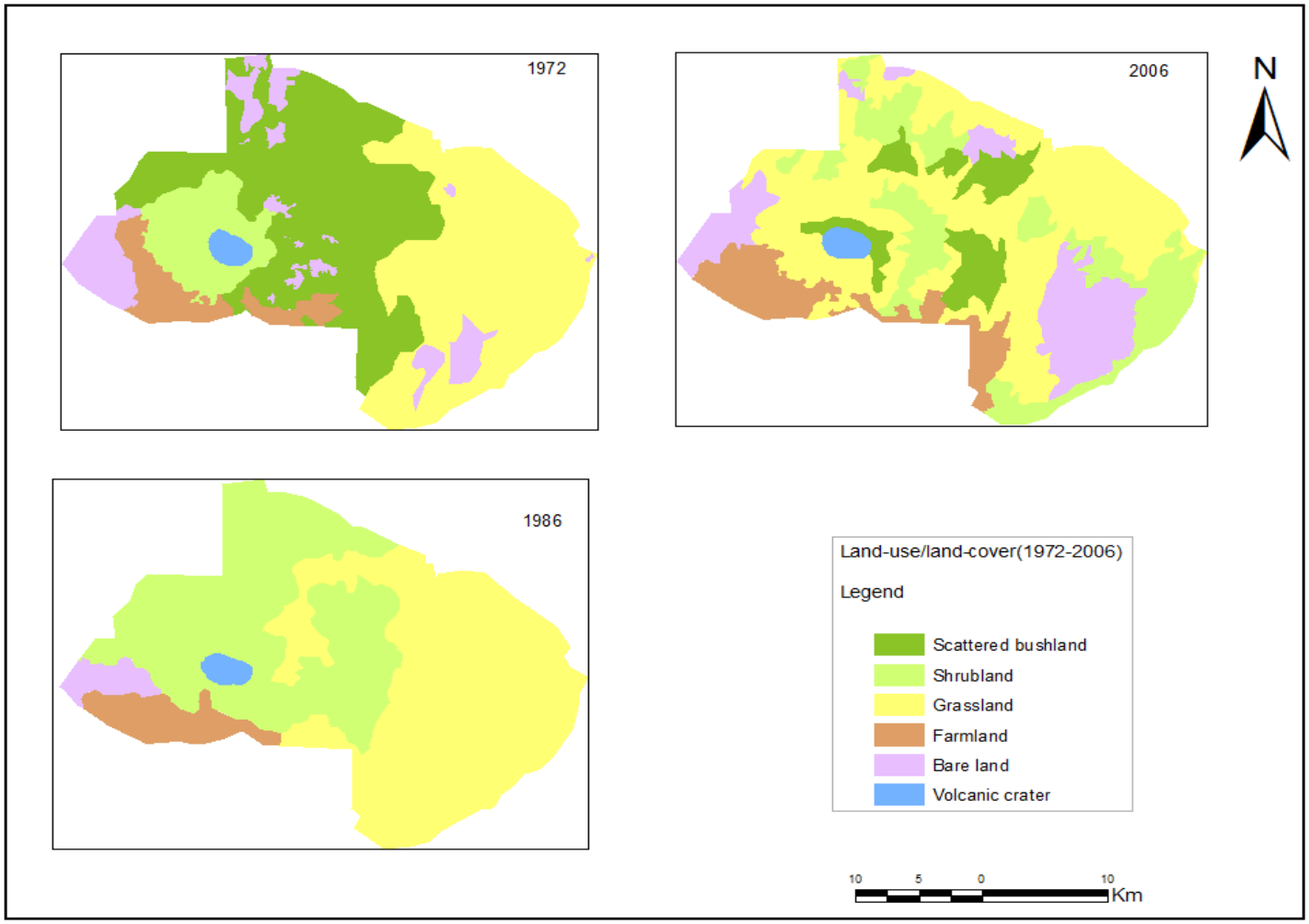


Figure 4.1 Land use land cover map of the study area for the year 1972, 1986 and 2006

Table 4.1 Land use and land cover change from 1972 to 2006

Land-use/Land-cover types	1972		1986		2006		Change in land use/land cover in %			
	Area	%	Area	%	Area	%	1972-1986	1986-2006	1972-2006	X^2 Goodness of fit test
Scatter bushland	289.16	38.6	0.6	0.1	68.8	9.2	-38.5	9.1	-29.4	X^2=380.6, df 2 P=<.0001
Shrubland	70.52	9.4	312.2	41.6	148.0	19.7	32.2	-21.9	10.3	X^2=172.2, df 2 P=<.0001
Grassland	266.15	35.5	372.6	49.7	345.2	46.0	14.2	-3.6	10.5	X^2=18.6, df 2 P=<.0001
Farmland	48.08	6.4	44.6	5.9	75.1	10.0	-0.5	4.1	3.6	X^2=9.97, df 2 P=0.0068
Bareland	76.09	10.1	20.1	2.7	112.9	15.1	-7.5	12.4	4.9	X^2=62.7, df 2 P=<.0001
Volcanic crater	8.31	1.1	8.9	1.2	9.1	1.2	0.1	0.0	0.1	X^2=35.1, df 2 P=<.0001
Total area	750.00	100.0	750.0	100.0	750.0	100.0				

4.1.1.4 Farmland

Farmland expanded between 1982 and 2006 and during the entire period by 4.1 % (30.5 km^2) and 3.6 % (27 km^2), respectively (Table 4.1). The annual rate of change of farmland for the three consecutive reference periods was -0.25, 1.53 and 0.79 km^2. The current Ethiopian government has encouraged pastoralists to engage in agro-pastoral activities including the establishment of non-mobile settlements which in turn increased the need for more farmland. As a result, the proportion of farmland has grown to constitute 10 % of the study area in 2006 (Table 4.1). Overall high farmland expansion characterized most parts of the country during the past 15 years (Kibrom and Hedlund, 2000; Gete and Hurni, 2001;Woldeamlak, 2003; Tsegaye et al., 2010; Abata, 2011; Menale et al., 2011; Emiru and Taye, 2012; Fesseha et al., 2012).

In Kibale National Park, Uganda, expansion of agricultural land was reported in the surrounding areas due to increasing number of immigrants (Majaliwa et al., 2010). In most East African countries expansion of farm land at the expense of forest covered area was coupled principally with the availability of water for crop production (Reid et al., 2004).

4.1.1.5 Bareland

In the study area it was common to see land without vegetation cover, and this bare land expanded by 12.4 and 4.9 % between 1986and 2006 and for the entire three decades, respectively (Table 4.1). Barren and eroded land mostly at the top of Mt Fentale was an easily observable and notable geographic feature of the area.

4.1.1.6 Volcano crater

A volcano crater covers 0.2 % (about 9.0 km^2) with little expansion (about 0.1 %) in the entire study period.

4.1.2 Drivers of land-use/land-cover change

From a range of demographic, socio-economic and infrastructure related factors, 12 driving forces were identified as the for the observed LULC change in the study area over the 34 years period (Figure 4.2). Community respondents also explained the major drivers of changes in terms of the three government regimes that ruled the country over the study period (i.e. the Emperor, the "Derg" and the current EPDRF).

4.1.2.1. Population dynamics

Population growth was reported to be the main driving factor pre-and post-1995. Most respondents (74 %) agree that population growth was a potential driver of the cover change pre-1995 (X^2=46.7, df=1, P<0.0001, Figure 4.2). The impact of population growth has persisted as a possible driver of LUCC also post-1995 (X^2=35.2, df=1, P<0.0001, Figure 4.2). Specific population pressure was pinpointed by local communities. For example, Kereyou underscored that the immigration of the Ittu people towards Fentale district since the establishment of the ANP has caused increased competition over resources and contributed to the observed LULC changes. The Ittus as do the Kereyou and Afar pastoralists are agro-pastoralists. Jacobs and Schloeder (1997)

reported that the “Derg” regime was unable to stop the immigration of Ittu to the Kereyou’s locality to prevent the persecution of the Ittu by the Issa.

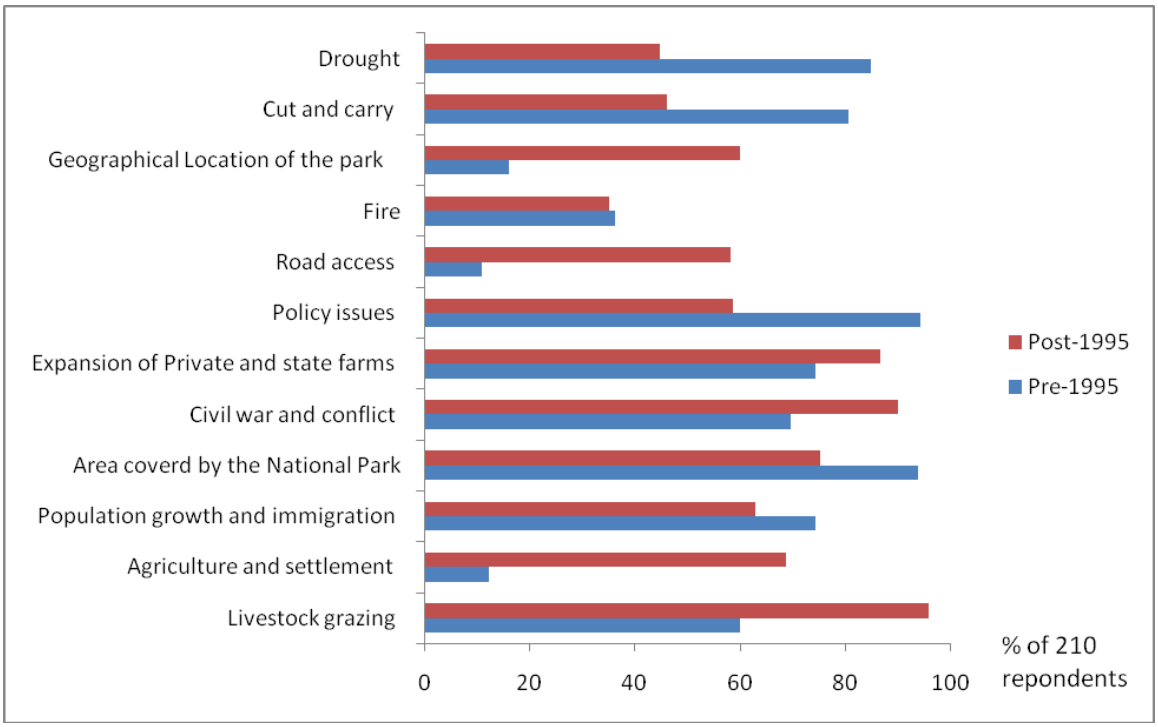


Figure 4.2 Key driving forces of LULC change perceived by household population

Based on Ethiopian national population and housing survey (CSA, 1994; CSA, 2007) in 1984, 1994 and 2007, the total population of the Afar and the Kereyou-Ittu people has increased rapidly by 65 % (from 14,221 to 23,532 with an annual growth rate of 5 % between 1984 and 1994, Table 4.2). The population in the Afar side also increased by 38 % (from 5678 to 7848, Table 4.2). Over the same period, the population on the Kereyou-Ittu side increased by 71 % (6132) during the initial years with the very high annual rate of growth (5.4 % Table 4.2). Over the same period, the population on the Kereyou-Ittu side increased by 71 % (6132) during the initial years with the very high annual rate of growth (5.4 % Table 4.2). This population increase was reported as the main cause for LULC changes including the expansion of farmlands at the expense of grazing lands (Shibru and Kifle, 1998; Woldeamlak, 2003; Amsalu, 2006; Fesseha et al., 2012). Hurni et al. (2005) argues that there are positive implications of population increment in the

highlands of Ethiopia because it reduces runoff through practicing land use and other conservation activities.

Table. 4.2 Population data of the study area

Study sub-districts	Total Population and rate of growth in %			Growth change		Rate of growth	
	1984[a]	1994[b]	2007[c]	1984-1994	1994-2007	1984-1994	1994-2007
Sabure, Doho and Dudub (Afar community)	5678	7848	10,809	2170	2961	3.2	2.5
Benti, Debiti, Dega Hedu, Fete Ledi, Gelcha, Haro Kersa, Elala and Kobo (Kereyou and Ittu community)	8543	14,675	23,293	6132	8618	5.4	2.9
Total	14,221	23,532	33,302	9311	9770	5.0	2.7

The growth rate were calculated according to exponential (continues growth of population $r=\frac{(1/t \text{ Log } P_2/P_1)}{\text{Log}_e} \times 100$

Source: Awash Fentale and Fentale Woreda Reports (un published) [a]

Ethiopian Central Statistics Agency 1994 and 2007 [b & c]

4.1.2.2 Institutional factors

4.1.2.2.1 Before decentralization (Pre-1995)

The majority of respondents (X^2=172.5, df=1, P<0.0001) indicated that the most important drivers of the observed LULC changes pre-1995 were the combined effects of the land reform policy and changes in Park boundary (size of the Park) followed by climatic changes such as drought (X^2=101.7, df=1, P<0.0001, Figure 4.1). As a result, the illegal livestock feeding system 'cut-and-carry' that demands high labor input was

reported as one of the major driving force of LULC pre-1995 (X2=101.7, df=1, P<0.0001Figure 4.1). Other factors mentioned by respondents were (X^2=93.5, df=1, P<0.0001) the expansion of government and private farms and the civil war (X^2=88.4, df=1, P<0.0001). Before decentralization (pre-1995) livestock grazing was identified as a driving force of LUCC (X2=78.8, df=1, P<0.0001) however, the impact of this driving force was reported to have been more pronounced post-1995.

4.1.2.2.2. After decentralization (post-1995)

The majority of respondents (X^2=177.7, df=1, P<0.0001) indicated that livestock grazing was a predominant driving force for the detected LULC changes post-1995 followed by expansion of government & private farms around the study area (X^2=164.0, df=1, P<0.0001). Park officials reported the expansion of irrigation around the ANP as having an indirect effect on the ANP in addition to its contribution to the land use and land cove changes in the surrounding. For instance, Metahara sugar plantation denied water access to the Kereyou-Ittu and their livestock and that forced them to move into the ANP in search of watering site. A similar expansion of irrigated and rain fed agriculture in Afar and Oromo communities around the ANP have been implicated to be the causes for the conversion of different land cover types into farmland (Ayalew, 2001; Getachew et al., 2007).

Changes in the boundary of the Park were identified by respondents as the third driving force post-1995 (X2=138.2, df=1, P<0.0001). The key informants from EWCA confirmed the changes in the boundary of the national Park from that in 1969. Informants also indicated the need for amendment to the current boundary to avoid vagueness, inaccuracy and to make it easily recognizable by local communities. Large number of pastoralists and agro-pastoralists (X^2=127.2, df=1, P<0.0001) underscored the problem related to livestock production in their locality which forced them to engage in non-pastoralist activities such as irrigation and rainfed agriculture which demand for new LULC types. Our interviews revealed that more than half of the respondents (X^2=106.9,

df=1, P<0.0001) felt that policy issues and having road access to be important causes of the observed LULC changes post-1995 (X2=20.3, df=1, P<0.0001).

4.1.3 Local perceptions of Land use and land cover changes in the ANP

Similar to their perceptions of drivers of LULC changes, pastoralists and agro-pastoralists were in a position to point out major events and consequences of the observed LULC changes in terms of their incidence period during the Imperior (before 1974), the "Derg" regime (from 1975 to 1991) and the Ethiopian People's Revolutionary Democratic Front EPDRF (from 1991 to the present).

4.1.3.1. During the Imperial Regime

Key informants and members of group discussions invariably agreed that the ecological condition of land cover around the ANP was better during the time of the Emperor (before 1974) than the period of the two successor regimes (from 1975 to present). The local communities lamented on the fact that the Imperial regime made an attempt to negotiate on some issues with them before the establishment of the ANP. Then the Kereyou requested the pushing back of the Ittu to the surrounding of Harar town as a pre-condition for the establishment of the area as national Park. However, after the establishment of the Park, the Kereyou, who believe to be indigenous owners of the area, presented their complaints to the Emperor about the unfulfilled promises made to them. All key informants agreed that the immigration of the Ittue towards the Kereyou land and the removal of the Kereyou from their land without comparable compensation was an unfortunate decision which led to the development of a more negative attitude towards the value of ANP from the beginning. However, key informants indicated that the communities didn't forget the good steps the Emperor was able to take through providing 600 Gasha (250 km^2) of land to the Kereyou as a compensation. All pastoralists reported that "no man's land" (permanently uncultivated and unsettled land) tenure system during the Imperor was considered the land as state property. And that was the main reason for land alienation from the Kereyou to the Ittu immigrants and expropriation of pastureland

for sugar cane plantation (Table 4.3). This in turn enhanced communities' demand for pastureland and water points in and surrounding of the ANP.

Table 4.3. Major events, causes and consequences of the LULC changes between 1972 and 2006 years as seen by local key informants in Afar and Kereyou-Ittu communities

Approximate time of Government in power	Cause /events	Consequences /result of events
Before 1972 (The reign of the Emperor)	Immigration of the Ittu to Kereyou's land	Population Increment around the Kereyou
	Complaint of the community to the Emperor	Compensation of 600 "Gasha" (250 km2) of land
	"No man's land " land tenure system (land belongs to the land lord	Land alienation and expropriation of land for non-pastoral activities
Between 1972 & 1986 The "Derg" regime	Boundary Demarcation of ANP by the Derg soldiers	Enmity between the local community and Park workers
	High poaching by Derge soldiers and Argoba people	Reduction of large mammal population
	Drought (1975/76)	Permission of grazing land, settlement and borehole construction inside the ANP
	Immigration of Ittu increased	Migration of the Kereyou toward the ANP
	Civil war and conflict	Less attention from the government and the loose of human and looting of livestock
	The 1975 land reform in principle granted pastoralists right to grazing land	didn't improve the land right position of pastoralists
Between 1986 & 2006 The Present government (EPDRF)	Expansion of government and private farms	Land alienation and pastoralists move to inside the ANP
	Excessive overstocking	Low forage yield and further expansion into the ANP
	High conflict	Insecure the area, expansion into the ANP
	Infrastructure development (road and rail way)	Killing of animals increased
	Sedentaraization and agro- pastoralist increased	High demand for firewood, charcoal and house construction
	Establishment of several institutional arrangements	In principle official recognition of the pastoral production system

4.1.3.2. During the "Derg" regime

The time between 1972 and 1986 was recognized as a hard time for the surrounding communities in relation to the resources in ANP, as indicated by all key informants and members of group discussions. Activities such as boundary demarcation of the ANP without the knowledge of the local community and protection of the Park resources by forceful action made the situation worse. Moreover, the 1975/76 drought was a cause for the unforgettable devastating situation for both the community and the Park administrators. The drought imposed that Park administrators be lenient: they gave permission to pastoralists to have access to grazing land, settlement and borehole inside the ANP. The prolonged civil war in the country during the "Derg" regime was also categorized as one reason for the government's neglect of community-based solutions. Furthermore, conflicts among local communities continue to cause the loss of human life and livestock raiding. The dramatic loss of larger mammal populations due to poaching of wildlife by the Argobba and government soldiers was reported during the "derg" regime (Jacobs and Schloeder, 1993). Most informants indicated that the 1975 land reform policy following the replacement of the Imperial regime by the socialist "Derg" was not supportive of genuine land holding rights of pastoralists.

4.1.3.3 During the Federal Government (EPDRF)

Pastoralists and agro-pastoralists universally agreed that the current government (EPDRF) has a better understanding of the pastoralists' production system and is engaged in better economic and infrastructure development activities in their locality. However, the expansion of large scale commercial farming is not carried out hand in hand with the conservation of resources in ANP. State and private commercial farms have aggravated the scarcity of wet season grazing land in the area for pastoralists. Pastoralists also claim that infrastructure development (mainly access roads and railway) at federal and regional levels has affected the survival of animal populations in the Park. Many were eye witnesses to road kills of a number of animals at the Addis-Dire Dawa asphalt road and Addis-Dire Dawa railway. All fully recognized the efforts made by the current

government regarding sedentarization and agro-pastoral activities, which unfortunately in turn create a higher demand for firewood, charcoal and house construction in and around the ANP. Local communities also indicated that, similar to previous policies, current land tenure policy of the country was unable to resolve land tenure insecurities and related land use challenges of pastoralists.

4.2 Conclusion

Continued land use/land cover changes coupled with increasing demand for resource from the Park heavily affected the livelihood of the surrounding communities as well as the fauna and flora of ANP. Management policy and changes in the delimited Park border were identified by respondents as drivers of change prior to decentralization whereas livestock grazing was the leading driver after decentralization.The immigration of the Ittu community, land tenure system implemented during the imperial regime, policy of the "Derg" regime and recent economic and infrastructural expansion negatively impacted Park resources.

CHAPTER FIVE

Awash National Park, Ethiopia: use policy, ethnic conflict and sustainable resources conservation in the context of decentralization

Protected areas in Ethiopia require special attention in light of the unabated population growth, correlated encroachment and misuse and abuse of natural resources (Institute of Biological Convention, 2009). Conflicts between the neighboring communities seem also to occur at an increasing rate (Jacobs & Schloeder, 1993) and environmental resource scarcity is reported to be one of the profound causes that lead to violent conflicts between ethnic groups (Andrew-Essien & Bisong, 2009; Homer-Dixon, 2001). In eastern Africa, competition on scarce resources have been shown to be the primary cause of conflicts

between pastoral communities (Ayalew, 2001). Consequently, an understanding of basic mechanisms of sustainable resource management, and the role of the various stakeholders in implemented management practices would be critical to resolving resource related conflicts (Franc et.al. 2003). Therefore, sustainable use and betterment of Awash National Park would be ensured only through careful understanding of its management structure in terms of policy and administrative structures on conservation of resource as well as assessing violent conflicts between stakeholders.

5.1 Results and discussion

5.1.1 Major Threats of Awash National Park

Policy unfairness was identified as the main threatening cause of the Park resources pre-1995 (X^2= 19.4, *df*=1, *p*<0.0001, Figure 5.1A) however most respondents reported that its impact was insignificant post-1995. The perception towards policy in terms of Park resource sharing was clear across settlement styles (X^2=115.29, *df*= 1, *P*< 0.001). Pure-pastoralists, which comprise about 94% of the population, felt strongly about the serious impact of absence of well-designed policy but the same was not true for the agro-pastoralists, which comprised about 6% of the population (Figure 5.1 A). Policy issues were of low importance to agro-pastoralists in terms of their impact on Park resources. However, the perceived impact of the absence of policy towards Park resources post-1995 was considered minimal (X^2=3.2, *df*=1, P=0.0736).

Perceived impact of demand for pasture was the leading threatening cause of resource degradation in the Park post-1995 (X^2=194.30, *df*=1, P<0.0001 Figure 5.1 A), and this view was held across pastoralist and agro-pastoralist types. Demand for pasture, however, was reported not to be one of the major threats of the Park pre-1995 (Figure 5.1 A).

The Park is currently facing major threats because of the growing strain between contradictory forces: biodiversity conservation and the livelihood needs of the local communities. All community participants agree that federal (Ethiopian Wild life Conservation Authority, EWCA) and local Park offices and officials (Park warden,

expertise and scouts) are proactive towards the Park's wellbeing and sustainable management. However, the concern of federal, state and local state agencies is not galvanizing support at the community level. Overall at the community level, there is a general disinterest and very weak participation of communities in the conservation of the Park. This, our data indicates, may be one of the underlying factors for the continuous deterioration of the Park.

The main duty of Park warden, experts and Park scouts is to protect the Park from illegal extraction of resources, illegal hunting and settlement encroachment. Reflecting on the role these Park employees play with regard to the sustainability of the Park, one Kereyu elder expressed his feelings − "people who are working in the Park are working for the sake of their survival because they have got the lion's share of the benefits." Park officials agree that this statement demonstrates a deep-rooted resentment of some tribal communities towards the Park and Park administration. Also, it shows that these communities have little understanding of the role the Park is meant to play in their lives at a larger scale and how much Park workers are contributing to that goal. As a result, the relationship between Park workers and surrounding communities is currently less than amicable and can be detrimental to the Park in the long term. Although a closer dialogue would have been an ideal tool to establish thrust and enhance collaboration, Park administration has had no face to face discussion with local communities; the only occasion Park administrators visited local communities were when there were conflicts between local communities and Park scouts.

Park warden reports showed that nearly half of the woodland that once bordered the Park has now been, and continue to be, converted to government and private agricultural farm through extensive investment programs. Historically, the fertile flood plain of the upper Awash valley was the best pasture and source of water for the Kereyu during the dry season. However, that changed with the establishment of a sugar plantation at Metehara. While the plantation may be critical to the broader Ethiopian economy, its location right along the border of the Park and, in some instances, inside the Park has meant a massive

loss of valuable habitat and a critical buffer zone that would mitigate human encroachment. Also, this has created isolated pockets of land and associated wildlife resulting in serious habitat fragmentation. A similar case of habitat loss and fragmentation has also been reported for Bale National Park, Ethiopia, where the shift from pasture land to large-scale irrigation has caused a shortage of grazing land for local communities (Hillman, 1988).

Furthermore, on the eastern side of the Park where the Afar ethnic group resides, recently 20,000 hectares of land was allocated for sugar plantation (Awash Fentalle Woreda Agriculture and Development Office, 2010). The implications of the current expansion of agriculture are not limited to land transformation and encroachment. For example, in relation to the sugar factory nearby, there is a plan to build a new road through the Park extending from Sabure to Metehara.

Permanent settlements around the Park are an important contributing factor to continued human pressure on Park resources. Four sub-districts in the Oromiya side of the Park: Gelcha, Benti, Kobo and Debiti, were reported to have permanent settlements. The expansion of the nearby freshwater body−Lake Beseka, is one of the reasons for recent settlement expansion in the Park as well as to the loss of grazing land for the Kereyu communities. The lake's surface area expanded from 11.1 km^2 in 1973 to 39.5 km^2 in 2002. In turn, it has now inundated more than 37.0 km^2 of the grazing land of the Kereyu (Gulilat, 2000). The lake area was previously used as one of the main dry-season grazing and watering area of the Kereyu. Consequently, the Kereyu are forced to move into the internal parts of the Park searching for pasture. In a recent study Ayalew (2009) reported that the Kereyu are further worried about the loss of their pasture land because of the expansion of commercial farming and land alienation by the Ittu migrants.

Similarly, the highway from the central to the eastern part of the country which bisect the Park make the Park location easily accessible and ideal for poachers but hazardous for the

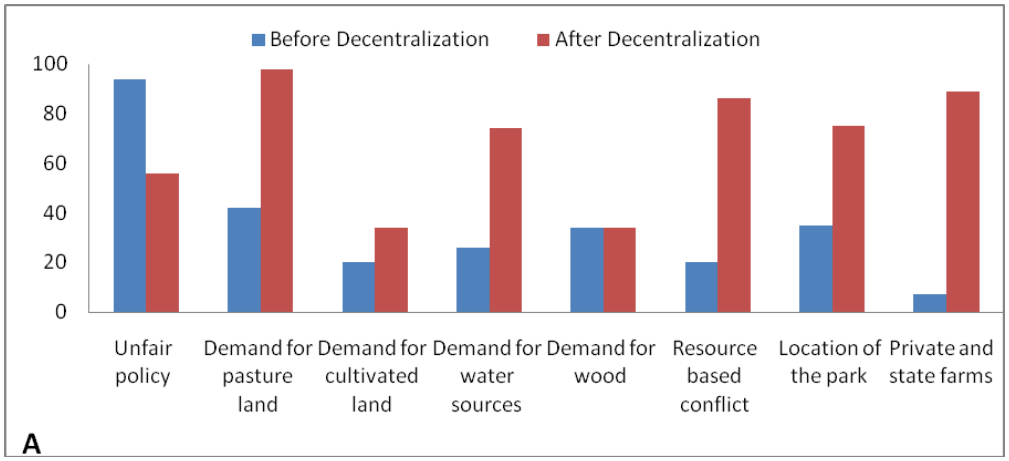
residing wild animals. On the average one animal is killed each day by car while crossing the high way (Interviewee with ANP warden).

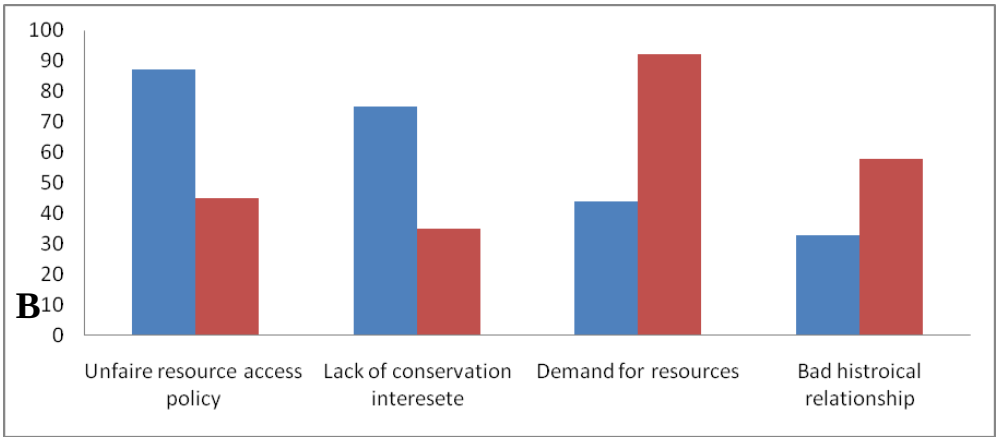
5.2.2 Impact of Policy Issues Towards Sustainable Conservation

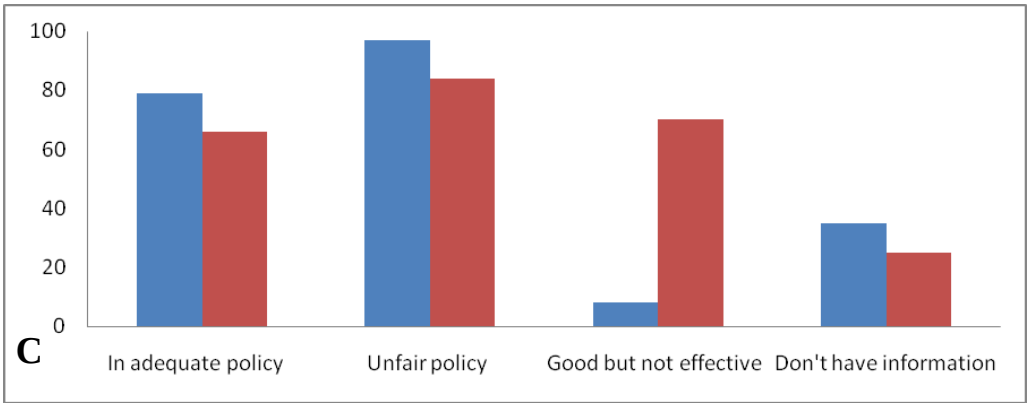
Absence of adequate (bottom-up) policy pre-1995 was reported to have led local communities towards negligence of the Park environment, and was identified as the underlying causative factor of the Park's current poor conservation status (X^2=188.16, *df*=3 P<0.0001, Figure 5.1 C). Although this same problem was reported to impact the conservation of the Park post-1995, nevertheless, its magnitude was indicated to be minimal due to the introduction of a more inclusive and participatory conservation policy that includes concerns of local communities.

Proclamation No. 295/2002 declared that all regional states have the right to establish their own environmental organs (Environmental Policy of Federal Democratic Republic of Ethiopia, 2007). Consequently, the mandate to administer all the country's national Parks, except ANP was given to regional states until proclamation No 541/2007 came into force on the 20th of August 2007. The declaration of the Development Conservation and Utilization of Wildlife Proclamation No. 541/2007 empowered the federal government (EWCA) to designate and administer the National Parks (Federal Negarit Gazeta, 2007) including the right to delegate its power regarding the administration of 12 National Parks to Regional States (Council of Ministers Regulations No. 163/2008). This proclamation also gives due attention to the active involvement of local communities and private sectors in the conservation and management activities of wildlife resources in line with the present federal arrangement. Furthermore, private investors have the right to administer National Parks in concession with the federal and the concerned regions whereas the administering right of local communities is restricted (Federal Negarit Gazeta, 2007).

Figure 5.1 Summary of response of local community to administered questionnaire: (a) Perceived impact of various potential threats on park resources before and after decentralization, (b) Percentage of respondents who consider each of the four potential factors critical in causing conflict among communities surrounding the Awash National Park, and (c) Perceived role of policy issues affecting resource use and sustainable conservation before and after decentralization







Theoretically, the processes of decentralization devolve power from federal to local governors in the context of the right to decide on political and fiscal issues (Loop, 2002). Ethiopia's implementation of decentralization and its implications on national Parks, nevertheless, seems to show variation across the different regional states. In the case of Simen Nation Park, Amhara Regional State, the regional government made a structural arrangement in order to implement decentralization in terms of creating conducive environment for sustainable resource management (Hurni, 2003). The management of Awash National Park, on the other hand, has been more complicated after decentralization. Local communities acknowledge that the process of decentralization has impliacations at the district level at Awash Fentale and Fentale surrounding the Park. However, the repercussions of this decentralization on ANP are multifaceted. First, working relationship of many regional and district officials with the Park administration is not smooth. Second, district level officials support and encourage local communities' refusal and question of legality of the Park, especially as formerly demarcated by the federal government. The acceptable Park boundary for local communities is limited to the inner core area of 250 km^2 out of the total legally demarcated area of 756 km^2. In addition, local communities, more so in the Oromiya state side, feel that the ownership of the Park and its resources rests in the hands of the federal government, and this has resulted in a serious disregard towards Park resources. A similar dissatisfaction of local communities towards Parks was reported elsewhere in Ethiopia (Nishizaki, 2004).

5.1.3 Resource-Caused Conflicts

After decentralization (post-1995), resource-based violent conflicts such as killing of people, looting of livestock and restriction of movement between the Kereyou/Ittu and Afar community were reported to be among the main perceived threats to the Park (X^2= 86.63, *df*=1, P <0.0001). The impact of expansion of private and state farms was also reported to be high post-1995 (X^2= 147.44, *df*=1, P<0.0001, Figure 5.1 A).

Unfair resource access policy was identified as the leading cause of conflicts across the surrounding communities before decentralization (Figure 5.1 B). Park administration

officials recognize a difference among the various tribal communities surrounding the Park in the level of concern and commitment towards natural resources and their conservation within and around the Park. The disinterest of some local communities towards natural resource conservation in the Park was also reported by Park officials as a supportive cause for violent conflicts between ethnic groups. After decentralization, however, resource use and management policy became less important and demand for various resources was reported as the principal cause of conflicts across the various communities (X^2=42.36, *df*=3, P<0.0001, Figure 5.1 B).

Conflicts continue among communities surrounding the ANP such as the Kereyu/Ittu against the Afar and vice versa (Mulugeta & Hagman, 2008) and between the local communities and the Park administration. Demeke & Afework (2011) reported a similar conflict between Park staff (scouts) and local communities surrounding the Nechsar National Park. The conflict between the Afar and the Kereyu/Ittu tribes is longstanding (Ayalew, 2001). Scarcity of natural resources and border conflicts between the neighboring communities are recognized sources of enmity between communities (Gleditsch, 1998). Shortage of pasture and water sources, and sharing of border are causes of conflicts between the Kereyu/Ittu and Afar and conflicts between these tribes often involves looting of livestock (Eyasu, 2008). Although these conflicts continue to occur, most often they are not publicized. Nevertheless, there is evidence that most serious conflicts tend to be reported to higher federal officials, such as the one that occurred in 2008.

Overall, decentralization in Ethiopia was not effective in terms of improving the status of Awash National Park. Similar to what we report here for ANP, Nechsar National Park is also challenged by the negative attitude of local communities towards the management system (Demeke et. al., 2011). The experience of other African countries such as Burkina Faso, Cameron, Guinea, Malawi, Zimbabwe, Ghana and Zambia, in relation to decentralization and its implications to regional resource management was also negative. In those countries, decentralization failed to result in a successful natural resources conservation system (Oyono, 2002: Onyach-Olla & Porter, 2000: Porter & Young, 1998).

On the other hand, a promising effect of decentralized management system of national Parks was observed at Simen Mountain National Park (Hurni et al., 2008). An educational outreach program was shown to generate a positive attitude in local communities towards the conservation of natural resources at Bale Mountains National Park (Ethiopian Wolf Status Review, 2011), and it may be to the benefit of stakeholders to transfer such a positive experience to the improvement of the seriously impacted national Parks such as ANP. At Bardia National Park, Nepal, decentralized participatory resource conservation was successful where the capacity of grass root organizations was strengthened (Baran and Heinen, 2007).

5.2 Conclusion

Our data showed that policy-related problems were perceived to be the main threats to the Park before decentralization. Also, prior to decentralization ethinic conflictes were primarily caused by inequitable resource sharing and poor organizational structure. On the other hand after decentralization demand for pasture land & water, resource-caused conflicts, expansion of private and state farms were identified as main threats to the Park. Demand for various resources was the main cause of ethnic conflicts during this time.

CHAPTER SIX

Stakeholder outlook and participation in the management and sustainable use of resources in Awash National Park, Ethiopia, pre and post-decentralization

Community involvement was initiated by the Universal Declaration of Human Rights of the 1948 proclamation (Heritier, 2010). In 1992, the Convention on Biological Diversity emphasized the role of traditional and indigenous knowledge play in biological resource conservation in protected areas (Nepal, 2002). As a result, over the past 20 years involvement of local communities in the planning and management of protected areas has been widely recognized and has been acknowledged more than ever as a practical way of creating a needed harmony between people and biodiversity in protected areas (Reed, 2008). The key point about involvement of the local community in resource management is their empowerment to exercise their own capacities to manage resources, make decisions and control activities (Musale, 1998). Exclusion of local communities in the management of protected areas in many countries has led to increasingly sever social and ecological impact on resources (Pimbert and Pretty, 1995).

Given the chronic nature of conflict between various stakeholders at different levels in Ethiopia (Hagmann, 2003), it is critical to understand the views and perceptions of concerned stakeholders better with respect to use and management of resources in protected areas. Towards that end, we sought to identify the major stakeholders and determine their degree of participation, to investigate the challenges and opportunities among cluster groups of stakeholders and to investigate the views of various stakeholders towards the economic value and conservation of the protected areas before and after decentralization in Awash National Park (ANP), Ethiopia.

6.1 Result and discussion

6.1.1 Stakeholders and their level of involvement

A total of 34 institutionalized/grouped stakeholders who are currently involved and are supposed to be involved in the use and management activities of the ANP were identified (Table 6.1). Of these, key (authority) and secondary (networking) clusters comprised of 41 and 47 % of the identified stakeholders, respectively (Table 6.1). The remaining 12 % were primary (rural) stakeholders (Table 6.1).

All the 34 identified stakeholders benefited directly or indirectly from Park resources albeit at varying level. Nearly a two-third of identified stakeholders used the Park resources at high, medium and low level (Table 6.1). The Park governing authority, Ethiopian Wildlife Conservation Authority (EWCA), receives the lion's share of Park resources in a form of tourism income.

Pastoralists and agro-pastoralists were graded as main actors in illegal activities (pasture, water and wood) in addition to initiators of conflict and are negligent of conservation issues. The surrounding urban population and Awash National Park Baboon Project (ANPBP) during its initial stage of establishment were also engaged in illegal exploitation resource such as charcoal production, wood for house construction and household consumption and selling of animal pictures).

In relation to conservation activities, the perception of key informants is that 80.0% of identified stakeholders were passive participants whereas 13.0 % were actively involved (Table 6.1). Although eighty percent of 'authority' stakeholders were legally responsible entities to protect the faunal and floral degradation in the Park, 79 and 56 % of respective stakeholders from the 'authority' and 'networking' groups did participate in any conservation activities. "Authority" group members are politically authorized and

financially capable to play a decision-making role on the management of the Park. Surprisingly, two international organizations (CARE International and New York Zoological Society (NYZS)) which financially assisted conservation based research activities and preparation of management plan for the Park were spotted as active conservationists.

During our field visit, we observed that some nongovernmental conservation organizations were doing a very good job with community members near the head quarter of the Park. For instance, Wildlife for Sustainable Development (WSD) and Ethiopian Sustainable Tourism Alliance (ESAT) together were providing training to selected people from the community which enabled trainees to be professional tour guide in their locality as well as how to use a camel for tour purpose. Such type of collaborative activities of stakeholders has dual benefit i.e., creating harmony between stakeholders and enhancing the awareness of the community by showing how to get benefit from the Park. The newly established nongovernmental charity organization, Labata Fentale, which focuses on natural resources management and diversifying local livelihood, was identified as one of the promising stakeholders to reduce the impact of the Kereyou on the Park.

Table 6.1 Matrix on 'Authority' (key), 'Local' (primary) and 'Networking' (secondary) stakeholders and their level of involvement in use and management of the Park resources based on perception of informants and direct observation made by the author.

Cluster groups of Stakeholders	Stakeholder	Resource use and conflict resolution			Degree of involvement in conservation
		Direct/indirect resource user	Illegal resource user	Local Conflict resolver	
National 'authority' stakeholders	EWCA				
	EEPA				
	IBCR				
	MoCT				
	MoFAP				
	MoAD				
Regional 'authority' stakeholders	ORBCT				
	ORAEP				
	ARAS				
	ARBoCT				
District and Sub-district 'authority'	FWOCT				
	AFWA				
	AFWOCT				
Park 'authority'	Park staff				
Pastoralist	Kereyou-Ittu				
	Afar				
Agro-pastoralist	Kereyou-Ittu				
	Afar				
'Networking' stakeholders at national level	WSD				
	ESTA				
	EWNHS				
	WCS				
	WildCODE				
	PHEEC				
	LFC				
	ANPBP				
	Universities				
	Tour agents				
	AL				
	MSF				
	Tourists				
	Urban popu				
International stakeholders	CARE Int.				
	NYZS				

Keys

	High involvement		Average involvement		Low involvement		Not involved

6.1.2 Major challenges to effective stakeholder participation

6.1.2.1 Lack of coordination

Overall there had been lack of effective coordination and consultation among all stakeholders. With the exception of EWCA itself and 'local' informants, all other key informants unanimously agreed that the EWCA failed to accomplish its responsibility to ensure conservation and development of natural resources in the Park and integrate concerned stakeholders in the decision making process. Key informants from EWCA indicated that the perception that EWCA has failed was baseless citing the process and results of political decentralization: after 2002 the government introduced an important phase of decentralization making local governments and private sectors responsible for bringing the political power closer to the people and for empowering them to playing key role as providers of service to their locality. Same key informants partly recognized the existing gap and acknowledged the validity of the criticism against the authority. However, they argued that EWCA has evaluated its performances with regard to its weakest and strongest points and a new organizational structure is being implemented to ensure that conservation activities are successful in all national Parks of the country under the authority's umbrella. Other key informants strongly criticized EWCA and questioned why the authority showed reluctance to do more at ANP compared to what it did at other national Parks such as Bale Mountains National Park (BMNP) and Simen Mountain National Park (SMNP). 'Despite a positive evaluation of EWCA's performances by 'local' informants, other stakeholders consider this positive outlook a result of lack of awareness.

Some of the conservation groups/associations showed willingness to take the coordinating responsibility. To this effect, they have made an attempt to call up on different stakeholders to participate in the consultative conference on rescuing the Park from August 24 to 25, 2011. Luck of trained man power about how to manage a national Park was mentioned as one of the bottlenecks of weak management ability of the EWCA. (Interview with Dr. Yirmed, 2013). Furthermore the problem of coordination was sever

at regional and district level than the federal level. Some officials at district level directly opposed the legitimacy of parts of the Park and they were reluctant to coordinate, educate and convince the community (Interview with Park warden, 2013). On the contrary, this is quite different from the experience of SMNP, in which an increasing effort of government officials at regional level played a pivotal role to improve the state of the Park through developing positive attitude in the community towards the Park (Hurni et al., 2008).

6.1.2.2 Conflict between and within stakeholders

Community key informants confirmed that pastoralists and agro-pastoralists did not have a good working relationship with other stakeholders and especially so with Park authorities. Community members and the Park authorities give different justifications as causes of the poor relationship between the two groups. Local community members considered the killing of domestic animals, damaging of crops, sometimes attacking of human life by wild animals and imposing high penalty fee for grazing their livestock inside the Park boundary unfair, and these were imposed by Park authorities. In addition, residents noted that many conflicts between Park staff and community members arose from misunderstandings, often caused in part because most Park staff are unable to understand the local language. Furthermore, Park staff have little or no understanding on the pastoralist mode of life. A similar concern about the language barrier was expressed in Senkelle Swayne's Hartebeest Sanctuary (Tessema et al., 2007) and Mago National Park (Nishizaki, 2005). Such weak working relationship certainly contributed to increased illegal activities.

According to the report from the Park authorities and from our field observation pastoralists seem to believe that they have the right to keep their animals in any part of the Park whether the Park authorities are present in the area or not. Scouts are powerless to protect the Park from all illegal activities conducted by local communities except from hunting. Community members are most often armed and show little respect to part

authorities. Often they enter the Park including the 'core area' to graze domestic animals without fear of repercussions from scouts or other Park authorities.

The conflicts within 'local' stakeholder pre Beisa Oryx (*Oryx beisa*)- and post-1995 were mainly due to unfair resources sharing policy and increasing demand for resources respectively. Based on the experience of local informants, resource-based conflicts between Afar and Kereyou-Ittu ethnic groups was higher during times of pasture and water shortage. Local informants also indicate that such type of conflicts were resolved using traditional and local conflict management strategies. Community and religious leaders enjoy more power than government officials in influencing the community towards sustainability. Mulugeta and Hagman (2008) report that such conflict resolution is characteristics of the traditional "Gada" system of the Oromo people and has been influenced by the expansion of Islam in the Kereyou-Ittu communities.

Such conflict between Park staff and community members has been widely reported in Ethiopia and other countries. In Mago National Park a similar conflict between Park staff and local communities was resolved and this remarkably changed the attitude of the community towards wildlife conservation (Nishizaki, 2005). In the case of Semien National Park conservation activities were disrupted for about 10 years due to the forced withdrawal of Park staff by local communities between 1978 and 1991 (Hurni et al., 2008). Yihune et al. (2008) reported that the damage of crops by gelada baboons was the cause for community complaint at SMNP. Gadd (2005) indicated that a negative attitude of local communities towards many aspects of wildlife conservation in Kenyan Parks was due to wild animals raiding crops or dangerous wild animals attacking humans

At present the conflict between Afar and Kereyou-Ittu communities seems to be resolved. As a result, the two ethnic groups can move freely without fear of one another. Park authorities reported that the peace agreement between them has created an unexpected big problem to the Park. Some areas of the Park located between the two regions were prohibited to human and livestock intervention before the peace agreement. But, after the

peace agreement both communities ventured further into parts of the Park that they avoided before lest each would confront members of the other ethnic group.

We also found that the conflict between 'authority' and 'networking' stakeholders was a critical challenge for their joint actions in the use and management of the Park. Key informants from both cluster groups noted that there were several interest-based conflicts between Park authorities with non-governmental and private conservation organizations, commercial farms and lodge owners. The EWCA claims that some of non-governmental and private conservation organizations have had the intention of having an opportunity such as to collecting money and getting technical assistance from external donors on behalf of development and conservation related issues. On the other hand 'networking' stakeholders have reported that government officers from federal up to sub-district level were incapable and reluctant to perform their duty as a leading responsible stakeholder.

6.1.2.3. Unenthusiastic Effect of Development Projects Around the Park

A Kereyou elder summarized the feeling of the community by asked a question and answered it himself "What is the benefit for us from the Park as well as from the Merti Sugarcane Plantation (MSP) except serving as scouts for the Park and security guards for the factory? We need development such as, schools, health centers, potable water, and electricity for us and our next generation, however the government has done nothing in this regard". Informants did recognize that the Park has twofold of importance serving as source of pasture and water for emergency during drought for the livelihood of local community compared to other economic sectors (the MSF) in the area. In addition, infrastructure development such as roads built associated to the Park has made life easier to local communities.

Eyasu (2008) seem to support the Kereyu elder: he stated that the establishment of MSF made life for the Kereyou miserable because of loss of access to Awash River which is their main source of water and the disposal of contaminated water into ponds that are

sources of drinking water to humans and livestock. Jacobs and Schloeder (1993) also reported that MSP has increased the salinity of the soil which in turn affects the quality of groundwater in the surrounding area. Tessema et al. (2007) confirmed that the local communities were disappointment by the broken promise of non-governmental organizations working in and around ANP and Bale Mountains national Parks. Contrary to what our data showed, communities in Kenya living around parks communally managed, privately owned or by the government, were reported to have developed a positive attitude towards protected areas and the benefit local communities can receive from those parks (Makindi, 2010). At Bardia National Park, Nepal, an improvement in standard of living of local communities was reported after the establishment of the Park (Baral et al., 2007).

From the experience of the local communities the development strategy of the government regarding pastoral communities was not implemented as written in the law (Eyasu, 2008). For instance, the late Prime Minister Meles Zenawi in 2011, spoke on the 13th Annual Pastoralists' Day Celebration, and stated that the government would sustain a strategy of working with local pastoralists for a successful implementation of development projects in pastoralist area. During the occasion the prime minister announced the establishment of a new 150,000 hectare sugarcane plantation in Afar region. The local communities would provide the fertile land needed for this project and the project in turn would create employment for the people in the area. However, although the project was implemented as planned, the Afar continues to complain that the government broke its promise regarding benefits to the community. The experience in Kenya and Nepal on the role of local communities differed from what we observed in Ethiopia. Local communities in Lake Nakuru National park, Kenya, and Bardia national Park, Nepal, shared responsibilities for conservation of resources (Makindi., 2010; Baral et al., 2007)

The death of wild animals due to the careless fire that started at Merti Sugarcane Plantation south of the Park was a cause for disagreement between EWCA and MSF administrators. EWCA claimed the fire to be deliberate and an action of MSF workers to

stop the occasional wild animals crop riding in the plantation area where as MSF considered the fire as unfortunate accident. This conflict was finally resolved after consensus was reached on issues related to burning of crop residues without affecting wild animals in the Park (interview with Dr. Mate, 2013). Our study shows that stakeholder conflict was multidimensional and a critical problem at ANP. All key informants unanimously agreed that differences in perception and conflict of interest between stakeholders were root causes of conflicts that impact the Park

6.1.2.4 Infectiveness of the Park Authority (warden, expertise and scouts)

Our data revealed the fact that the management of ANP has been difficult because of the heavy economic dependency of the surrounding community on the Park. Furthermore, the life style of local communities & a top to down management approach, give little or no attention to stakeholders in the planning and implementation process. 'Networking' stakeholders claimed that the ongoing system of governance didn't support them when they tried to establish community-based conservation organizations as development partners of the Park. A similarly top-down approach at SMNP was indicated to have significantly reduced the involvement of local communities in management until the introduction of a decentralized and more participatory approach (Hurni et al., 2008). Since 1966 a total of nineteen wardens were appointed as administrators of the Park (Park document, 2013). Of those, eight of them were in position for a period between 3 months and 1 year. Only 7 wardens served for 4 years and more and made an attempt to develop a plan and go through its implementation. This frequent change of park adminstrators was disliked by local communities.

Scouts claim that they are required by Park authorities to wear military uniform. But, they are not allowed to take forceful action in line with a legitimate power of a man with military clothes. Two scouts died recently in the Park in the hands of illegal intruders, and scouts complain that one of these fatalities didn't receive the attention it deserves from the local government, and this has a created feeling of fear and distress among the scouts. Similarly, to prevent such incidents police stations were established in Nech Sar

National Park and this empowered scouts. As a result, local communities were prevented from entry to the Park territories until the 1991 change in government (Regassa, 2012). Makindi (2010) reported that at Kimana National Park, Kenya, park authorities have good management experience in governing communal parks in terms of to creating a conducive working environment with local communities through supporting community based development projects.

6.1.3 Local Communities and Conservation of Resources in ANP

6.1.3.1. Future prospects

The continuing existence of the area as a national Park is supported by most pastoral and agro-pastoral communities (X^2=1.1, df 2 P=<0.001, Figure 6.1); only a small fraction of respondents (5.7 % pastoral respondents and 2.9 % of agro-pastoral respondents, Figure 6.1), with a significant variation between the communities (X=2.1, df 2 P=<0.001), would like to see the Park removed. Most of these small groups of people were pastoralists who relied on the Park as a source of grazing ground and water for their livestock.

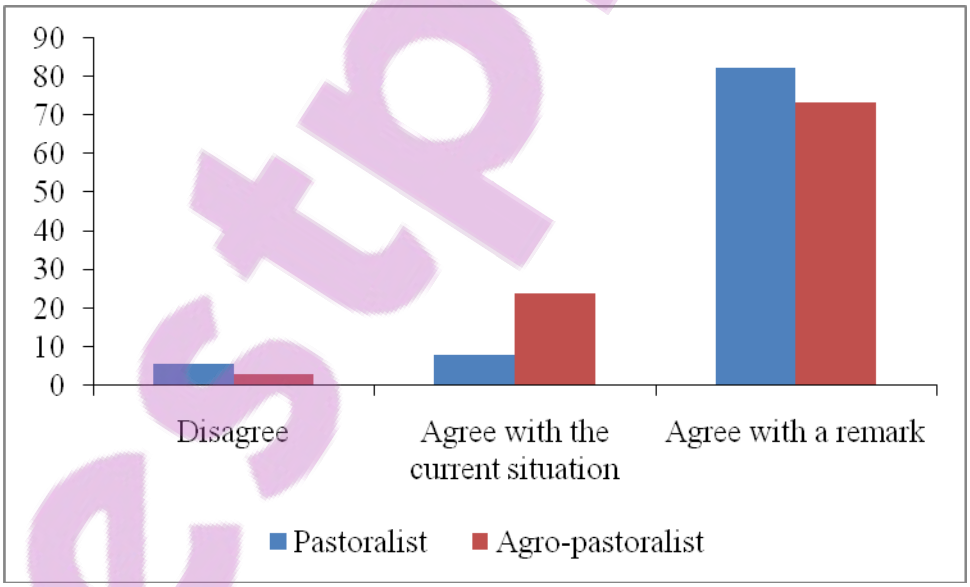
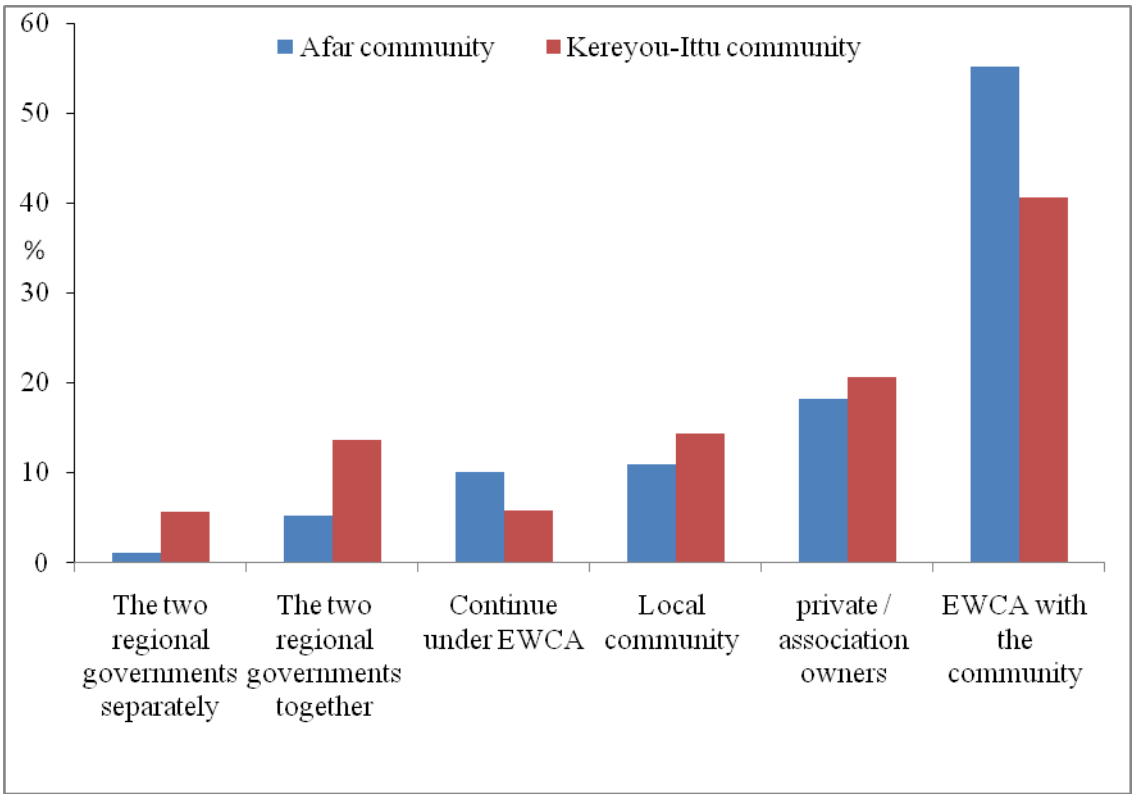


Figure 6.1 Perceived responses of pastoralists and agro-pastoralists towards the existence of the Park

6.1.3.2 Management Authority of the Park

Community respondents differed in their choice as to who should manage the Park (Figure 6.2). Majority (55.2 % of Afar and 40.5 % of Kereyou-Ittu) community members (X^2=4.8, df 2 P=<0.001) indicated that a co-management system (government with local communities) would be the most preferred management system for the Park. Community respondents also indicated that the current condition of the Park can be improved, if they were allowed to share the use and participate in the management of the Park with the EWCA. The current management under EWCA was appreciated by agro-pastoral (23.8 % of respondents) and pastoral communities (8.1 % of respondents).

Figure 6.2 Perception of community respondents towards proposing the right managing authority to the Park



Federal level 'authority' informants strongly noted that the Park should continue under the management of EWCA in order to protect the splitting of the Park into two regional states and to prevent the Park from becoming a cause of conflict. This idea was also supported by 'networking' informants. However, 'authority' stakeholders at regional and district level showed great ambition to administer the Park under their mandate. Such competition between federal and regional authority stakeholders has prevented the potential partnership within 'authority' stakeholders. A similar administrative problem was reported in Nech Sar National Park (Regassa, 2012).

Respondents from Afar and Kereyou-Ittu ($X2=0.3$, df 2 $P=<0.001$) believe that the Park would be in a better condition if it was managed by private/association owners than by EWCA. Their position could be influenced by incentives they have received from non-governmental organizations and tourism agents. For example, people living in Gelicha and Benti sub-districts see the Awash Lodge positively because it created an economic opportunity through cultural performances of locals to tourists. Similarly, Jones (2005) reported that private management was the most successful system in Kenya's Mara conservation and for the sustainable management of Nech Sar National Park in Ethiopia. Majority of respondents (95.3 % in Afar and 91.4 % in Kereyou-Ittu) wouldn't like to prefer the management of the Park transferred onto the two regional states of Afar and Oromia. Governing the Park by the community alone was supported by 10.8 and 14.3 % of respondents in Afar and Kereyou-Ittu communities, respectively. In all cases, there were clear differences observed in the opinion of the two communities. The vast majority of community living on the Afar side (94.3% of respondents) have a positive attitude towards the Park than people in Oromia side (60.5% of respondents; Table 6.2).

According to a Park worker the attitudinal difference between the two communities might be due to the misconception about the significance of the Park: Afars generally participate more in the conservation and have a sense of ownership towards the Park than people in Oromia region. According to Dr. Almaz, director of Wildlife Conservation & Environmental Development Association and have a long time experience pre- and post--

1995 in the Park, Afar people have the tendency to be active and more responsive, if they will benefit from the Park and the environmental education program. Dr. Yirmed, founder and director of WSD and owner of Awash Lodge, said that the low conservation interest and lack of ownership in the Oromia community could be related to high resource competition between Kereyou and Ittu, limited awareness and an overall negative attitude towards Park authorities.

Table 6.2 Factors that influenced local people's attitudes towards use and management of resources in the Park (in %)

Factors		Positive attitude	Negative attitude	X^2 (P<0.001)
Residence location	In Afar side	94.3	5.7	164.7
	In Oromia side	39.5	60.5	9.2
Relation with Park staff	Very good	98.5	1.5	198.2
	Very poor	2.8	97.1	186.6
	No relation	14.3	85.7	107.1
Access to resources	Yes	97.5	2.5	190.5
	No	13.0	87.0	115.9
Employment	Yes	98.4	1.6	198.2
	No	24.8	75.2	53.5
Benefit from tourism	Yes	99.0	1.0	202.1
	No	12.3	87.7	118.9

During our field survey we attended the funeral of a 27 year Afar man who was killed a day before as a result of conflict between the Afar and Kereyou-Ittu pastoralists. After the funeral, we had a discussion with more than 50 members of the Afar community on issues related with their attitude and understanding of Park-related issues. Our discussion revealed that the Afar community fully recognized the importance of the Park and they were committed to work for the betterment of the Park. They however shared their complaint and grievances about the loss of life as a result of resources-based conflicts, and they put the blame on the government. Our similar discussions with Kereyu-Ittu communities during a religious celebration revealed a limited concern for the Park.

6.1.4 Factors that influence the Positive Attitude of Local Communities

The most important factor that seems to determine attitude towards the Park was the kind of relationship communities have with Park authorities. Almost all (97.1 %) respondents who reflected negative attitude towards the Park seem to have a weak or negative interaction with Park staff and authorities (Table 6.2).

Overall there was a sense of disappointment because of the unfulfilled expectations of the locals with regard to the benefit from the ANP from direct employment (Tessema et al., 2007). Similarly, in Mago and Omo National Parks limited benefit from the Park was reported to have disappointed local communities (Alvarez, 2008). Also, Hurni et al. (2008) reported for SMNP a similar challenge where inequity and absence of job opportunities impacted stakeholders' participation in management. At the Bale Mountain National Park on the hand the creation of job opportunities and a provision of social services to local people increased the positive attitude towards the Park of (Tessema, 2007). At Laikipia national Park, Keneya, in spite of differences in the level of education and wealth among respondents, direct benefit to the community was reported as a leading factor to influence the attitude of local communities towards wildlife (Gadd, 2005). As a result, direct benefit to local communities has been put forward as a solution to improve Parks (Jones, 2005).

6.1.5 Conceptual Understanding of the Community

Our data showed that the awareness of local community members and their understanding of major concepts of conservation improved over time (post-1995 vs. pre-1995). The proportion of respondents who reported that they were not aware of the six use and conservation concepts indicated in this study declined (76.5 % pre-1995 and (45.6 % post-1995) of (Table 6.3). About 95% of the respondents reported that they were not aware of the concept of ecotourism and stakeholder pre-1995 (Table 6.3). About two-thirds (66.2 %) of respondents reported that pre-1995 (before decentralization) they did not understand the standard definition of the term "national Park". The remaining reported that they had a clear conceptual understanding of the term even pre-1995 (Table

6.3). Evaluating the same issue post-1995, about 53 % of the respondents reported to have understood the concept of national Park. The remaining (46.7 %) were unable to clearly explain the main objectives for the establishment of the national Park.

Table 6.3 Perception of respondents towards level of understanding of natural conservation concepts by community respondents (in %)

Concepts	Before decentralization (pre-1995)			After decentralization (post-1995)		
	No-idea	Vague	Clear	No-idea	Vague	Clear
Conservation	89	9.5	1.5	61.9	31.4	6.7
Sustainable resource management	92.4	7.1	0.5	68.6	26.2	5.2
National Park	2.4	66.2	31.4	0.0	46.7	53.3
Ecotourism	96.7	2.8	0.5	42.9	41.4	15.7
Stakeholders	94.3	5.2	0.5	60.5	33.3	6.2
Biodiversity	86.7	11.9	1.4	63.3	29.0	7.7
Over all understanding	76.5	17.6	5.9	45.6	34.9	19.5

With regard to understanding the concepts of sustainable resource management, biodiversity, conservation and stakeholders' role, about two-thirds of respondents indicated that they did not understand those concepts before or after decentralization. Only a small fraction (0.5 pre-1995, and 6.2 % post- 1995) of respondents indicated that they understood the concept of stakeholders (Table 6.3).

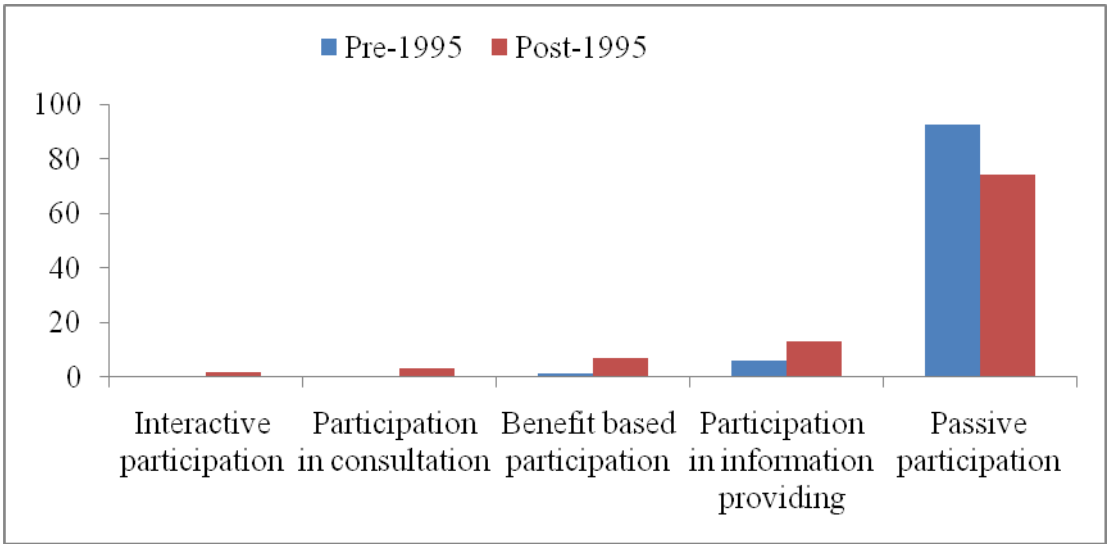
6.1.6 Local Communities and their Level of Participation

A substantial number of community respondents categorized themselves as passive participants (Figure 6.4), but the proportion has gone down from 92.4 % pre-1995 to 74.3 % post-1995. Only a tiny fraction of respondents considered themselves active

p icipants and this fraction true only for the time after decentralization. None of the community members considered themselves active participants during the pre-1995 time period (Figure 6.4). About 3 % of respondent reported that their participation pre-1995 was limited to providing information to researchers and surveyors who worked on the

Park (Figure 4). A small proportion of respondents (1.4 % pre-1995 and 10.5 % post-1995) reported that their participation was due to sharing benefit from the Park (Figure 6.4).

Figure 6.4 Perception of Local community about their level of participation on use and management of resources in the Park (in %)



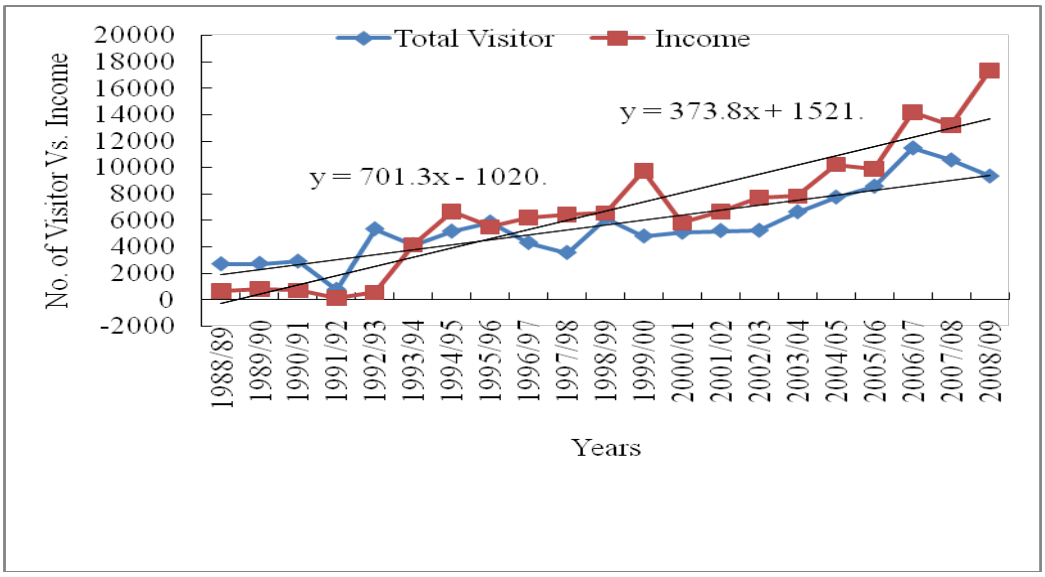
6.1.7 Tourism and the Economic Value of ANP for Stakeholders

6.1.7.1. Visitors Flow and Generated Revenue (1989 to 2009)

The general flow of Ethiopian and foreign visitors to the Park shows an increasing trend over the last two decades (Figure 6.5): the increased was by 6 % between 1989 and 2009. Ethiopian visitors were more in number than foreign visitors during the time period prior to 1995 (Figure 6.5). The political instability due to the prolonged 17 years long civil war was mentioned as a reason for the limited number of foreign visitors pre-1995. The country also experienced political instability post the 2006/07 election, and this period of instability was probably another reason for a second decline in the number of foreign visitors to the Park.

According to the key informant from Minster of Culture and Tourism, ANP has received the largest number of tourists and generated more income (about 11.5% of the country's income from national Parks) than any other national Park in the country. All informants agreed that the Park has a huge potential in generating income from tourism activities due to its proximity to the capital city, its accessibility and the availability of overnight accommodation at the Park.

Figure 6.5 Flow trends of Ethiopian and foreign visitors between 1989 and 2009 (Source: Awash National Park Report)



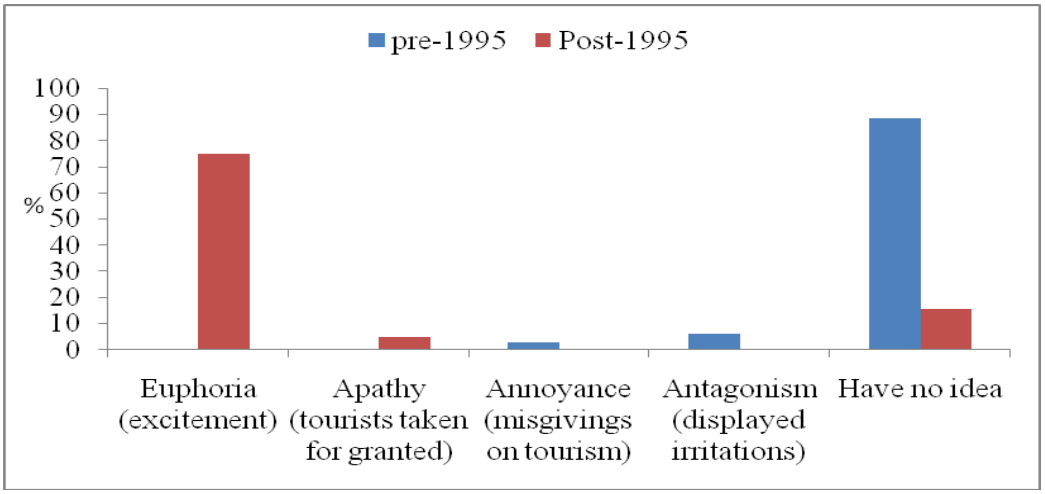
Different stakeholders fail to agree on what is the single most important resource in the Park in relation to tourism. Local communities, tourism operators and lodge owners give great value to the economic value of the Park. These groups of stakeholders consider the Park as a tool to attract people specially foreigner visitors. As a result, they view promoting tourism as a primary objective for the establishment of the Park, ignoring its ecosystem protection value. On the other hand, government officials at federal and regional levels show less interest in the tourism aspect of the Park. The late prime minster Meles Zenawi summarized the views of government officials. He stated "Pastoralists don't want to live as a tourist attraction. They want a stable, improved life. Taking this

into consideration we should ignore the false propaganda of people who want pastoralists to be a tourist attraction" (13 Annual Pastoralists' Day celebrations, 2011).

6.1.7.2 Local Community Perception Towards Tourists

A small proportion (2.4 %) of respondents reported their excitement by tourists visiting the Park. A similarly small group of community respondents reported that they were antagonistic towards tourists. Respondents also indicated (Figure 6.6) that tourists were taken for granted pre-1995. After decentralization, the attitude of local communities towards tourists was influenced primarily by distance from the Park, relation with Park staff, lodge owners and tour agents. We have observed that the availability of overnight accommodation in the Park for tourists has enabled extended stay and an opportunity to interact with local communities. Visitors entrance fee is directly sent to the federal government, thus local communities did not benefit from the direct monetary income generated for the last 45 years.

Figure 6.6 Perception of Local communities towards tourist



The finding of this study are in consent with the findings of many other studies made in different national Parks of the country, which reported the fact that local communities who received benefits from tourism were positive about the conservation of faunal and floral resources in Parks (Hurni et al., 2008; Alvarez, 2008 ; Jones, 2005; Tessema et al.,

2007; Nishizaki, 2005). Similarly, Gadd (2005) reported that the successful strategy in wildlife management in Kenya did not only provide benefits to communities. However, the connection between the benefit and wildlife resources must be made clear to the community. Moreover, community respondents around Lake Nakuru (73%) and Kedong (27.1%) protected areas considered tourists as source of income (Makindi, 2010).

In respect with the presence of tourists in the Park, wildlife experts have complained about the feeding of wild animals by tourists which caused an unusual behavior of wild animals. Such feeding of wild animals can lead to a decrease in fear of human which may increase crop-riding and more encounter with villagers. On the other hand visitors strongly complained about the absence of wild animals to view and the presence of domestic animals in most parts of the Park.

6.2 Conclusion

Our analysis indicated that there was not a significant difference among the three cluster groups of stakeholders: authority, local and networking. Of these, local stakeholders were identified to be the main actors in illegal activities. Economic development strategies in place such as establishment of a sugar cane factory and large scale irrigation projects close by are not supportive of efforts towards sustainability of the resources in the Park. With regard to the future of the partk, a significantly high percentage of pastoralists and agro-pastoralists agreed to support the continuation of the Park on the condition that the management recognizes their customary rights to some of the park benefits.

CHAPTER SEVEN

Summary and Recommendation

7.1 Summary

Ethiopia is a center of both faunal and floral biodiversity. However the status of protected areas is relatively poor and severely impacted due to socio-economic, policy and management factors. In response to recent decentralization in Ethiopia, we investigated the status and pressure exerted on Awash National Park (ANP), vis-a- vis Park resources, observed land use and land cover changes, causes of park-related conflicts, use and management role of stakeholders at federal, regional and local level and the impact of policy on sustainable resources conservation through a comparative framework of before (pre-1995) and after decentralization (post-1995). The study also aimed at assessing the implementation of sustainable resource conservation in terms of use policy and conflicts, and the participation level of various stakeholders in protected areas.

We analyzed the pattern and extent of land use and land cover changes, and identified changes during a three decade period (1975-2006). We used a combination of two black and white aerial photographs of 1975 and 1986, a satellite image of 2006, field observation, information from local communities and Geographic Information System (GIS) to generate the land use and land cover profile. We selected a total of 210 respondents by stratified random sampling, and group discussion participants and key informants using the purposive sampling technique. Direct observed participation of stakeholders, household questionnaire, and interview with key informants and focus group discussions were used to collect data. We employed De Groot et al.'s (2006) steps of stakeholders' analysis approach.

The use and management condition of resources in the Park was firstly assessed through the identification of six major land use and land cover (LULC) types: scattered bushland, shrubland, grassland, farmland, bare land and volcano crater. The six types we found

were used to produce the LULC map of the study area. Although scattered bushland was the most important part of the National Park as habitat for wild animals, it was converted at a high rate to other categories (i.e. 20.61km^2 per year between 1972 and 1986 and 6.48 km^2 per year during the entire period). The category was changed between 1972 and 1986 by 38.5 % and between 1986 and 2006 by 29.4 %. On the other hand, Shrub encroachment which is not that much useful for wild animals, was highest, i.e. increased by 32.2 % between 1972 and 1986 and by 10.3 % (77.4 km^2) during the entire study period. Grassland, which is very much useful for Beisa Oryx, a flagship species in the Park, was the largest cover type in the area between 1986 and 2006 and expanded by 14.2 % (106.4 km^2) between 1972 and 1986 as well as by 10.5 % (79.1 km^2) during the entire study period. This primarily was due to controlled burning of bush and shrub lands. Similarly, farmland expanded between 1982 and 2006 and during the entire study period by 4.1 % (30.5 km^2) and 3.6 % (27 km^2), respectively. Bare land expanded by 12.4 and 4.9 % between 1972 and 1986 and for the entire three decades, respectively.

The majority of respondents (X^2=172.5, df=1, P<0.0001) highlighted that the most important drivers of the observed LULC changes pre-1995 were the combined effects of the land reform policy and changes in Park boundary (size of the Park) followed by climatic changes such as drought (X^2=101.7, df=1, P<0.0001). Population growth was reported to be the main driving factor for LULC change pre-and post-1995 (X^2=46.7, df=1, P<0.0001) and also post-1995 (X^2=35.2, df=1, P<0.0001). Livestock grazing was a predominant driving force for the detected LULC changes post-1995 followed by expansion of government & private farms around the study area (X^2=164.0, df=1, P<0.0001).

The sustainability of Park resources pre-and-post 1995 was threatened by several factors. Unfair policy pre-1995 (X^2= 19.4, df=1, p<0.0001) and demand for pasture post-1995 (X^2=194.30, df=1, P<0.0001) were identified as the main threatening causes of Park resources. The impact of expansion of private and state farms was also reported to be high post-1995 (X^2= 147.44, df=1, P<0.0001).

We identified a total of 34 stakeholders who were involved or were expected to be involved in the use and management activities of the Park. These stakeholders were classified into the three cluster groups [authority (14), local (4) and networking (16)]. Of these, 80 % were not involved totally in conservation activities. Exploring reasons behind this lack of involvement shows that the collaboration between stakeholders of the Park is caused mainly by the absence of a coordinating body, endless interest-driven conflicts among the various stakeholders and a top-down management approach.

The continuing existence of the area as a national Park is not only agreeable but also is supported by most pastoral and agro-pastoral communities (X^2=1.1, df 2 P=<0.001). Almost all (97.1 %) respondents who reflected negative attitude towards the Park seem to sustain a weak or negative interaction with Park staff and authorities. Because of this, majority (55.2 % of Afar and 40.5 % of Kereyou-Ittu) community members (X^2=4.8, df 2 P=<0.001) revealed that a co-management system (government with local communities) is the most preferred management system for the Park. Our results showed that a heavy economic dependency of the surrounding community on the Park has precipitates in making the management of ANP difficult.

Overall, decentralization in Ethiopia was not effective in terms of improving the status of Awash National Park. After decentralization (post-1995) resource-based violent conflicts such as those that resulted in the death of people, looting of livestock and restriction of movement between the Kereyou/Ittu and Afar communities were reported to be among the main perceived threats to the Park (X^2= 86.63, df=1, P <0.0001). The ecological condition of land cover around the ANP was better during the time of the Emperor (before 1974) than the period of the two successor regimes (from 1975 to present). However the time between 1972 and 1986 was recognized as a hard time for the surrounding communities in relation to the resources in ANP. The current government (EPDRF) has a better understanding of the pastoralist production system and is engaged in better economic and infrastructure development activities in the area. However, the expansion of large scale commercial farms is a critical threat to conservation of resources in ANP.

Strong commitment to changing the existing conditions requires due recognition of the current conditions of the Park. Action should be taken in terms of reducing human and livestock pressure on the Park. To this effect, removal of willing communities located in and very near to the Park is highly recommended. Intervention strategies to prevent and solve interest-based conflicts between stakeholders need to be designed and management difficulties need to be addressed. We also recommend a serious look at experience of other national Parks in the country. For example, an educational outreach program was shown to generate a positive attitude in local communities towards the conservation of natural resources at Bale Mountains National Park (Ethiopian Wolf Status Review, 2011). It may be to the benefit of stakeholders and to the broader beneficiaries of the Park to transfer such a positive experience to the improvement of the seriously impacted national Parks such as ANP.

7.2 Recommendation

Continued land use/land cover changes coupled with increasing demand for resource from the Park heavily affected the livelihood of the surrounding communities as well as the fauna and flora of ANP. Therefore, action should be taken in terms of reducing human and livestock pressure on the Park. To this effect recommendations were given under the major bottlenakecs such as empowering local community, opportunity to alternative income generating resources and leadership commitment in understanding the current status of the Park.

1. Experiences from the Simen National Park i.e. empowering local community through improving their socio-cultural and economic conditions.
2. The boundary of the park needs revision considering the existing land use/land cover types in and outside the present park boundary.
3. Providing alternative economic sectors to reduce impact from livestock be tested to the benefit of improving the state of ANP.

4. Alternative opportunities in terms of income generating to communities located in and around the park are highly recommended.
5. With no leadership or commitment to effect change, the Park continues to face uncertainty with regard to its resources. Strong commitment to change the existing conditions requires understanding the current status of the Park and developing an immediate intervention strategy to solve the major bottlenecks such as interest-based conflicts between stakeholders and management difficulties. In scrutinizing the challenging discourses of conservation and development on ANP, it is essential to underline whether the conservation or development discourses of the nation has achieved its mission in the process of being translated into practice. The views and perceptions of the local communities towards the Park would be more supportive if the government recognizes their customary rights through benefit-sharing and enhancing their level of awareness through education and dialogue.

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Appendix IA. Semi-structured community survey questionnaire (English)

This research aims to gather relevant data about the use and management of resources in Awash National Park and aspired to develop a sustainable resource management at different administrative levels for the park. Therefore, you are kindly requested to provide correct information for questions that you want to answer. The information you provide is strictly confidential and your personal details will remain anonymous and protected.

(Put an X mark on the given space and provide written answer where applicable)

I Background information of the respondent

1.1 Gender

1Male		Female	

1.2. Age

< 25		25-34		35-44		45-54		55-64		> 65	

1.3. Region_____ Woreda_____ Kebele _____

1.4. Educational status

1.4.1 Highest level of formal Education

S.N	Grade level	
1	Not attending any formal education	
2	Grade 1- grade 4	
3	Grade 5- grade 8	
4	Grade 9- grade 10	

5	Grade 11- grade 12	
6	Certificate	
7	Diploma	
8	Degree and above	

1.4.2 Non- formal and in-formal education

S.N	Type of Education	
1	Adult education	
2	Kuran	
3	Gieze	
4	Others (specify)	

1.5. Marital status

Married		Single		Divorced		Widowed	

1.6. Occupation

S.N	Type of occupation	Response	S.N	Type of occupation	Response
1	Unemployed		6	Business owner	
2	Daily labourer		7	Farmer (pastoralist)	
3	Domestic		8	Farmer (agro-pastoralist)	
4	Civil servant		9	Appointed religious leader	
5	Retired/ pensioner		10	Others (specify)	

1.7. Economic activity

S.N	Type of activity	Response	S.N	Type of activity	Response
1	Farming		3	Business	
2	Pastoralism		4	Cultivation and Livestock keeping	

1.8. Family size

1	2	3	4	5	6	7	8	9	>10

1.9. Family income (mark multiple if you do more than one)

S.N	Source of family income	Amount of Birr per year during DEREGE	Amount of Birr per year during the Present gov't
1	Salary		
2	Remittance		
3	Farm harvest		
4	Livestock selling		
5	Firewood, wood for construction or charcoal selling		
6	Aid from Humanitarian and NGO		
	Other (specify)		

1.10. For how long have you been living in this area?

1	< 5 years		5	21-25 years	
2	6-10 years		6	26-30 years	
3	11-15 years		7	> 30 years	
4	16-20 years				

1.11. Have you lived elsewhere previously? A. Yes _____ B. _____

1.12. If yes, why did you move here ?

1	Insecurity/ conflict		3	Better prospect	5	Others (specify)	
2	Resettlement		4	Marriage alliance			

1.13. Type of your settlement

Type	During the Derge time	During the present government
Permanently settled		
Mobile		

1.14. Type of dwelling

Type of dwelling	During Derege	At present
Owned formal house made of corrugated materials		
Owned formal house made of plastic and cloth roof		
Owned traditional hut		
Employer provided home		

1.15. Main source of domestic water

Source water	During Derege	At present
Piped tap water at home		
Bore hole communal water		
Flowing stream/ river		
Dam/pool		
Rainwater tank		

1.16. If no water on site, what is the average distance to the nearest water source in Km/m_____

1.17. Main source of energy for domestic/household energy consumption

Source of energy	During Derege	At present
Electricity		
Firewood		
Gas		
Crop residue		
Dung		

1.18. Main source of energy for lightning at home

Source of energy	During Derege	At present
Electricity		
Firewood		
Gas		
Crop residue		

Dung		
Candle		

II Pressure Exerted on the Park

2.1. Where do you reside?

Distance	At present	During the Derege
1. Within the park		
2. About 1 km far from the park boundary		
3. About 2 km far from the park boundary		
4. About 3km far from the park boundary		
5. About 1km far from the park boundary		

2.2. What is the size of the land you occupy? _____hectares

2.3. Are you the owner of the land you occupy?

Options	At present	During the Derege
1. Yes		
2. No		

2.4. If yes, what is the type of ownership?

1. Type of ownership	During the Derege	At present
2. Private with ownership id card		
3. Communal		
4. Private without ownership id card		
5. Government		

2.5. Do you think you will be asked /forced to move from the current resident?

1. Yes		2. No	

2.6. If yes, how far away from the protected area are you being relocated?

1. 2 km far from the current boundary	
2. 5 km far from the current boundary	

7 km far from the current boundary	
10 km far from the current boundary	
15 km far from the current boundary	

2.6. How you will be compensated?

Money	
Another land elsewhere	
Another land based on my choice	
Other (specify)	

2.7. For which resources did/do you require access from the protected area?

Resource needed	At present		During Derege	
	Yes	No	Yes	No
Grazing				
firewood collection				
for house construction and other materials				
Hunting				
Cultivation				
Watering/ Irrigation				
Cultural/ social activities				
Food gathering				
Recreation				
Others (specify)				

2.8. If yes, were /are you allowed access to the Park for such activities?

Options	At present	During the Derege
1. Yes		
2. No		

2.9. Under what conditions is access to the Park permitted?

Conditions	At present	During the Derege
1. Drought		
2. Conflict		

3. Any time		
Other (specify		

2.11. Did/ do you have any claims to any resources within the park?

Options	At present	During the Derege
1. Yes		
2. No		

2.12. If yes, list down the resources you claim _____

2.13. If yes, have the claims been settled?

Yes		No	

2.14. Is the compensation enough?

Yes		No	

2.14. Please rank the immediate concern/threats to the ANP concerning use and management of resources in the Park

	High		Moderate		Low		No impact	
Threats	Present	Past	Present	Past	Present	Past	Present	Past
poaching								
Illegal encroachment by the local community								
In adequate management of resources								
conflict among different people or within the people								
Animosity by the local people								
expansion of cultivated land								
expansion of grazing land								

.demand for wood for different purposes(fuel, charcoal, construction)								
Others (specify)								

III Stakeholders and their degree of participation

3.1. Who owns Awash National Park (ANP)

Ownership	At present	During the Derege
Government		
The community		
Private holding		
Others(specify)		

3.2. Were the indigenous and local communities involved in asking and establishing the ANP

Yes		No	

3.3 If yes, was any resettlement involved?

Yes		No	

3.4. If yes, was there negotiated compensation for any community leaving their territories?

Yes		No	

3.5 Did/does the community participate in the use and management /decision making power/ of resources in the ANP?

Options	At present	During the Derege
Yes		
No		

3.6 . If yes, to what extent?

Level of involvement	At present	During the derege time
Highly involved		
Somewhat involved		

3.5 Should local people be allowed to extract resources in the protected area?

Yes		No	

3.6 please give your reasons for the your choice above

_____

3.7 List ways in which you think the community can contribute towards use and management of resources in ANP?

_____

3.8 Did/ do you or any of your household members work at the protected area?

Yes		No	

3.9 If yes, complete the following table

Family member	Type of job	Salary per month (see code below)	Nature of job(see code below)	Time

Code

Salary per month	**Family member**	**Nature of Job**	**Time**
Below 500 Birr 501-1000 Birr 1001-1500 Birr 1501-2000 birr 2000 birr	I My wife/my husband my child/girl my father/my mother	Permanent Seasonal Casual	During the Derege At present In both periods

1.10 If you choose I, how long have you worked in the park?

< 5 years		5-10 years		11-15 years		16-20 years		.> 20 years	

3.11 If you were/are working in the park, what management practice do you undertake to enforce the use and management of resources in the Park?

Practice	At the present government	During the Derege time
Fencing		
Patroling by armed guards		
Collaborating with local community		
Resource management education and outreach		

Others (specify)		

IV. Views of stakeholders

3.9. Would you describe the meaning of the following words? (use the scale below)

Scale = 1. No idea 2. Vague 3. Clear

Conservation		Ecotourism	
Sustainable resource management		Stakeholders	
Protected areas (national park)		Biodiversity	

4.0. What type of resource management/ conservation mechanism practices existed in the park?

At present		During the Derege	
Traditional/indigenous	Scientific	Traditional/ indigenous	Scientific

4.1 Do you think the establishment of ANP has positive impact on conservation of its resources?

Yes		No	

4.2 If yes, in which period conservation of its resources is/was better?

During the present government		During the Derege regime	

4.3 Please explain your answer above

_____

4.4 Do you think the community oriented management/ conservation of approach will improve conservation attitude among the local people?

Yes		No		Don't know	

4.5 Give your explanation for the answer chosen above

_____

4.5 Do you think that the ANP can generate money?

Yes		No	

4.6. If yes, How much income is expected to be generated per month?_____

4.7 Did/Do the conservation authority of the Park administrators support local development initiatives?

Yes_____ No_____

4.8 If yes, what type of development initiatives?

Type of Initiative	At the Present Government	During the Derege time
1. Education		
2. Health		
3. Infrastructure		
4. Housing		
5. Water provision		
6. Job creation		
7. Others (specify)		

4.9 If no, what development would you like to see initiated in your community?

_____

4.10 has any one from the protected area authority visited your village?

Yes		.No	

4.11 If yes, what was the purpose of the visit?

Purpose	At the Present Government	During the present government
To educate villagers		
To help with village project		
To carry out research		
To assess wildlife damage		
To patrol		
Others (specify)		

4.12 How would you describe the relationship between the community and management/staff of the ANP?

Extent	At the present government	During the derege
1.Excellent		
2.Very good		

3.Good		
4.Satisfactory		
5.Poor		
6.Very poor		
7.Not at all		

4.13 Give a reason for your choice of answer above?

_____

4.14 What are the good experiences (benefits) of living next to the ANP?

Benefit	At present	During the derege
Able to see and know different type of wild biodiversity		
Get game meet		
Get wood for fuel, construction, charcoal		
Business opportunity		
Help with transport		
Others (specify)		

4.15 What are the bad experiences (problems) of living next to the ANP?

Problems	At present	During the derege
Restriction on access to resource use in the park		
Loss of land and livelihood		
Damage of property and crops by wildlife		
Human harassment by wildlife		
Disease transmission from wildlife to livestock		
Hostility and harassment by park management/staff		
Others (specify)		

4.16 Do you know that the government has a National Park management policy?

Yes		No	

4.17. If yes, what is your view of the management policy?

_____

4.18 Do you interact with the tourists that visit the National Park?

1.Yes		2.No	

4.19 if yes, what is your benefit from the tourists that visit the National Park ?

_____

4.20 How are the attitudes of the local communities towards the tourists to the area?

Attitude	At the Present time	During the derege
Euphoria (Excitement)		
Apathy (tourists are taken as granted)		
Annoyance (misgivings about tourism)		
Antagonism (Openly displayed irritation)		
Don't know		

4.21 Do you have any problem associated to tourists in your community?

Yes		No	

4.23 if yes, what are the problems

_____

Appendix IB. Open ended interview questionnaire (English)

Interview Schedule

The following questions are designed to gather information from key informants and expertise regarding the views, attitudes and level of involvement of stakeholders in the use and management of resources in the park. Policy and regulation issues regarding the management of Park resources also will be discussed with key informants and resource persons of various management authorities in the study area.

Occupational position of interviewee_____

A. Background Information

1. How big is the ANP area (by size)?
2. Where is ANP found (By region where the park is located)?
3. When was the ANP established?
4. Who owns the Park?
5. What were the objectives for the establishment of the Park?
6. What percent of the employees is permanent, seasonal and casual?
7. What is the gender breakdown of the employee?
8. What is the racial breakdown of the personnel?
9. Do you have a management policy?
10. Do you live within the surrounding community?
11. Are you working in the Park?
12. If yes, how long have you worked at the park?

B. Resource Management, use and Conservation issues

13. What natural resources did/does the community depend on within or close to ANP during the time of Derege and the present government?
14. Who owned/ owns the natural resources in the Park during the Derege and the present government?

15. Was the Park imposed over the will of indigenous and local communities or were the communities in agreement with the establishment of the protected area and its key management objectives?
16. Did/do the local community have access to and use of any of the natural resources during the time of Derege and the present government?
17. under what condition access to and use of any of the natural resources during the time of Derege and the present government?
18. What management practices did/do you undertake the management/ conservation of resources in the Park during and the present government?
19. Do you think that both pastoralists and agro-pastoralists had/ have equal right to use resources in the park during the time of Derege and the present government?
20. If not, which one was/ is privileged and why?
21. Do you think that both pastoralists and agro-pastoralists were/ are equally participated in the management/ conservation of resources in the park during the time of Derege and the present government?
22. Comparatively, who (Pastoralists/ agro-pastoralists) was/ is a threat for resources in the Park during the time of Derege and the present government?
23. Did you observe conflict between pastoralist and agro-pastoralists or within the same activity due to inequitable resource sharing from the park?
24. If yes, what was the reaction of the government at federal, regional and local levels?
25. Do you think that the introduction of decentralization in Ethiopia has made comfortable environment for the management of National parks.
26. Do you observe a better condition for the management of resources in the Park since the introduction of decentralization in Ethiopia?
27. If yes, explain the advantage of decentralization for resource management in the Park?
28. Do you believe that the current management system of ANP is better than the management system before the introduction of decentralization in the country?
29. If yes, what differences did you observe before and after the introduction of decentralization?

30. Do you think that ANP is income generating sector?

31. If yes, how much many do you expect to generate per month?

32. Do you think that the community-oriented management/conservation strategy have improved conservation attitudes among the local community?

33. Do you think the local community should be allowed to extract resources from the Park?

34. Do you think that the management of the Park is strong enough in personnel, finance, and other requirements?

35. If not, please explain management problems of the Park.

36. In what way do you think the Park management authority can improve the livelihood of the local people without compromising the conservation of resources in the Park?

37. I what way do you think the community can contribute towards the conservation/management of resources in the Park?

C. Relation with stakeholders

38. Do you think that various stakeholders have the same level of participants in the management and use of resources in ANP?

39. If no, who do you think are active and who are inactive participants in the management and use of resources in ANP? Explain the activity of the following stakeholders.

A. Government officials at federal, regional and sub-district level

B. Park administration and other workers in the Park

C. Non-government organization officers

D. Tourism workers

E. Pastoralists and agro-pastoralists

F. Visitors

40. How would you describe the relationship among various stakeholders in the management of resources in ANP before and after the introduction of decentralization in Ethiopia?

41. If good, please indicate the time (before decentralization, after decentralization, in both periods)

42. If bad, please indicate the time (before decentralization, after decentralization, in both periods)

D. Policy

43. Do you know about Article 40, 'The Right to Property', of the Ethiopian constitution states the right to co-ownership or joint ownership of land and natural resources between the state and the people?
44. If yes, do you think that this article is implementing in the management and use practices of ANP?
45. Do you think that local people are practicing their rights over land, forest and other natural resources?
46. Do you agree with the right of the government to manage and control over land and related resources?
47. Do you know that the Ethiopian constitution Article 43 (2) states that the local communities have the right to be consulted before any activity that affects their interest takes place?
48. If yes, please give some examples in relation with resource management in ANP?
49. Do you know that Ethiopia has environmental policy?
50. If yes, do you know gaps and overlaps of the policy, if any, regarding the management of protected areas?
51. Do you think that the policy is designed with the implementation plan to articulate the policy?
52. Do you think that ANP has a management plan which indicates how the park is to be protected, used, developed and managed?
53. If yes, explain the strengths and weak points that you have observed.
54. Do you think that Environmental policy of the country has significantly affected the management of resources in the park after and before the introduction of decentralization?
55. If yes, explain your answer.
56. Did you observe that the government was conducted any awareness creation program on Environmental issues to educated the local community?
57. If yes, how often

Appendix IIA. Semi-structured community survey questionnaire (Oromifa)

Qorannon kun kan karoorfate haala itti-fayyadamaa fi to'annoo qabeenya Paarkii Biyyoolessaa Awaash ilaalchisee odeffannoo jiran sassaabuu yommuu ta'u xiyyeefannoon isaas caasaalee bulchinsa paarkicha sadarkaalee adda addaatti to'annoo ykn bulchiinsa qabeenyaa itti-fufinsa qabu diriirsuuf kan yaadame dha. Kanaafuu, gaaffilee debisuuf fedhii qabduuf deebii akka kennituuf deebii sirrii akka kennitu kabajaan si gaafadha. Odeeffannoon ati kennitu icciitiin kan qabamu ta'a; akkasumas odeeffannoon eenyumaa kee ilaallatu ifa hin bahu.

(Bakka duwwaa armaan gaditti kenname keessatti mallattoo X barreessuun bakka barbaachisaa ta'etti deebii barreefamaa kenni).

I Odeeffannoo waliigalaa deebii-kennaailaallatan

1.1 Saala

Dhiira		Dhalaa	

1.2. Umurii

25 gadi		25-34		35-44		45-54		55-64		65 oli	

1.3. Naannoo_____ Aanaa_____ Ganda _____

1.4. Sadarkaa Barumsaa

1.4.1 Sadarkaa Olaanaa Barumsa Idilee

T.L	SadarkaaDaree	
1	Barnoota Idilee hin arganne	
2	Kutaa 1- Kutaa 4	
3	Kutaa 5- Kutaa 8	
4	Kutaa 9- Kutaa 10	
5	Kutaa 11- Kutaa 12	
6	Waraqaa Ragaa	
7	Dippiloomaa	
8	Digirii fi isaan oli	

1.4.2 Barumsa Al-idilee

T.L	Gosa Barumsaa	
1	Barnoota Ga’eessolii	
2	Quraana	
3	Gi’iizii	
4	Garabiraa (adda baasii ibsi)	

1.5. Haala Gaa’elaa

Fudheera/Heerumte		Hin fuune/hin heerumne		Wal-hiike/tte		Dhirsi/Niitiin Du’eera/duutetti	

1.6. Hojii

T.L	Gosa Hojii	Deebii	T.L	Gosa Hojii	Deebii
1	Hoji hin qabu		6	Hojii daldalaa	
2	Hojjetaa humnaa		7	Qotee-bulaa	
3	Hojii mana keessaa		8	Qotee-bulaa (horsiisa lonii fi qonna lafaa)	
4	Hojjetaa mootummaa		9	Gaggeessaa amantii	
5	Soorata baheera		10	Gara biraa (adda baasii ibsi)	

1.7. Hojii Diinagdee

T.L	Gosa Hojii	Deebii	T.L	Gosa Hojii	Deebii
1	Qonna		3	Daldala	
2	Horsiisa loonii		4	Qotee-bulaa fi horsiisa lonii	

1.8. Baay’ina Maatii

1	2	3	4	5	6	7	8	9	>10

1.9. Galii Maatii(tokkoon oli yoo ta’e hedduu irratti mallattoo gochuu ni dandeessa)

T.L	**Madda Galii Maatii**	**Hanga Qarshii waggaanii bara bulchiinsaa mootummaa Dargii**	**Hanga Qarshii waggaanii bara bulchiinsaa mootummaa amma jiruu**
1	Miindaa		
2	Gargaarsa fira irraa		
3	Hoomisha qonnaa		
4	Gurgurtaa loonii		
5	Gurgurtaa qoraanii muka hojii ijaarsaaf oolu, ykn kasalaa		
6	Gargaarsa dhaabbilee miti-mootummaa irraa argamu		

	Garabiraa (adda baasii ibsi)		

1.10. Naannoo kana jiraachuu eega eegaltee hangam ta'a?

1	Waggaa 5 gadi		5	Waggaa 21-25	
2	Waggaa 6-10		6	Waggaa 26-30	
3	Waggaa 11-15		7	Waggaa 30 oli	
4	Waggaa 16-20				

1.11. Kanaan dura bakka biraa jiraattee beektaa? A. Eeyyee_____

B. Lakki _____

1.12. Deebiin kee 'Eeyyee' yoo ta'e, maaliif gara kana dhufte?

1	Sodaa nageenyaa/walitti-bu'iinsa		3	Jiruuf-jireenya wayyu barbaaduun	5	Garabiraa (adda baasii ibsi)	
2	Qubannaa		4	Gaa'elaan			

1.13. Gosa qubannaa keetii

Gosa	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
Qubannaa dhaabbataa ta'e		
Qubannaa dhabbataa hin taane		

1.14. Haala mana jireenyaa

Haala mana jireenyaa	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
Man jirenya dhuunfaa ofi baaxiin isaa qorqoorroon kan ijaarame		
Man jirenya dhuunfaa ofi baaxiin isaa laastikii fi huccuun ijaarame		
Man jirenya dhuunfaa baaxiin isaa citaa		
Mana jireenya qacaraan kenname		

1.15. Madda bishaan mana keessatti itti fayyadamamu

Madda bishaanii	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
Bishaan ujummoon manatti		

gale		
Bishaan boollaa hawaasni waliin itti fayyadamu		
Bishaan yaa'a lagaa/burqituu		
Hidhaa/haro		
Bishaan roobaa kuusame		

1.16. Naannoo kana bishaan hin jiru yoo ta'e, maddi bishaanii inni hunda caalaatti dhiyoo ta'ee akka giddu-galaatti fageenya kiiloo-meetira ykn meetira meeqa irratti argama?_____

1.17. Madda humnaa mana keessatti itti fayyadamu

Madda humnaa	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
Elektiriika		
Qoraan abiddaa		
Gazii/boba'aa		
Haftee midhaanii		
Kaboota dhoqqee loonii		

1.18. Madda humnaa mana jireenyaa kesatti ibsaaf tajaajilu

Madda humnaa	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
Elektiriika		
Qoraan abiddaa		
Gazii/boba'aa		
Haftee midhaanii		
Kaboota dhoqqee loonii		
Shaamaa		

II Dhiibbaa Paarkicha irra Gahe

2.1. Eessa jiraatta?

Fageenya	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
6. Paarkicha keessa		
7. Paarkicha irraa fageenya km 1 ta'u irra		
8. Daangaa Paarkicha irraa fageenya km 2 ta'u irra		
9. Daangaa Paarkicha irraa fageenya		

km 3 ta'u irra		
10. Daangaa Paarkicha irraa fageenya km 1 ta'u irra		

2.2. Bal'inni lafa ati irra jirattuu/qabduu hangami? Hektaara _____

2.3. Lafni irra jiraattu kan keetii?

Filannoo	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
3. Eeyee		
4. Lakki		

2.4. Deebiin 'Eeyyee' yoo ta'e, haalli abaa qabeenyummaa lafichaa akkami?

1. Haala abbaa-qabeenyummaa	Yeroo bulchiinsa Dargii	Yeroo bulchiinsa mootummaa ammaa
2. Kan dhuunfaa waraqaa ragaa abbaa qabeenyummaa kan qabu		
3. Kan Hawaasaa ykn waliinii		
2. Kan dhuunfaa waraqaa ragaa abbaa qabeenyummaa kan hin qabne		
5. Kan mootummaa		

2.5. Bakka amma jiraattu irraa diqiin na kaasu jettee yaaddaa?

1.Eeyyee		2.Lakki	

2.6. Deebii 'Eeyyee' yoo ta'e, bakka eegumsi godhamu irraa fageenya hangam irra qubachuu barbaadda?

1. Daangaa ammaa irraa fageenya km 2	
2. Daangaa ammaa irraa fageenya km 5	
Daangaa ammaa irraa fageenya km 7	
Daangaa ammaa irraa fageenya km 10	
Daangaa ammaa irraa fageenya km 15	

2.6. Haala kamiin beenyaa argatta?

Qarshii	
Lafa bakka biraa jiru	
Lafa bakka biraa jiru haala filannoo kiyyaan	
Gara biraa (adda baasi ibsi)	

2.7. Qabeenya uuamaa isaan kami bakka eegumsi godhamuuf irraa argatta?

Qabeenya barbaadamu	Yeroo ammaa		Yeroo Gargii	
	Eeyyee/Lakki		Eeyyee	Lakki
Marga dheedissa looniif				
Qoraan funaanuuf				
Ijaarsa mana jireenyaatii fi meeshaale gara biraatiif				
Adamoo				
Qonna				
Bishaaniif/jal'isii				
Hojiilee Aadaa/Hawaasummaa				
Nyaata funaanuuf				
Bashannanaaf				
Gara biraa (adda baasii ibsi)				

2.8. Deebiin 'Eeyyee' yoo ta'e, qabeenya kana argachuuf gara Paarkichaa seenuun siif ni heeyyamamaa?

	Filannoo	Yeroo ammaa	Yeroo Gargii
3.	Eeyyee		
4.	Lakki		

2.9. Gara Paarkichaa senuuf haalota akamii keessatti heeyyamama?

Haalota		Yeroo ammaa	Yeroo Gargii
4.	Gogiinsa/gammoojjii		
5.	Walitti-bu'iinsa		
6.	Yeroo maraa		
Gara biraa (adda baasii ibsi)			

2.11. Qabeenya Paarkii keessa jiru irratti gaaffii abbaa qabeenyummaa qabda?

	Filannoo	Yeroo ammaa	Yeroo Gargii
1.	Eeyyee		
2.	Lakki		

2.12. Deebiin 'Eeyyee' yoo ta'e, qabeenyota gaaffii irratti qabdu tarreessi._____
_____

2.13. Deebiin 'Eeyyee' yoo ta'e, gaaffileen kee deebii argataniiruu?

Eeyyee		Lakki	

2.14. Beenyaan kenname gahaa dha?

Eeyyee		Lakki	

2.14. Haala itti-fayyadamaa fi to’annoo qabeenya uumamaa Paarkii Biyyooessaa Awaash ilaalchisee dhimmoonni sodaa/yaaddoo uuman isaan kam akka ta’an ibsi.

	Olaanaa		Giddu-gala		Gadaanaa		Dhiibbaa hin qabu	
Sodaawwan	Yeroo ammaa	Yeroo darbe	Yeroo ammaa	Yeroo darbe	Yeroo ammaa	Yeroo darbe	Yeroo ammaa	Yeroo darbe
Saamicha								
Hawaasni naannoo haala seraan ala ta’een bakka qabachuu								
To’annoo qabenya uumamaa gahumsa hin qabneen								
Gareewwan hawaasaa giduutti walittibu’eenya uumamu								
Diinummaa uummata naannoo waliin								
Lafa qonnaa babal’achuu								
Babal’achuu lafa marga loonii								
Fedhii muka tajaajila adda addaaf oluu (qoraan, kasala/cilee, hojii ijaarsaa)								
Gara biraa (adda baasi)								

III Qooda-fudhattootaa fi Sadarkaa Hirmaannaa isaanii

3.1. Paarkiin Biyyoolessaa Awaash kan eenyuuti?

Abbaa-qabeenyummaa	Yeroo ammaa	Yeroo bulchiinsa Dargii
Mootummaa		
Hawaasa		
Dhuunfaa		

Gara biraa (adda baasii ibsi)		

3.2. Hawaasni naannoo Paarkii Biyyolessaa Awaash gaafatanii dhaabuu keessatti hirmaataniruu?

Eeyyee		Lakki	

3.3 Deebiin ‘Eeyee’ yoo ta’e, namoonni bakka biraa akka qubatan ta’e jiruu?

Eeyyee		Lakki	

3.4. Deebiin ‘Eeyyee’ yoo ta’e, hawaasa lafa isaanii irraa ka’aniif beenyaan waliigalteen kaffalame jiraa?

Eeyyee		Lakki	

3.5 Hawaasni qabeena Paarki Biyyoolessaa Awaash keessatti argaman ittifayyadamuu/to’achuu/murtii irratti murteessuu ilaalchisee hirmaannaa taasiseeraa/ni taasisaa?

Filannoo	Yeroo ammaa	Yeroo bulchiinsa Dargii
Eeyyee		
Lakki		

3.6 Deebiin ‘Eeyyee’ yoo ta’e, sadarkaa hangamiini?

Sadarkaa hirmaanaa	Yeroo ammaa	Yeroo bulchiinsa Dargii
Hirmaannaa olaanaa		
Hirmaannaa hanga tokko		

3.5 Ummanni naannoo qabeenya bakkeewwan eegumsi godhamuuf keessatti argamu faayidaarra oolchuuf ni heeyyamamaafii?

Eeyyee		Lakki	

3.6 Filannoo kee armaan oliitiif sababoota kee ibsi:

_____

3.7 Itti-fayyadamaa fi bulchiinsa qabeenya Paarkii Biyyoolessaa Awaash ilaalchisee haalta hawaasni gumaacha gochuu danda’u eeri:

_____

3.8 Ati yookaan miseensi maatii kee keessaa bakka eegumsi godhamuuf keessa hojjetu jira?

Eeyyee		Lakki	

3.9 Deebiin ‘Eeyyee’ yoo ta’e, gabatee armaan gadii guuti.

Miseensa Maatii	Gosa Hojii	Miindaa Ji’aa (koodii armaan gadii ilaali)	Amala Hojichaa (koodii armaan gadii ilaali)	Yeroo

Koodii

Miindaa Ji'aa	**Miseensa Maatii**	**Amala hojii**	**Yeroo**
Qarshii 500 gadi	Ana	Dhaabbataa	Yeroo bulchiinsa
Qarshii 501-1000	Niitii kiyya/dhirsa kiyya	Yeroodhaaf	Dargii
Qarshii 1001-1500	Mucaa kiyya	Akka tasaa	Yeroo Ammaa
Qarshii 1501-2000	Abbaa kiyya/haadha kiyya		Yeroo lamaanuu
Qarshii 2000			

1.11 'Ana' jettee yoo filatte, paarkicha keessa yeroo hangamiif hojii hojjette?

Waggaa 5 gadi		Waggaa 5-10		Waggaa 11-15		Waggaa 16-20		Waggaa 20 oli	

3.11 Paarkii keessa kan hojjettu yoo taate, adeemsa hojii itti-fayyadamaa fi to'annoo qabeenya paarkii keessa jiru hojiirra oolchite maali?

Adeemsa hojii	Yeroo bulchiinsa motummaa ammaa	Yeroo bulchiinsa motummaa Dargii
Dallaa ijaaruu		
Hidhattoonni akka naanna'anii to'atan gochuu		
Hawaasa naannoo wajjin gamtaan hojjechuu		
Barumsa bulchiinsa/to'annoo qabeenyaa		
Gara biraa (adda baasii ibsi)		

IV. Ilaalcha Qooda-fudhattoottaa

3.9. Hiikaa jechoota armaan gadii ni himtaa? (Iskeelii armaan gaditti argamutti fayyadami)

Iskeelii = 1. Hin beeku 2. Ifa miti 3. Ifa dha

Kunuunsa		Ikoo-tuurizimii	
To'annoo qabeenyaa itti-fufiinsa qabu		Qooda-fudhattoota	
Bakkeewwan eegaman (paarkota biyyoolessaa)		Lubbu-hedduummina (Biodiversity)	

4.0. Paarkicha keessa toftaaleen to'annoo/bulchiinsa qabeenyaa ilaalchisee jiran maal fa'i?

Yeroo ammaa		Yeroo bulchiinsa Dargii	
Beekusa aadaa	Saayinsawaa	Beekusa aadaa	Saayinsawaa

4.1 Ijaarsi Paarkii Biyyoolessaa Awaash kunuunsa qabeenyaa ilaalchisee bu'aa gaarii uumeera jettee yaaddaa?

Eeyyee		Lakki	

4.2 Deebiin 'Eeyyee' yoo ta'e, kunuunsi qabeenyaa kan bara isa kam keessaatu caalaatti filatamaa dha?

Yeroo ammaa		Yeroo bulchiinsa Dargii	

4.3 Deebii kee armaan olii bal'inaan ibsi:_____

__

4.4 Kununsi qabeenya uumamaa hawaasa giddu-galeeffate ilaalacha hawaasa naannoo gidduu jiru ni fooyyesa jettee yaaddaa?

Eeyyee		Lakki		Hin beeku	

4.5 Deebii armaan olitti filatteef ibsa bal'aa kenni:

_____

4.5 Paarkiin Biyyoolessaa Awaash galii maallaqaa galchuu ni danda'a jettee yaaddaa?

Eeyyee		Lakki	

4.6. Debiin 'Eeyyee' yoo ta'e, ji'ati gali meeqa ni argamsiisa jedhamee yaadama?_____

4.7 Bulchiinsi paarkichaa hojiiwwan misooma hawaasa naannoo ni deeggaraa?

Eeyyee_____ Lakki_____

4.8 Deebiin 'Eeyyee' yoo ta'e, hojiiwwan misoomaa akkamii?

	Gosa Hojii Misoomaa	Yeroo Bulchiinsa Mootumaa Ammaa	Yeroo Bulchiinsa Mootumaa Dargii
8.	Barnoota		
9.	Fayyaa		
10.	Ijaarsa bu'uuraalee misoomaa		
11.	Mana jireenyaa		
12.	Tajaajila dhiyeessa bishanii		
13.	Carraa hojii uumuu		
14.	Gara biraa (ada baasii ibsi)		

4.9 Deebiin 'Lakki' yoo ta'e, hawaasa kee keessatti hojiileen misoomaa akka egalaman barbaaddu isaan kami?

_____

_____

4.10 Abbaa taayitaa bakka eegumsi godhamuufii keessaa mandara ati keessa jiraattu kan daawwate jira?

Eeyyee		Lakki	

4.11 Deebiin 'Eeyyee' yoo ta'e, kaayyoon daawwannichaa maal ture?

Kaayyoo	Yeroo Bulchiinsa Mootumaa Ammaa	Yeroo Bulchiinsa Mootumaa Ammaa
Hawaasa naannoo barsiisuu		
Pirojaktii ganda keessaa deeggaruu		
Qorannoo gaggeessuu		
Miidhama bineensota irra gahu madaaluu		
To'annoo		
Gara biraa (ada baasii ibsi)		

4.12 Walitti-dhufenya hawaasa naannoo fi bulchiinsa/hojjetoota Paarkii Biyyoolessaa Awaash gidduu jiru haala kamiin ibsita?

Haala	Yeroo Bulchiinsa Mootumaa Ammaa	Yeroo Bulchiinsa Mootumaa Dargii
1. Daraan olaanaa		
2. Bay'ee gaarii		
3. Gaarii dha		
4. Quubsaa		
5. Dadhabaa/laafaa		
6. Baay'ee laafaa		
7. Walitti-dhufenyi hin jiru		

4.13 Deebii armaan olitti filatteef/kenniteef sababa kee ibsi?

_____

4.14 Muuxannoo gaarii ykn faayidaalee Parkii Biyyolessaa Awaashitti dhiyoo jiraachuun argataman maal fa'i?

Faayidaale	Yeroo ammaa	Bara Dargii
Bineensotaa fi biqiloota adda addaa beekuuf gargaara		
Adamoo gaggeessuuf		
Muka qoraanii fi hojii ijaarsaatiif barbaachisu argachuuf		

Carraa hojii daldalaa		
Tajaajila geejjibaatiif fayyada		
Gara biraa (adda baasii ibsi)		

4.15 Muuxannoon badaan ykn miidhamni Parkii Biyyolessaa Awaashitti dhiyoo jiraachuun dhufan maal fa'i?

Rakkoolee	Yeroo ammaa	Bara Dargii
Qabeenya paarkicha keessa jirutti fayyadamuuf rakkisaa ta'uu isaa		
Hanqina lafa qonnaa uumuu		
Miidhama bineensoni midhaan irraan gahuu		
Bineensonni namoota naannoo jiraatan sodaachisuu		
Dhibeen garaagaraa bineensota irraa gara beeyladootaatti darbuu		
Bulchiinsi/hojjetoonni paarkichaa hawaasa naannoo irratti rakko uumuu isaanii		
Gara biraa (adda baasii ibsi)		

4.16 Mootummaan imaammata bulchiinsa paarkii biyyoolessaa kan qbu ta'uu ni beektaa?

Eeyyee		Lakki	

4.17. Deebiin 'Eeyyee' yoo ta'e, ilaalchi ati imaammaticha irratti qabdu maali dha? _____

_____

4.18 Tuuristoota Paarkicha daawwachuuf dhufan waliin walitti-dhufeenya ni taasistaa?

1.Eeyyee		2.Lakki	

4.19 Deebiin 'Eeyyee' yoo ta'e, faayidaaleen ati tuuristoota paarkicha daawwachuf dhufan irraa argattu maal fa'i?_____

_____

4.20 Ilaalchi hawaasni naannoo tuuristoota daawwannaaf dhufan irratti qabu maal fakkaata?

Ilaalcha/Amala	Yeroo amaa	Bara bulchiinsa Dargii
Gammachuu guddaa		
Dhimma irraa dhabuu(turistoonni dhufuun isaanii waanuma baramaa dha jedhanii dhiisuu)		
Aarii (miidhaa sektarri tuuriizmii fide yaaduu)		
Jibbiinsa (ifatti jibbiinsa qaban agarsiisuu)		
Hin beeku		

4.21 Hawaasa keessan keessatti rakkoon tuuristoota waliin walqabatee isin irra gahe jira?

Eeyyee		Lakki	

4.22 Deebiin ‘Eeyyee’ yoo ta’e, rakkooleen kunniin maal fa’i?

Appendix II B Open ended interview questionnaire (Oromifa)

Miiltoo II:Gaaffilee Banaa Gaaffii-fi-deebii Adeemsisuuf Qophaa'an

Sagantaa Gaffii-fi-deebii

Gaaffileen armaan gadii namoota odeeffannoo gahaa kennuuf ni danda'u jedhamanii filatamanii fi ogeeyyii wajjin gaaffii fi deebii adeemsisuun odeeffannoo sassaabuuf kan qophaa'an yommuu ta'u, xiyyeeffannoon gaaffilee kanneeniis ilaalcha, amalaa fi sadarkaa hirmaannaa ittifayyadamaa fi to'annoo ykn bulchiinsa qabeenya uumamaa paarkicha keessatti argaman keessatti qaamoleen dhimmi ilaallatu qaban hubachuudhaaf dha. Kana malees, bulchiinsa paarkichaa keessatti dhimmoonni imaamataa fi qajeelfama ilaallatan namoota odeeffannoo kennanii fi itti-gaafatamtoota bulchiinsaa naannoo ykn bakka qorannoon itti adeemsisamuu waliin kan irratti mariyatamu ta'a.

Gita/Sadarkaa Hojii Nama Gaaffii Gaafatamuu:_____

A. Odeeffannoo Ka'umsaa

1. Bal'inni Paarkii Biyyoolessa Awaash hangam dha?
2. Paarkiin Biyyoolessa Awaash eessatti argama (naannoo paarkichi keessatti argamu)?
3. Paarkiin Biyyoolessa Awaash yoom dhaabate?
4. Paarkichi kan eenyuuti?
5. Kaayyoon Paarkicha dhaabuu ykn ijaaruuf ka'umsa ta'e maali?
6. Lakkoofsi hojjetoota dhaabbataa ta'anii, kanneen yeroo murtaa'eef qacaramanii, fi hojetoonni humna/guyyaa meeqa?
7. Hojjetoonni kunniin saalaan yommuu adda baasaman meeqa?
8. Hojjetoonni sanyiin yommuu adda baasaman meeqa?
9. Imaammata bulchiinsaa qabduu?
10. Hawaasa naannoo waliin jiraattaa?
11. Paarkicha keessa hojjettaa?

12. Deebiin ‘Eeyyee’ yoo ta’e, yeroo hangamiif paarkicha keessa hojjechaa jirta?

B. Dhimmoota Bulchiinsa, Ittifayyadamaa fi Kunuunsa Qabeenyaa ilaallatan

13. Naannoo Paarkii Biyyoolessaa Awaash ykn paarkicha keessa qabeenyota jiran keessaa kan hawaasni irratti hundaa’ee jiru isaan kami?

14. Yeroo bulchiinsa Dargii fi yeroo bulchiinsa mootummaa amma aangoorra jiruu keessatti, qabeenyota uumamaa paarkicha keessa jiran akka abbaa qabeenyummaatti kan qabatee jiru eenyu dha?

15. Paarkichi kan ijaarame fedhii hawaasa naannootiin ala dirqiidhaanii ykn ijaarsa bakka eegumsi godhamuu keessatti hawaasni fedhii isaa ibsateeraa?

16. Yeroo bulchiinsa Dargii fi yeroo bulchiinsa mootummaa amma aangoorra jiruu keessatti, hawaasni naannoo qabeenya uumamaa paarkicha keessa jiru itti fayyadamuuf ni danda’aa?

17. Yeroo bulchiinsa Dargii fi yeroo bulchiinsa mootummaa amma aangoorra jiruu keessatti, haalonni qabeena uumamaa paarkicha keessa jiran itti fayyadamuuf guutamuu qaban maal fa’i?

18. Yeroo ammaatti qabeenya paarkicha keessa jiru kunuunsuu fi eegumsa gochuuf hojiileen ati raawwachaa turte/ammas raawwachaa jirtu maal fa’i?

19. Yeroo bulchiinsa Dargii fi yeroo bulchiinsa mootummaa amma aangoorra jiruu keessatti, qotee-bultoonnii fi horsiise-bultoonni qabeenya uumamaa paarkicha keessa jiran ittifayyadamuu ilaalchisee mirga walqixa qabu jettee yaaddaa?

20. Deebiin ‘Miti’ yoo ta’e, garee isa kamitu irra caalaatti mirga qaba?

21. Yeroo bulchiinsa Dargii fi yeroo bulchiinsa mootummaa amma aangoorra jiruu keessatti, qotee-bultoonnii fi horsiise-bultoonni bulchiinsa qbeenya uumamaa paarkicha ilaalchisee hirmaannaa walqixa qabu jettee yaaddaa?

22. Yeroo bulchiinsa Dargii fi yeroo bulchiinsa mootummaa amma aangoorra jiruu keessatti, walbira qabnee yommuu ilaallu, qotee-bultotaa fi horsiisee-bultoota keessaa isa kamitu sodaa miidhamaa uuma jettee yaadda?

23. Qabeenya uumamaa paarkicha keessaa haala walqixa ta'een ittifayyadamuu dhabuu irraa kan ka'e qote-bultootaa fi horsiisee-bultoota gidduutti walitti-bu'eenyi uumamameeraa?

24. Deebiin 'Eeyyee' yoo ta'e, tarkaanfiin mootummaan feedaraalaa fi mootumaa naannoo fudhatan maali fa'i?

25. Itiyoophiyaa keessatti bulchiinsi hin giddu-galoomne uumamuun isaa bulchiinsa paarkota biyyoolessaatiif haala mijataa uumeera jettee yaaddaa?

26. Bulchiinsi hin giddu-galoomiin Itiyoophiyaa keessatti eega hojiirra ooluu eegalee kaasee haala bulchiinsa qabeenya paarkicha keessaa irratti fooyya'iinsa argiteettaa?

27. Deebiin 'Eeyyee' yoo ta'e, bu'aa bulchiinsa hin giddu-galoomiin bulchiinsa qabeenya paarkicha keessaa iratti argamsiise ibsi.

28. Haalli caasaa buchiinsa Paarkii Biyyoolessaa Awaash yeroo ammaa jiru caasaa bulchiinsaa giddu-galoomaa hin taane osoo hin eegalamiin dura kan jiru irra fooyya'aadha jettee yaaddaa?

29. Deebiin 'Eeyyee' yoo ta'e, garaagarumaan ati hubatte maal fa'i?

30. Paarkiin Biyyoolessaa Awaash seektara galii argamsiisudha jettee yaaddaa?

31. Deebiin 'Eeyyee' yoo ta'e, ji'atti galii meeqa galcha jettee eegda?

32. Tarsiimoon kunuunsa/bulchiinsa qabeenyaa hawaasa giddu-galeeffate ilaalcha hawaasni kunuunsa qabeenyaa irratti qabu fooyyesseera jettee yaaddaa?

33. Hawaasni naannoo qabenya parkicha keessaatti fayyadamuu qaba jettee ni yaaddaa?

34. Bulchiinsi paarkichaa gama maallaqaatin, humna namaatiin, fi ulaagaalee gara biraatiin cimina qaba jettee ni yaaddaa?

35. Miti yoo ta'e, rakkoole yookaan hanqinoota bulchiinsa paarkichaa ibsi.

36. Bulchiinsi paarkichaa qabeenya uumamaa parkicha keessa jiru irra osoo miidhaa hin geessisiin haala kamiin jireenya hawaasa naannoo fooyyessa jettee yaadda?

37. Hawaasni naannoo haal kamiin bulchiinsa fi kunuunsa qabeenya uumamaa parkicha keessaa irratti hirmaachuu danda'a jettee yaadda?

C. Walitti-dhufeena Qooda-fudhattoota waliin jiru

38. Bulchiinsaa fi itti-fayyadama qabeenya uuamaa paarkicha keessaa irratti qooda-fudhattoonni hunduu hirmaannaa walqixa ta'e ni qabu jettee ni yaaddaa?

39. Miti yoo ta'e, bulchiinsaa fi itti-fayyadama qabeenya uuamaa paarkicha keessaa irratti qooda-fudhattoonni dammaqinaan hirmaatan isaan kami; kanneen hin hirmaanne isaan kami?

    A. Ittigaafatamtoota mootummaa sadarkaa feedaraalaa, naannoo fi Aanaa

    B. Bulchiinsa Paarkii fi hojjetoota paarkichaa gara biraa

    C. Hojetoota dhaabbilee miti-mootummaa

    D. Hojjetota sektara tuurizimii

    E. Horsiisee-bultootaa fi qotee-bultoota

    F. Tuuristoota/daawwattoota

40. Bulchiinsa Paarki Biyyolessaa Awaash ilaalchisee, walitti-dhufeenya qooda-fudhatootta adda adda gidduu jiru bulchiinsa waaltawwaa yookaan giddu-galoomaa hin taanee fi giddu-galooma ta'e gidduutti jiru akkamitti ibsita?

41. Gaarii yoo ta'e, yeroo isaa ibsi (bulchiinsa waaltawwaa yookaan giddu-galoomaa hin taanee fi giddu-galooma ta'e gidduutti jiru).

42. Badaa yoo ta'e, yeroo isaa ibsi (bulchiinsa waaltawwaa yookaan giddu-galoomaa hin taanee fi giddu-galooma ta'e gidduutti jiru).

D. Imaammata

43. Heera Mootummaa Itiyoophiyaa keessatti keeyyata 40 ‘Mirga Qabeenya horachuu’ kan jedhu qabeenya uumamaa fi lafaa iaalchisee jiru ni beektaa?

44. Deebiin ‘Eeyyee’ yoo ta’e, keeyyanni kun bulchiinsaa fi itti-fayyadama Paarkii Biyyoolessaa Awaash ilalchisee hojirra oola jira jettee yaaddaa?

45. Hawaasni naannoo itti-fayyadama lafaa, bosonaa fi qabeenya uumamaa gara biraa ilaalchisee mirga isaanii itti-fayyadamaa jiru jettee ni yaaddaa?

46. Mootummaan lafaa fi qabeena uumamaa gara bira to’achuu fi bulchuu ilaalchisee mirga kan qabu ta’uu isaa itti ni amantaa?

47. Heerri Itiyoophiyaa Keeyyata 43(2) irratti hawaasni hojii jireenya isaanii irratti dhiibba qabu ilaalchisee mirga yaada isaanii ibsuuf affeeramuu kan qaban ta’uu ni beektaa?

48. Deebiin ‘Eeyyee’ yoo ta’e, bulchiinsa qabeenya Paarkii Biyyoolessaa Awaash ilaalchisee fakkeenya kenni.

49. Itiyoophiyaan Imaammata Naannoo kan qabdu ta’u ishee ni beektaa?

50. Deebiin ‘Eeyyee’ yoo ta’e, bulchiinsa bakkeewwan eegumsa jala jiranii ilaalchisee hanqinoota imaammatichaa beektu jiraa?

51. Imaammatichi kan qophaa’e karoora imaammaticha hojiirra oolchuuf barbaachisu waliin ta’uu isaa ni beektaa?

52. Paarkiin Biyyoolessaa Awaash karoora bulchiinsaa akkaataa eegumsa paarkichaa ni qaba jetee ni yaaddaa?

53. Debiin ‘Eeyyee’ yoo ta’e, ciminaa fi laafina/hanqina jiran adda baasii ibsi.

54. Imaammanni Naannoo biyyattii bulchiinsa qabeenya paarkichaa irrati jalqba bulchiinsa giddu-galoomaa fi bulchiinsa giddu-galoomaa hin taane duraa fi isaan booda dhiibba qaba jettee ni yaaddaa?

55. Deebiin ‘Eeyyee’ yoo ta’e, deebi keetiif ibsa kenni.

56. Mootummaan hubannoo hawaasni naannoo irratti qabu cimsuuf sagantaa hubannoo cimsuu kennuu isaa argitee beektaa?

57. Deebiin ‘Eeyyee’ yoo ta’e, yeroo hangamiif kenname?

Appendix IIIA. Semi-structured community survey questionnaire (Afar)

Inikhayto gari; garab daharsito dina ayyunta waagita esserora.
Ama kusaq kah yakeh yaanim faximtah tan nafqi kee xiiniso awash agatinah parkih addal leh yanina wagitanam kee katat leh yan daadal faaya hanam baxa baxsa lee xiiniso caddo tanih tan miraciini parki addal.

Tohul numma leh yan gacsa neh taacim massakaxxaluk sin esserah.neh taceenih tannin gacsi nagay tanih tan dahayri nee daquk leh.

Taaceh tan gacsa “X” asta faximah yan aracat hayis.

I. Esserora gacsa marak mamut oyta

1.1 Nado

labhaytu		Sayyo	

1.2. Karma

< 25		25-34		35-44		45-54		55-64		> 65	

1.3. rakakay_____ daqar_____ awda _____

1.4. baaritoh-caddo

1.4.1 fayya leh tan baaritoh cado

loowo	Baritok leh yan cado	
1	Tubarito mabarita	
2	1to footima - 4to footima	
3	5to footima - 8to footima	
4	9to footima - 10to footima	
5	11to footima - 12to footima	
6	Sumaq warakat	
7	Diploma	

8	Digrii kee wohuk daga	

1.4.2 kalah tan baritota

loowo	Barito cello	
1	Furayna barito	
2	Kuraan	
3	Amhaara afa	
4	Kaalah tellek esces	

1.5. Rihim caddo

Digibeh		madigibiyo		cabti		Gubna	

1.6. taama caado

loowo	Taama ceelo	gacsa	loowo	Taama ceelo	Gacsa
1	Taama maali		6	Teellemo abena	
2	Dooqoh diina		7	Dacarsito diina	
3	Burah- adal		8	Garab dacarsito diina	
4	Doolat tama abeena		9	Diini-abobta	
5	Dadqu		10	Kalah tellek esces	

1.7. Maadur

loowo	Maadur ceelo	gacsa	loowo	Maadur ceelo	Gacsa
1	Buqureh-diina		3	Tellemo	
2	Dacarsitoh-diina		4	Garab-daharsito diina	

1.8. Buxa-mari manga

1	2	3	4	5	6	7	8	9	>10

1.9. Buxa-marih hulenta (mangom tellek namma asta hayis)

loowo	Buxa mari hulenta kah geytam?	Dargi wiidir sanatal magixe geyta	Awak sanatal magixe geyta
1	Qasbi		
2	Sinamak geyta lakqo		
3	Buqure		
4	Saqi-limosiyak		
5	Boco, buxah xisiya coru kee diyi limosiyak		
6	Bani adamino kee meqem abito egla geyta cato		
	Kalah tellek esces		

1.10. Ama aracal maagid yakke widdir sugteh?

1	< 5 sanat		5	21-25 sanat	
2	6-10 sanat		6	26-30 sanat	
3	11-15 sanat		7	> 30 sanat	
4	16-20 sanat				

1.11. ama aracak kalah tan baaxo sugteh inna? B. “yeey”_____ T. “baaley”____

1.12.Gacsi kok “yeey” tekek, macah abaaxo teemeteh?

1	Qeebi		3	Yayseh yan maqishat	5	Kalah tellek esces	
2	Qusba aracal gaca gidi		4	Digib raacitiya			

1.13. Buxa- elle letoh tan(raacina) cello

Cello	Dergi wiidir	Away tan dollata
Inki aracal defeyna		
Aracak arac gedak		

1.14. Buxa (qari) cellola

Qari cellola	Dergi wiidir	Away tan dollata
Meqenah yan buxa		
Shiraq-qari		
Qafar qari		
Tama absisa mara yeheh yan buxa		

1.15. Maqab edde nantifiqem leek raacena

Lee raacena	Dergi wiidir	Away tan dollata
Bunba-lee		
Qela		
Weqaytu		
Dora		
Galaca		

1.16. lee alewaytek, dayih tanih tan raacena magide sinik takkeh?_____k.m/m

1.17. buxah addal edde tantifiqeh cayla tanim macay?

Cayla ellegeytanam	Dergi wiidir	Away tan dollata
Koran		
Boco		
Siraglele		
Casara		
Gofia		

1.18. Buxah-adal tableni gixi tantifiwenim macay?

Cayla elle geytanam	Dergi wiidir	Away tan dollata
Koran		
Boco		
Siraglele		

Casara		
Gofia		
Shemqi		

II . parki addal barabarsele tukteyna.

2.1. Ankey buxa elle litom?

Deedara	Away tan dollata	Dergi wiidir
11. Parki addal		
12. Parki cududuk 1k.m dedaral		
13. Parki cududuk 2k.m dedaral		
14. Parki cududuk 3k.m dedaral		
15. Parki cududuk 1k.m dedaral		

2.2.elle tanih tan baaxo duddi maagide yakkeh? _____hektares.

2.3.elle tanih tan baxo kuminna?

Dooro	Away tan dollata	Dergi wiidir
5. Yeey		
6. baaley		

2.4.gacsa kok “yeey” tekek, litoh tan baxo lowsis baxo manal litoh?

Baxo ekoyta wello	Dergi wiidir	Away tan dollata
1. baxo yimi, ekoyta sumaq liyo.		
2. baxo ayyuntinohimi		
3. baxo yimi, lakin sumaq mayu		
4. dolatimi		

2.5.away elle tanitoh tan aracak kalah yan arac fan ugutam kok esserelonum may takelle?

1. Yeey		2.baaley	

2.6.gacsa “yeey” tekek, away elle tantoh tan arac dacayrit yan arac maagide derrih?

1.2 k.m deerih awayih cudduk	
2.5 k.m deerih awayih cudduk	
7 k.m deerih awayih cudduk	
10 k.m deerih awayih cudduk	
15 k.m deerih awayih cudduk	

2.6.anninal kok mekla abelonu?

Lakqo	
Kalah yanih yan araca	
Anu innih faxah an dooritil kalah yan arac	
Kalah tellek esces	

2.7. awash agaatinah parkik maanah yan gadda faxah ?

Faximah yan gadda	Away tan dollata		Dergi wiidir	
	Yeey	baaley	Yeey	baaley
Saqi ayloliya				
Bocoh askota				
Qarwa xisso kee kalah tanim				
Admo				
Buqre bicsa				
Mafuqu				
Qaada /aynti angagoya				
Caxa miru askatiya				
Wacaysirih				
Kalah tellek esces				

2.8. gacsa yeey intek maanah yan wiidir parki cultu gidah izni koh yaacenih ?

Dooriti	Away tan dollata	Dergi wiidir
5. Yeey		
6. Baaley		

2.9.maanah yan caalatal parki ada sin kah culsanam ?

Ceelo	Away tan dollata	Dergi wiidir
7. Qaabara		
8. Qeebi		
9. kulli waqadi		
Kalah tellek esces		

2.11. parki adat liyoh itta gadda maay litoh ?

Dooriti	Away tan dollata	Dergi wiidir
3. Yeey		
4. Baaley		

2.12.Gacsah yeey intek litoh tan gadda uktub?

_____

2.13 gacsah yeey intek esserteh tan gaddak gacsa may geyte ?

Yeey		baaley	

2.14.kah aben mekla dudda leh inna ?

Yeey		Baaley	

2.14. Awash agaatinah parkil nafqi kee gaddi xiinisol faximta parki addal sissikuk faximah yan abinat yaabey?

	Fayyale caado		Fanti caado		Daagu caado		Taaqabi maali	
Qawalayla	Awaaya	Duma	Awaaya	Duma	Awaaya	Duma	Awaaya	Duma
Izni kalah aban admo								
Izni maaleh aban nooko								
Gadda antifiqiyih iggima								

Ayyunti addah sittin way kee cugaane qeebi								
Darifah ayyyuntih naqabu								
Buqre baaxo fayxi								
Saqi ayloliyih fayxi								
Diiiye, booco baxa baxsa le sababah faxanama								
Kalah tellek esces								

III wagsisa dagorti kee ken gabah assagola caddo

a. Awaash agaatinah parki miyyen immey ?

Ikooytino	Away tan dollata	Dergi wiidir
Dollat imi		
Ayyunti imi		
Numtin amoh imi		
Kalah tellek esces		

3.2. Awash agaatinah parki bica giddah ayyunti /baaxo daylo essero edde may teeneh ?

Yeey		baaley	

3.3 Gacsah yeey intek nooko edde may teeneh ?

Yeey		baaley	

3.4.Gacsah yeey intek araacak ugseenih yaanin ayyuntalih waalal kee mekla abeenih ?

Yeey		baaley	

3.5 Awaash agaatinah parki gaddi antifiqiyaa kee xiinsot ayyunti gabah agle edde maay tanih ?

Dooriti	Away tan dollata	Dergi wiidir
Yeey		
Baaley		

3.6 . Gacsah yeey intek ila maaca fan ?

Gabah assagoli caddo	Away tan dollata	Dergi wiidir
Fayya le gabah assagola		
Meqe gaba assagola		

3.5 Dacayrit tanih tan aroocal tanih tan gaddak ayyunti yantifiqem faximtah inna ?

Yeey		baaley	

3.6 teceh tan gacsah sabab acuw?

_____

3.7 Ayyunti awash parkih nafqi kee xiinisol kak qambal sitta gitite uktub ?

_____

3.8 Ku buxah marak dacayrit yan aracat taamite/taamita maari yaanih inna ?

Yeey		baaley	

3.9 Gacsah yeey intek ahaak gubal yan arac kib

Buxa marak tiyak teena	Abtah tan taama	Alsal geytah tan qasbi (gubal tanim wagit)	Litoh tan taama (gubal wagit)	Wiidir

Gubal tanim wagitak xagal tan esserora gacis.

Alsi qasbi	Buxa marak tiyak teena	Tama cello	Widdir
500 Birr guba	yoo	Saarimane lee	Dergi wiidir
501-1000 Birr	yii barra/ yii buxah abba	Seasonal	Away tan dollata
1001-1500 Birr	yii baxa	Faanak	Namma wiidir
1501-2000 birr	yiina / yaaba		inkih
2000 birr			

3.10 Yoo intakee dooritek maagideh taamiteh parki addal ?

< 5 sanat		5-10 sanat		11-15 sanat		16-20 sanat		.> 20 years	

3.11parki addal taamitek/taamitak sugtek gaddi antifiqiyaa kee xiinisoh maaca abteeh?

Abteh tanim	Away tan dollata	Dergi wiidir
Gaso bicsaanama		
Qaskarat dacarisaanama		
Daarifah ayyunta luk taamiatanama		
Gaddi xiinisoh baarito		
Kalah teelek esces		

IV. wagsisa dagarih maabala

3.9.Ahaak gubal tan qangoor nagay esces ? (gubal hayneh nan caddot intifiq)

Caddo = 1. Maaxiga 2.meeqenah masmiitiyo 3.ismiteeh

Keebo		Waacaysir marih culenta	
Kaatat lee gaddi xiiniso		Wagsisa dagara	
Agaatiina parki		Parki adat tan mano	

4.0 Parki adaat yanih yan gaddixiiniso kee keebo ceelo taanih ?

Away tan dollata		Dergi wiidir	
Sugte xiiniso	Qusba xiiniso	Sugte xiiniso	Qusba xiiniso

4.1Awaash parki fakimam gaddi keeboh baahem maylee?

Yeey		baaley	

4.2 Gacsah yeey intek maawiidir gadddi keebo muquk sugteh ?

Away tan dollata		Dergi wiidir	

4.3 Daagal gaaciseh tan gacsa meqenah esces

_____

4.4 Ayyunti gabah assagola lee xiiniso keebo maabla daarifah ayyuntih xaqul faaya heyelem maay takaaleh ?

Yeey		baaley		maaxiga	

4.5 Daagal gaaciseh tan gacsa nagay esces

_____

4.5 Awash agaatiinah parki lakqo culenta culseem maay takkaleh ?

Yeey		baaley	

4.6. Gacsah yeey intek maagide takke lakqo alsal culselem takkaleh?_____

4.7 Awash agatiinah parki keebo reeda baaxo marah daddal cato abtam maay takkaleh ?

Yeey_____ baaley_____

4.8 Gacsa yeey intek maanah yaan daddal cato siinih aban?

Daddal ceelo	Away tan dollata	Dergi wiidir
15. Baarito		
16. Qaafiyata		
17. katat lee andadosu		
18. buxaxi		
19. lee dayosiya		
20. baaxo marah taama fakiya		
21. kalah tellek esces		

4.9 Gacsah baaley intek maanah yan daaddal cato faxanah ?

_____

4.10 Awash agatiinah parkih saqoltitek sin caafat gufne abeenih maayyaaxigenih ?

Yeey		baaley	

4.11 Gacsah yeey intek gufne kah abeenim maacak teenih ?

Sababa	Away tan dollata	Dergi wiidir
Daarifah ayyunta baarissanama		
Daarifah ayyunta kaalah tan catota abaana gidda		
Kusssaq abaana gidah		
Yanih yan dubaali finqa katatana gida		
Daacayri abaana gidah		
Kalah tellek esces		

4.12 Awash parki miracisa saqolti kee ayyunti fanal yan gabah assogola manal tascaseni?

Mannah	Away tan dollata	Dergi wiidir
1.fulale		
2.kadam meqe		
3.meqe		
4.nagay		
5.bola lee		
6.kadabola lee		
7.foyya		

4.13 Xagah teceh tan gacsa sabab uhuy ?

_____

4.14 Awash agatinah parki xarifal yaaqishenimih nafqi maacay?

Nafqi	Away tan dollata	Dergi wiidir
Mango celole dubala wagitana gidi		
Cadoh takke dubali admo		
Boco, qarwa xisiyo cara kee diyi geyta gidi		
Tellemo sami		
Merra meqenah geyta gidi		
Kalah tellek esces		

4.15 Awash agatinah parki xarifal yaqishenim gibdabinah maca lee?

Gibdabina	Away tan dollata	Dergi wiidir
Parkil tan gadda intifiqiya sinil kaliteni?		
Baxo sinik beyanam		
Dubali sinik buqure kee saqi baysiya		
Dubali sinik biyakanama		
Dubali lakima saqi fan tatrusanama		
Parki saqolti/tama abena naqboyta		
Kalah tellek esces		

4.16 Dolat agatinah parki mirahisiya polisi lem tarigeni?

Yeey		baaley	

4.17. Gacsa kok “yeey” tekkek, miracisiya policik maca takaleni? _____

4.18 Awash agatina parki gufenih yanin wacaysir mara luk tangalem may tarige?

	1.Yeey		2.baaley	

4.19 Gacsa kok “yeey” tekkek, gufenih yanin wacaysir marak tudiq geytem may lito?_____

4.20 darifa ayunta wacaysir marak mamabla lonu?

Mabla	Away tan dollata	Dergi wiidir
Farcatal ken arcibisana		
Ken yaricibiseni		
Deremo		
Anqibiya(naqabu)		
Maaxiga		

4.21 wacaysir mara luk waagita taaqabiteh sin daarifal tanim lee?

Yeey		Baaley	

4.22 Gacsa kok “yeey” tekek mataqabi yanih? _____

Appendix IIIA Open ended interview questionnaire (Afar)

NAMMAYHAYTO GARI :ADDAFAKOT FAAXA ESSERORA (Afar)

Essero kee gacsi wiidiri

Ahaak gubal tanih tan esserora kah bicteh tanim oyta faayalee taama abeenitik oytisanam keel on mabla wagsissah tan dagorti leh yan caddo tuxiq kee gaddi xiiniso parkil leena waagitanam kee ,polisi kee taamisisiye ginno gaddih xiiniso parki addal leh tanina waagita heenih miiracisah tan saqolti luk kussaq elle yakkih yan daarifal keniluk edde waalaleno.

Esserimah yan numih taama caddo_____.

B : Maamut oyta

1. Awash agaatinah parki fiddinaneh maagide yakeh ?
2. Awash agaatinah parki ani rakakayat geytimah ?
3. Awash agaatinah parki malqo yekkeh ?
4. Awash agaatinah parki iyyen immey ?
5. Awash agaatinah parki kah dissimem maacay ?
6. Maagide taake taama abeenit sarimaaney,fanak kee kaadu wiidir taama lee maagide taakeh ?
7. Nado gabah assagoleh ixxima maaca ceelatah ?
8. Agat gabah assagoli maaca ceelah ?
9. Xiiniso madqa litonuh inna ?
10. Daarifah ayyunta lih tantoh inna ?
11. Awash agaatinah parkit taamitah inna ?
12. Gacsah yeey intek maagide wiidirih taamitah ?

T :gaddi xiiniso , nafqi kee dacayri (keebo)wagsisa

13. Awash agaatinah parkih daaqul yanih yan ayyunti ginno gaddak edde antifiquk sugem maacay away tan dollatal edde yantifiqenim maacay ?

14. Awash agaatinah parkik dergi wiidir luk sugtem iyaay away lem iyaay ?
15. Ayyunti gaba agli manna ceelak sugteh awash agaatinah parki qimboh bice saaku ?
16. daarifah ummata ginno gaddak nafqi geyanah inna away tanih tan dollatal , dergi wiidir tonnah nafqi kak geyak sugenih inna ?
17. maweelol edde antifiquk sugenih dergi wiidir away maweelol edde yantifiqenih tonnah?
18. xiiniso dergi saaku maaca ceelak sugteh awaay maaca ceeltah ?
19. daacarsitoh diina kee garab daacarsitoh diina inkigidde yakke cakke luk sugteh inna ,dergi wiidir kee away tanih tan dollatal ?
20. geeyak suge weenik ,ani maaray ,maacah ?
21. daacarsiitoh diina kee garab daacarsitoh diina awash agaatinah parkil inki giddeh gabah assagola luk sugeneh dergi wiidir kee away tanih tan dollatal ?
22. daacarsiitoh diina kee garab daacarsitoh diinak yayse gabah assagola dergi wiidir iyye luk sugeh awaay iyyeleeh ?
23. manaah yan taqaabi ken faanal tubleeh inki giddeh tuxxiq kah geewak sugeenim ?
24. gacsa yeey intek maanah tan firga eenih abaak sugeenih federal caddol ,raakakay caddol tonnah kaadu daarifa ayyunti caddol ?
25. itiiyopiak agaatinah parkiteh xiiniso awaay tuxxiq taacem maay takkaleh ?
26. awaay tanih tan xiiniso yayseh yan tuxxiq bahtem maay tubleh (cubbuseh) ?
27. gacsah yeey intek bahteh tan tuxxiqitet yaabey ?
28. awash agaatinah parki awaak leh yan xiiniso duma sugteh tan xiinisok taaysem maay takkaleh ?
29. gacsah yeey intek duma sugteh tan xiinsok awaay tan xiinisok baxsat yaabey ?
30. Awash agaatinah parki culenti faantena maay takkaleh ?
31. Gacsah yeey intek alsal maagide culusam takaleh ?
32. Ayyunti gabah assagola lee xiiniso daacayrih ayssisiiya daarifah ayyuntah bahtem maay takaleh?
33. Daarifah ayyunti awash agaatinah parkik gadda yaasaqenimih dudda loonuh inna ?
34. Awash agaatina parkih xiiiniso sehada caylak , lakqo kee kalah tanimil dudda leem maay takaleh?
35. Maalih intek yanih yan taqabitet escesey (yaabey)?

36. Parki xiiniso magital daarifah ayyuntih manno ayssisolonum takaleh ginno gaddih dacayri wagsiisak ?
37. Magital daarifah ayyunti tayseh tan xiiniso kee dacayri ginoh baahelem takaleh ?

S: Wagsisah tan dagorti leh tan lago

38. Baxa baxsa le ikoytiino lee mari parkil inki giddeh gabah assagola kee ginno gaddih tuxxiq geeyanam maay takaleh ?
39. Gacsah baaley intek miyye gabah assagola nagay edde leeh miyye edde maaliy ? ahak gubal tan ikoytiino lee maara nagay esces ?

B: dollat taama abeeniti federalaay ,rakaakay kee daarifa xiiniso caddol tani
T : parki miiracisaa saqolti kee parki taama abeeniti
S: meeqem abittoh eglali taama abeeniti
C: waacaysir taama abeeniti
K: daacarsitoh diina kee garab daacarsitoh diina
X : waacaysirih yeemete qibna

40. Maanal neh tascaseh baxa baxsa leh tan ikoytiino lee dagortih gabah assagola awaay tanih tan xiinto taamatemik dumal ?
41. Muquk ten intek wiidirit kak yaabey (awaay tan dollat inna duma sugteh tan doolatih wiidiri axcuk) ?
42. Umuk sugtek kaadu wiidirit kak yaabey (awaay tan dollat inna duma sugteh tan doolatih wiidir axcuk) ?

C: POLISI

43. Itiiyopiak dollat madqal massayak 40 “ikoytiino cakki “ baaxo kee giino gaddi ummata kee rakaakay fanat yaanim faximta iyyam maay taaxigeh ?
44. Gacsah yeey intek a massayat miraacisa mari nagay edde yantifiqenem kee edde taamitanam maay takkaleh ?
45. Daarifah ummatta baaxon lon cakki ,garbo kee ginno gaddat yantifiqenih intam maay takaleh ?
46. Dollat xiiniso kee katat baaxo kee kalah tan gadditeh amol cakki leem taaxigeh inna ?

47. Itiiyopiak dollat madqal massayak 43ul urrmassayak nammayal (2) daarifah ayyunti faxe taama takkemik naharal xiiniso keenilluk walaltam faximtamih cakki leem maay taaxigeh?
48. Gacsah yeey intek gaddi xiiniso parki addal celtanak ceelalot yaabey ?
49. Itiiyopia daarifah dacayrih polisi lem maay taaxigeh ?
50. Gacsah yeey intek polisi leh tan taqabi maay taaxigeh , dacayrit tan daarifal tan xiiniso taqabi yenek esces ?
51. Polisi bici elle yaanim ikraarol taamsisanam maay takaleh ?
52. Awash agaatina parki xiiniso ikraaroy parki nafqi edde dacrisanah daddal fan beeyta xiinto lem maay takaleh ?
53. Gacsah yeey intek tuble tan qaaku kee gaabul kak escesey ?
54. Itiiyopiak daarifa dacayrih polisi ginno gaddih xiinisoy parki leeh yanil taqabi bahtem maay takaleh , awaay tan dollat kee duma sugteh tan dollatih wiidiril ?
55. Gacsah yeey intek teeceh tan gacsa nagay baxaqis ?
56. Xiiniso daarifah ummatah daarifa dacayri baarito baarnamiji bicisa heenih baarseenim maay takaleh ?
57. Gacsah yeey intek maakeena wiidirihiy ?

Appendix IV: Photographs of the park taken during field work

Livestock pressure on the park

Unique features of the park (Crater lake at the top of Mount Fentale, Filwuha spring pool, Awash river fall (Photo: top to bottom)

Fuelwood and charcoal Extraction from the park