

**Institutions, Incentives and Conflict in Coffee Forest Use and
Conservation: the Case of Yayo Forest in Iluu Abba Bora Zone,
Southwest Ethiopia**

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Abstract

Ethiopia is home to many endemic plants and animals including the coffee growing 'wild' in the montane rainforests of the South and Southwest. The coffee forest is, however, threatened by fast rate of deforestation. The extraction of the resource by the local community for livelihood as well as the use by different stakes of coffee forest for different purposes and the absence of viable institutional arrangement for use and conservation are among factors aggravating deforestation.

This research explores institutions from federal to local level, rules that act either as incentives or disincentives for local users and rules leading to conflicts in coffee forest use and conservation. Institutions at different level, policies and proclamations, property rights and formal rules and regulations imposing disincentives as exogenous variables influence the action arena and leads to interactions and different outcomes. The research deals with institutions both as "the rules of the game" and "players of the game". Relevant information to the research has been collected in 2007 and 2008 at different times using qualitative and quantitative methods.

Results of this research show that institutions working on coffee forest from federal to local level, mainly the rules governing the coffee forest protected area (PA) cannot sustainably manage the coffee forest and ensure farmer's subsistence. Instead, they contribute to creating disincentives among the local community and fueling conflicts. The rules are imposed by force through government institutions and cannot sustainably halt loss of biodiversity. In this work, analysis of formal and informal institutions shows that there is a need either to modify existing institutions or establish new ones. This can be done through integration of institutions, both vertically and horizontally, with the objective towards coffee forest biodiversity conservation. There is also a need for revision and practical implementation of forest policies and proclamations in keeping with the interests and customary resource uses of the community.

The research also identifies different rules of the protected area (PA) that act as disincentives and that need to be changed including guidelines that can serve as yardstick in future use and conservation process. The study also shows that there is conflict among government institutions and the local community. The main causes of conflicts in the coffee forest demarcated area are driven by the need to expand coffee farm areas, disagreement over property rights, local community's dependence on products from the coffee forest for livelihoods and prohibition of harvesting the forest for NTFPs. There is a big gap in the distribution of rights, responsibilities and returns among stakeholders which indicates the marginalization of local communities and their institutions from coffee forest use and conservation process.

Analysis of the protected area (PA) rules and the conflicts created in general show the incompatibility of the current zoning approach with the previous forest use and the peasant's livelihood. Co-management is suggested as a way forward in resolving conflicts and institutional

problems. In efforts to realize this, it is essential to make smooth transition from management of coffee forest by force under the auspices of guards to management by well-designed CFM or co-management system.

Kurzfassung

Äthiopien ist die Heimat vieler endemischer Pflanzen und Tierarten, die wild in den Bergregenwäldern Süd- und Südwest Äthiopiens vorkommen, so auch der wilde Arabica Kaffee. Die Kaffeewälder sind von fortschreitender Entwaldung bedroht. Die Übernutzung durch die lokale Bevölkerung für verschiedene Zwecke und die Abwesenheit von Institutionen die den Schutz und die Nutzung regeln, sind Faktoren die die Entwaldung vorantreiben.

Diese Studie untersucht Institutionen, verstanden als Regeln, wie sie als positive oder negative Anreize wirken, Konflikte auslösen können und so den Schutz und die Nutzung von Kaffeewäldern in der Yayo Region Südwest Äthiopiens, beeinflussen. In dieser Studie werden Institutionen als „rules of the game“ als auch als „players of the game“ verstanden. Die Kaffeewälder Äthiopiens sind Habitat für viele endemische Arten und Ursprungsort des *Coffea arabica*. Diese Wälder sind jedoch durch Entwaldung bedroht. Die unkontrollierte Nutzung und fehlende funktionierende Regeln für die Nutzung sind wichtige Gründe, welche die Entwaldung erklären.

Die Ergebnisse der Studie machen deutlich, dass die derzeitigen Institutionen zum Schutz und der Nutzung der Wälder weder einen nachhaltigen Schutz noch eine Nutzung gewährleisten können, die das Subsistenzniveau der anliegenden Bewohner sichern könnte. Die bestehenden Institutionen, die ohne Beteiligung der Betroffenen festgelegt wurden, wirken eher als negative Anreize und sie verursachen Konflikte. Die Institutionenanalyse hat gezeigt dass eine vertikale und horizontale Integration von Institutionen notwendig ist und, daß bestehende Proklamationen und Gesetzestexte umgeschrieben und implementiert werden müssten.

Die Hauptursachen für Konflikte zwischen den Akteursgruppen, liegen in dem steigenden Bedarf an landwirtschaftlichen Flächen, Uneinigkeit bezüglich der Zugangs- und Nutzungsrechte, der Abhängigkeit lokaler Akteure von Ressourcen aus dem Wald und das Verbot Waldprodukte zu sammeln. Rechte, Pflichten und Nutzen sind unter den Akteursgruppen ungleichmäßig verteilt, was zu einer Marginalisierung lokaler Gemeinden führt. Die Institutionen- und Konfliktanalyse hat ebenfalls gezeigt, daß die derzeitige Zonierung des Waldgebiets mit den vergangenen Nutzungsweisen und den Bedürfnissen der Anwohner nicht vereinbar ist. Eine gemeinschaftliche Bewirtschaftung (co-management) der Wälder wird als Lösungsweg vorgeschlagen.

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List of Acronyms

ACM	Alternative Conflict Management
ARDB	Agriculture and Rural Development Bureau
ARDO	Agriculture and Rural Development Office
BPR	Business Process Reengineering
CBD	Coffee Berry Disease
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CFM	Collaborative Forest Management
CIP	Coffee Improvement Projects
CoCE	Conservation and Use of Wild Populations of <i>Coffea arabica</i> in the Montane Forests of Ethiopia
CSA	Central Statistical Agency
DPPC	Disaster Prevention and Preparedness Commission
DT	Development Team
EARO	Ethiopian Agricultural Research Organization
ECFF	Ethiopian Coffee Forest Forum
EDE	Emden, Drishaus and Epping
EELPA	Ethiopian Electric Light and Power Authority
EIAR	Ethiopian Institute of Agricultural Research
EPRDF	Ethiopian Peoples' Revolutionary Democratic Front
ESRDF	Ethiopian Social Rehabilitation Development Fund
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GAO	General Accounting Office (United States)
IAD	Institutional Analysis and Development
IBC	Institute of Biodiversity Conservation
IBCR	Institute of Biodiversity Conservation and Research
ICLARM	International Center for Living Aquatic Resources Management
IFRI	International Forestry Resources and Institutions
IUCN	International Union for Conservation of Nature and Natural Resources
IZRADD	Iluu Abba Bora Zone Rural and Agricultural Development Desk
KA	Kebele
KCs	<i>Kebele</i> Councils
KEC	<i>Kebele</i> Executive Councils
MAB	Man and Biosphere
MCTA	Ministry of Coffee and Tea Development
MoA	Ministry of Agriculture
MoARD	Ministry of Agriculture and Rural Development
NFPA	National Forest Priority Area
NGOs	Non Governmental Organizations

NRM	Natural Resource Management
NSC	North Sea Center
NTFP	Non Timber Forest Products
OARDB	Oromia Agricultural and Rural Development Bureau
OBARD	Oromia Bureau of Agriculture and Rural Development
OBPED	Oromia Bureau of Planning and Economic Development
OPDO	Oromo People Democratic Organization
ORADB	Oromia Rural and Agricultural Development Bureau
ORSAG	Oromia Regional State Administrative Government
OWA	Order-Weighted Average
PA	Peasant Administration
PA	Protected Area
PFM	Participatory Forest Management
PRA	Participatory Rural Appraisal
SNNPR	Southern Nations, Nationalities and Peoples Region
SPSS	Statistical Packages for Social Scientists
SRS	Systematic Random Sampling
STCP	Sustainable Tree Crops Program
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
YDRADO	Yayo District Rural and Agricultural Development Office
ZEF	Zentrum für Entwicklungsforschung /Center for Development Research
3Rs	Rights, Responsibilities and Returns
4Rs	Rights, Responsibilities, Returns and Relationships

Glossary of Local Terms

<i>Abba ulee</i>	Name given to cattle herding institutions and its head.
<i>Adaada</i>	Aunt
<i>Akaakayyu</i>	Grandfather
<i>Akka'oo</i>	Grandmother
<i>Badda</i>	Highland
<i>Baddadare</i>	Temperate
<i>Biyyaa</i>	Country
<i>Cidha</i>	Wedding
<i>Daangaa lammaffaa</i>	Core zone
<i>Daangaa tokkoffaa</i>	Buffer zone
<i>Daangaa zero</i>	Transition zone
<i>Derg</i>	Military regime that ruled Ethiopia from 1974 to 1991
<i>Eesumaa</i>	Uncle
<i>Fira dhiyoo</i>	Close relatives
<i>Firaa</i>	Relatives
<i>Gammojji</i>	Lowland
<i>Gumii Firaa</i>	Relative's assembly or association
<i>Hidda</i>	Climbers
<i>Hudad</i>	Coffee forest owned by landlords on which tenants work on weekly basis without any payment for them.
<i>Irreessa</i>	Moist grass used for different ritual purposes; tall grass usually put under a tree to appease the gods (Tilahun G., 1989:329).
<i>Jaarsaa Biyyaa</i>	Elders of the country
<i>Jaarsaa</i>	Elder
<i>Merit</i>	Access to coffee forest in which two-third of the harvest is given to the landlord.
<i>Michuu</i>	Friend
<i>Mucho</i>	Elder's council that covers less territory in terms of their work compared to <i>Jaarsa Biyyaa</i>
<i>Olla</i>	Neighbor
<i>Qoro</i>	Highest rank under regional Oromo governors before the conquest of Menelik. <i>Qoro</i> later became the title under vice district administrators.
<i>Tuullaa, xuxee and Shane</i>	Customary territorial based institutions in descending order
<i>Tuullaa</i>	Territorial based administrative customary institution responsible for social, economic and cultural life of the community
<i>Wanjo, Gindo, babattee</i>	Agricultural tools made up of wood and used for ploughing
<i>Waaqa</i>	God
<i>Warraa</i>	Family
<i>Wereda, Kebele, Got, Garee misoomaa</i>	Administrative structures under the ruling government in descending order.
<i>Yaa'i biyya</i>	General assembly
<i>Yaa'i</i>	Conference/ assembly

1. Introduction

This introductory chapter focuses on the problem of the study, objectives, research question and organization of the research. It gives a clear impression of what became an engine to conduct the research or the major problem that the research needs to respond. The major problem of the research include the fact that forest harboring the *Coffea arabica* is under severe threat of extinction and many other institutional failures and problems paving the way to deforestation. This chapter also highlights the main objectives of the thesis that mainly focus on analysis of institutions at different level (two institutions from federal, two institutions from regional and three institutions from local level), rules acting either as incentive or disincentive, and analysis of the causes of conflict and its management mechanisms. The introductory chapter also states main research questions that guide the research corresponding to different chapters throughout the study. The chapter finally introduces the major focus and organization of the whole chapters of the study.

1.1. Statement of the Problem

The species diversity of wild *Coffea arabica* populations of Ethiopian mountain rainforest has been threatened by irreversible deforestation that has serious consequences for national and international coffee sector. Results of a recent survey show that 50 percent of natural high forest has been lost or degraded to a level of slightly or heavily disturbed forestlands in the time span of 1971-1997 (Daba, 2000:4-55). In the past three decades, 60 percent of the Ethiopian forest area has been modified or destroyed by anthropogenic influences such as new settlements, conversion to other land uses and timber extraction (Reusing M, 1998); and about 2000 km² of extremely fragmented rainforest remain in the country (ZEF and EARO, 2002:3). More recently, the forest cover in some parts of Southwest Ethiopia has dwindled from 71 percent to 48 percent between the years 1973 and 2005 (Wakjira D.T., 2007). The larger portions of the existing forests are even secondary due to widespread human influence (Kidane M., 2002). If this trend continues at the same rate, existing forests will be completely wiped out in a few years. Based on the current rate of deforestation, some authors argue that Ethiopia will lose all its high forest within the coming 27 years (Gatzweiler F, 2007). This will become a great economic loss for the Ethiopian socio-economic profile and the world's *Coffea arabica* genetic diversity. These show that forests harboring wild *Coffea arabica* are under severe threat of extinction with existing covering only less than 3 percent of the country's land. Previous efforts made to conserve forest coffee in particular and forests in general did not have significant impact as they did not take into account the interests of the local community by failing to include farmers in decision making processes (Teklu and Thomas, 2004). Lack of continuity of the already initiated conservation efforts, political unrest, tenure insecurity, lack of awareness and participation by local communities in different project phases, impacts of population growth and resettlement are the major factors contributing to forest degradation (STCP, 2005).

There is lack of transparency with regard to areas of responsibility, accountability and relationships among the institutions and organizations working on coffee forest resources at different levels. There is legal plurality where some of them are not formally recognized like the indigenous tenure system and lack of clarity in property rights of coffee forest (Wakjira D.T., 2007). Hence, this study analyses the relevance of institutions working on forests at different levels and their likely impact on coffee forest conservation. Reviews of the CoCE¹ I sub-project six (analysis of institutional factors) pointed out that there are different traditional and official rules and actors. The contradiction among rules, lack of tenure security, confusion over property rights, duties and mandates at all levels of decision making are identified as major disincentives or impediments standing in the way of conservation and sustainable management of coffee forests (ZEF, IBC and EARO, 2006). Nonetheless, rules and regulations in current institutions that pose disincentives are not identified and this is the focus of this research.

Researches indicate that people living close to coffee forest areas have rich cultural assets or their own institutional arrangements that affect the use and conservation of coffee forests (e.g. ZEF, IBC and EARO, 2006). Other research findings also have a common contention that supports systematic combination and various modifications of institutions at different levels. Hence, there is a need to search for rules and regulations [institutional arrangements] that accommodate the interest of all groups (e.g. Meinzen-Dick, Pradhan and Di Gregorio, 2005). Some of these rules pose disincentives to the behaviour of the forest users thus aggravating deforestation. In other words, there is a need to identify rules and regulations in the current governance or management scheme posing incentives² or disincentives to the behavior of the coffee forest users or influence the condition of the coffee forest. The purpose of this research is mainly to fill this gap.

Institutional arrangements (rules and regulations) shape the management of forest resources in general and forest coffee and other NTFPs in particular. Many researches, based on different approaches of investigations, have been carried out with a focus on wild *Coffea arabica* populations in the montane rainforests of Southwest Ethiopia. These researches have come up with different findings. Institutional factors, whether formal or informal, have a profound impact on the conservation and use of wild populations of *Coffea arabica*. Diverse community-based (indigenous) and government-initiated institutions are identified which often contradict with each other in addition to their inherent problems (e.g. Stillmacher T., 2005; Mekdes G., 2005; Zewdie J., 2005; Teklu T., 2006).

The demarcation of Yayo (Gabba-Dogi) forest coffee conservation area, studied by some of the above researches, is part of the national and international efforts to conserve the threatened *Coffea arabica* species. Since demarcation, the protected area is not without problems bearing similarity with other protected areas in the world. The survey

¹ CoCE (conservation and use of wild populations of *Coffea arabica* in the montane forests of Ethiopia) is a research project having six major components during first phase (2002-2006) and during second phase (2006-2009).

² Incentive in the context of this study is not related with economic incentive; it rather looks at legal or institutional incentives or incentives related with rules and regulations.

conducted by the International Union for Conservation of Nature and Natural Resources (IUCN) on protected areas in 10 key forested countries found that only 1 percent of protected areas were secure from threat (Hayes T. and Ostrom E., 2005). Previous researches (e.g. Teklu T, 2006; Zewdie J, 2005) also indicated that there is on-going disagreement among institutions governing the coffee forest, the local community and other stakeholders which lacks reliable data on the causes of the conflict and its possible management approach. Hence this research explores the causes of conflict and its management approach in the forest coffee protected area.

The analysis of institutional arrangements is carried out by giving due focus on the role of community institutions and indigenous voices in promoting the interests of local populations, and national governments and/or international institutions (FAO, 1998). This study, hence, seeks to fill at least two more critical gaps in current forest coffee research. The first is the lack of comparable micro-level studies. The second is the dearth of studies dealing with the influence of institutions on forest coffee conservation and use. This leads to the next agenda of the same research process involving identification of rules and regulations in developing guidelines for forest management.

The research builds its empirical investigations on the hypothesis that identifying institutional arrangements for specific forest (Yayo/Gabba-Dogi forest) is important. This may be a necessary condition for achieving sustainable forest management suitable for coffee forest conservation. The following questions can also supplement the research or serve as a benchmark:

1.2. Research Questions

- 1) Which institutions are concerned with coffee forest conservation and use?
- 2) Are institutions at federal, regional and local levels viable for the sustainable conservation and use of coffee forest at Yayo/Gabba-Dogi?
- 3) How are the institutions at different levels related or linked to one another in the conservation and use of forest coffee at Gabba-Dogi?
- 4) Can customary institutions contribute to the coffee forest management? How?
- 5) Which are the rules and institutions that can serve as incentive to motivate forest users to participate in conservation and use?
- 6) Which rules need to change (and how) to achieve effective forest conservation (including the conservation of wild *Coffea arabica*)?
- 7) What are the major causes and management mechanisms of conflict over coffee forest conservation and use?
- 8) What types of local institutional arrangements are most fitting in forest coffee conservation and use in Yayo/Gabba-Dogi context?

1.3. Objectives of the Study

1.3.1. General Objectives

The research has two broad objectives: the first objective is to identify and analyze institutions at different levels from grass root to federal level based on their multi-dimensional link to the coffee forest and among themselves. This is intended to determine the impact, importance and reliability of those institutions in managing the coffee forests sustainably. Within this general objective, the study probes legal incentives (not economic incentives) that become a source of negative or positive motivation to the behavior of local resource users through authorizing, compelling or prohibiting certain behavior (Thomson James T. and Freudenberger K Schoonmaker, 1997). The study also explores conflicting interests among stakeholders of forest coffee conservation and use with special reference to their causes and management approach

The second objective is to explore the theoretical and empirical links among the facts discussed in chapters three through six by analyzing institutions dealing with forest management. This can also be done through identifying rules posing incentives and disincentives or fueling conflicts or determining rules that need to be changed, modified or included in designing legal incentives. This will help develop guidelines and suggest viable institutional arrangement for sustainable forest coffee conservation and use.

Overall, the objective of the research in Yayo/Gabba-Dogi coffee forest protected area of southwest Ethiopia is to identify institutional frameworks that can reconcile or optimize the needs of different stakeholders from the coffee forest, on one hand, and to ensure the continued existence of the wild coffee forest in its place of origin, on the other. This requires dealing with the needs, interests and grievances of different stakeholders in line with the existing institutional framework as well as responding to the suppressed interests and rights of the people living in and adjacent to the coffee forest. It also involves the need to weigh the significance of rules and regulations in efforts to craft new rules for the sustainable conservation and use of coffee forest.

1.3.2. Specific Objectives

The research has the following specific objectives:

- 1) To describe the importance, relevance and links of pertinent institutions at different levels of forest coffee conservation and use in the Yayo area; this mainly focuses on identifying institutions or rules that can be useful or irrelevant for the sustainable conservation and use of the coffee forest.

- 2) To identify the rules of Gabba-Dogi protected area (PA) that serve either as incentives or disincentives for coffee forest conservation and use for different user groups or communities.
- 3) To develop or revise guidelines or forest coffee management rules in different zones of the forest use and conservation area. Guidelines will be framed based on the output of the research that covers the whole section. Pitfalls identified at different sections and objectives of the research will be responded as a guideline for future operation.
- 4) To describe conflicts in coffee forest use and conservation and its management mechanisms. This is mainly based on the analysis of root causes of the conflict, issue analysis, stakeholders' identification and analysis, and working on 4Rs (right, responsibility, return and relationships) in light of the stakeholders involving in the conflict arena.

1.4. Organization of the Dissertation

The thesis is organized into seven chapters. The introductory chapter outlines the overall findings and summary of the research (in the abstract) so that readers can grasp the core theme of the dissertation. This chapter also introduces readers to the objectives of the study and research questions that guide the study.

Chapter two briefly explains the background of the study as well as the methods and tools the research has employed. It introduces the background in two categories that incorporate background of the study area and background to the research. Chapter three is devoted to the review of the previous works in the area of the research topic. It also deals with the theoretical and conceptual frameworks that provide the skeleton of the research and guide the study in all empirical chapters.

Chapter four deals with institutions (both formal and informal) found at all levels, from federal to local. It deals with institutions both in the sense of “the rules of the game” and the “players of the game”. It assesses formal institutions and their role in coffee forest management, their objective as well as their relevance to wild coffee biodiversity conservation, their structural link, both vertical and horizontal, among all formal institutions, and their mandate and responsibilities at all levels. It also deals with the extent to which the rules, policies and proclamations practically participate the local community and influence their behavior so as to bring an impact on forest coffee conservation. This chapter also explores a range of informal (in this sense indigenous) institutions to understand the way in which they can contribute to the conservation of the coffee forest. Chapter four generally assess the role of existing or would-be institutions as “players of the game”

Chapter five deals with institutions mainly as “the rules of the game” or rules currently governing the wild coffee as a protected area. It revolves around identifying the rules acting as incentive or disincentive for users of coffee forest or the community to achieve its main objective to contribute in the design of legal incentives. Though all chapters are interrelated, as it can be observed from the conceptual framework, chapter five is strongly related with the last empirical chapter, chapter six. This is mainly due to the fact that rules currently governing the protected area, principally those breeding negative motivation, are the causes for conflicts arising in the coffee forest arena. As a result, chapter six deals with the causes of conflict and their management mechanisms. It gives special emphasis to stakeholder identification and analysis, analysis of 4Rs (rights, responsibilities, returns and relationships) and conflict management mechanisms.

Chapter seven provides conclusions and recommendations based on the study findings and finally ends by identifying further research areas bearing relevance to this topic.

Chapter Two

2. Background of the Study and Methodology

This chapter structured mainly to cover background and methodology of the research. The background part is mainly deal with both background of the research that led to the current research as wel as the background of the study area. Background of the study area gives haighlights on geographical characteristics, population and settlement pattern, natural resource endowment, social organization and livelihood strategies. The methodology part focuses on both primary and secondary sources of data as a case research. Special focus was given to legal and official documents as wel as books, journals and articles from secondary sources. Both qualitative and quantitative method are adopted in primary data collection. Different interviews, focus group discussion and direct observation from qualitative methods and household survey from quantitative methods are primary forms of data collections used in this research

2.1. Background of the Research and the Study Area

2.1.1. Research Background

Coffea arabica is one of the crops with great economic significance that needs to be saved through *in-situ* conservation. Hence, the international community has shown strong initiative for launching coffee development projects that match the value of the crop. With its enormous genetic diversity of *Coffea arabica*, Ethiopia has become one of the main targets of coffee conservation project. The fact that the Coffee Improvement Project (CIP) started in Ethiopia is a further recognition of Ethiopia as origin of *Coffea arabica* that needs to be a place for *in-situ* conservation. As a result, research has been proceeding since the early 1970's in the selection of coffee cultivars which are resistant to CBD (Coffee Berry Disease) with funds provided by UNDP and the Ministry of Coffee and Tea Development (MCTA, 1981:33). Consequently, the implementation of phase one Coffee Improvement Projects (CIP) commenced in July 1977 with the primary objective of increasing the yield of coffee per unit area at the eight selected locations in five administrative regions of Ethiopia (MCTA, 1981:10). The present Yayo (*Gabba-Dogi* forest coffee project area) was also included under that project for the first four years.

Until recently, the CIP has been extended to four consecutive phases. However, its initially stated objective of “increasing the yield of coffee per unit area” (MCTA, 1981:10) has been changed to the key objective of establishing *Coffea arabica* gene reserve. The idea of genetic diversity conservation was initiated during the third phase, when CIP proposed the establishment of three *Coffea arabica* gene reserve sites in its three sites including Yayo (*Gabba-Dogi* forest coffee area in southwest Ethiopia in 1998. This forced the CIP to start *Coffea arabica* genetic diversity

conservation in *Gabba-Dogi* as well as in its other two sites, i.e., in Kefa Sheka (Bongida-Yebo) and Sheko *wereda* (Kontir-Berihan) of Southern Nations, Nationalities and Peoples State (SNNPS). It became the foundation for the current *Gabba-Dogi* forest coffee conservation project that was demarcated in 1999 under the Federal Ministry of Agriculture; but its commencement was delayed until 2003 due to various administrative problems and structural changes. This is mainly due to the transfer of responsibility to run the project from the Institute of Biodiversity Conservation and Research (IBCR) under the Ministry of Agriculture and Rural Development (MoARD) to Oromia Rural and Agricultural Development Bureau (ORADB). As a result, *Gabba-Dogi* forest coffee conservation project was established in June 2003 at local level before it was handed over to ORADB.

Forest coffee conservation started as the CIP project in 1977 and culminated to its present stage reaching the level of *Gabba-Dogi* and other forest coffee conservation projects after undergoing various changes in administrative structure, strategy and objective.

Multidisciplinary researches have been conducted through CoCE (Conservation and Use of Wild Populations of *Coffea arabica* in the montane forests of Ethiopia) project since 2002 in these areas in two phases. Phase one (2002-2006) of CoCE project has six subprojects: sub-project one concentrates on the biodiversity of afro-montane rainforests; sub-project two studies molecular systematics as a basis for managing the genetic diversity of *Coffea arabica*, while sub-project three deals with ecophysiological diversity. Sub-project four focuses on the importance of fungal pathogens in the wild coffee populations and the possibilities of selecting disease-resistant coffee varieties. Economic assessment of coffee gene pool to develop future conservation and use concept is the major focus of sub-project five. Sub-project six studies analysis of institutional factors influencing the use and conservation of coffee forest. The present research is part of CoCE Phase II (2006-2009) which is an extension of mainly sub-project six of CoCE phase I. This sub-project has been studied the formal and informal institutional frameworks relevant for conservation and use of the wild coffee and the forest resources at local, regional and national level (ZEF, IBC and EARO, 2006).

It identified many indigenous institutions, the lack of integration with formal institution and contradictions among the institutions and stakeholders contributed, in no small measure, to the increasing wild coffee and natural forest degradation leading to the current phase of research. Hence, this research is part of CoCE Phase II sub-project five. It (this research) focuses on the institutions, legal incentives and conflicts in the coffee forest conservation and use.

2.1.2. Background of the Study Area

2.1.2.1. Geographical Characteristics of the Study Area

Yayo, Hurumu and Dorenni districts are found in Iluu Abba Bora zone of Oromia Regional State. Iluu Abba Bora is situated in southwestern part of Oromia Regional State as well as the country. It is bounded by East Wellega and Jimma zones in the east. Iluu Abba Bora also shares a border with West and East Wellega in the North; SNNPR in the south, and with Gambella Regional State in the west. The total area of the zone is 1,633,156.6 hectares divided into twenty two districts including Yayo, Hurumu and Dorenni districts (the research sites).

Yayo forest is found in Yayo, Hurumu and Dorreni districts at about 564 kms southwest of Addis Ababa, the capital of Ethiopia. It is located between $8^{\circ}2^{\prime}42^{\prime\prime}$ N and $8^{\circ}31^{\prime}18^{\prime\prime}$ North and $35^{\circ}37^{\prime}48^{\prime\prime}$ E and $36^{\circ}05^{\prime}18^{\prime\prime}$ East. The district (former Yayo-Hurumu) has a total area of 162,901 hectares ($1,629.01\text{km}^2$) that constitutes 9.97 percent of the total land of the zone. The exact study site, *Gabba-Dogi* forest coffee, specifically lies between $8^{\circ}21^{\prime}$ – $8^{\circ}26^{\prime}$ N and $35^{\circ}45^{\prime}$ – $36^{\circ}03^{\prime}$ E along the rivers *Gabba* and *Dogi* (Gole T. W., 2003:28). See the location maps of the study area (the former Yayo district currently partitioned into three districts namely Yayo, Hurumu and Dorenni districts).

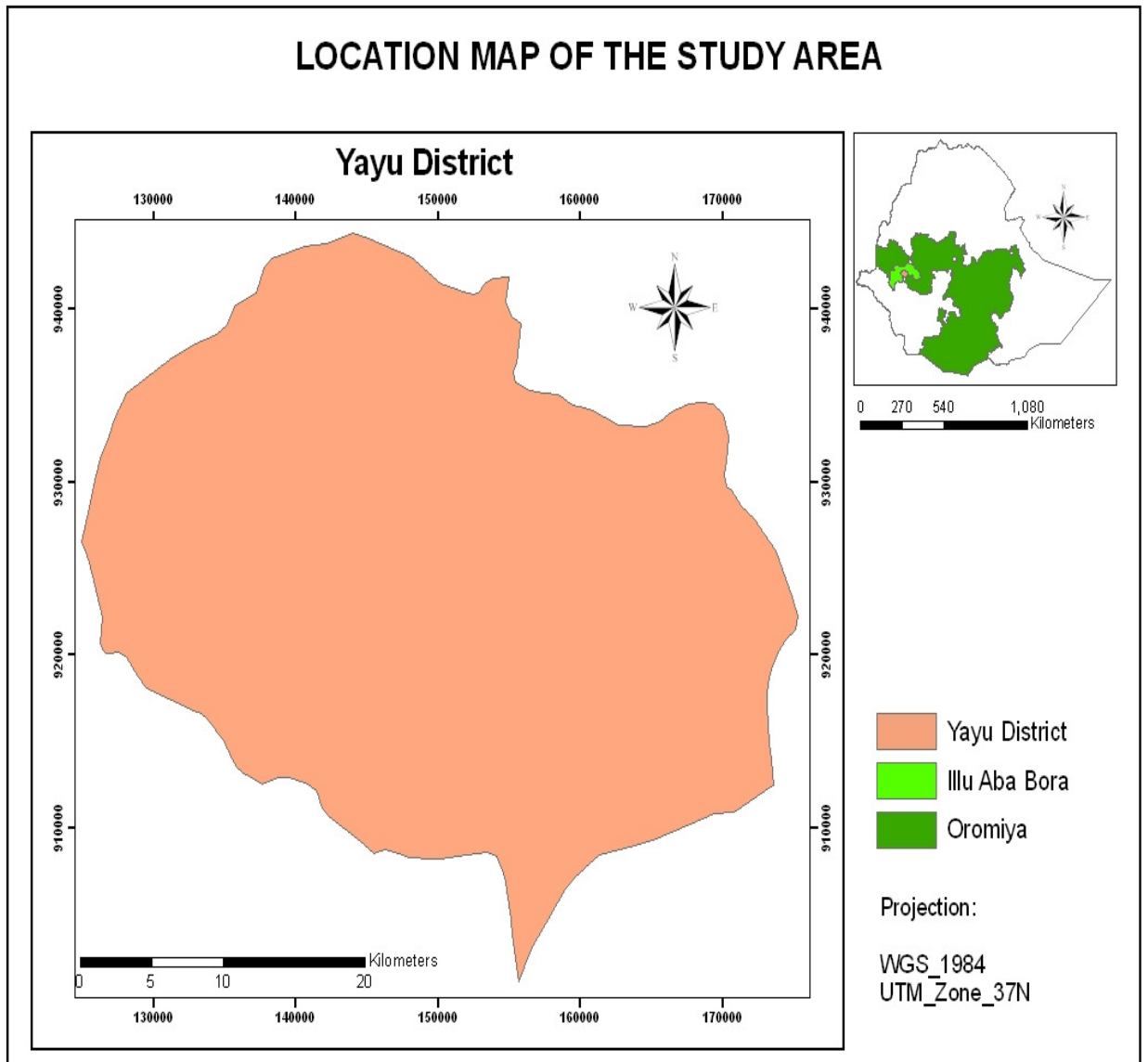


Figure 2.1. Location map of the study area

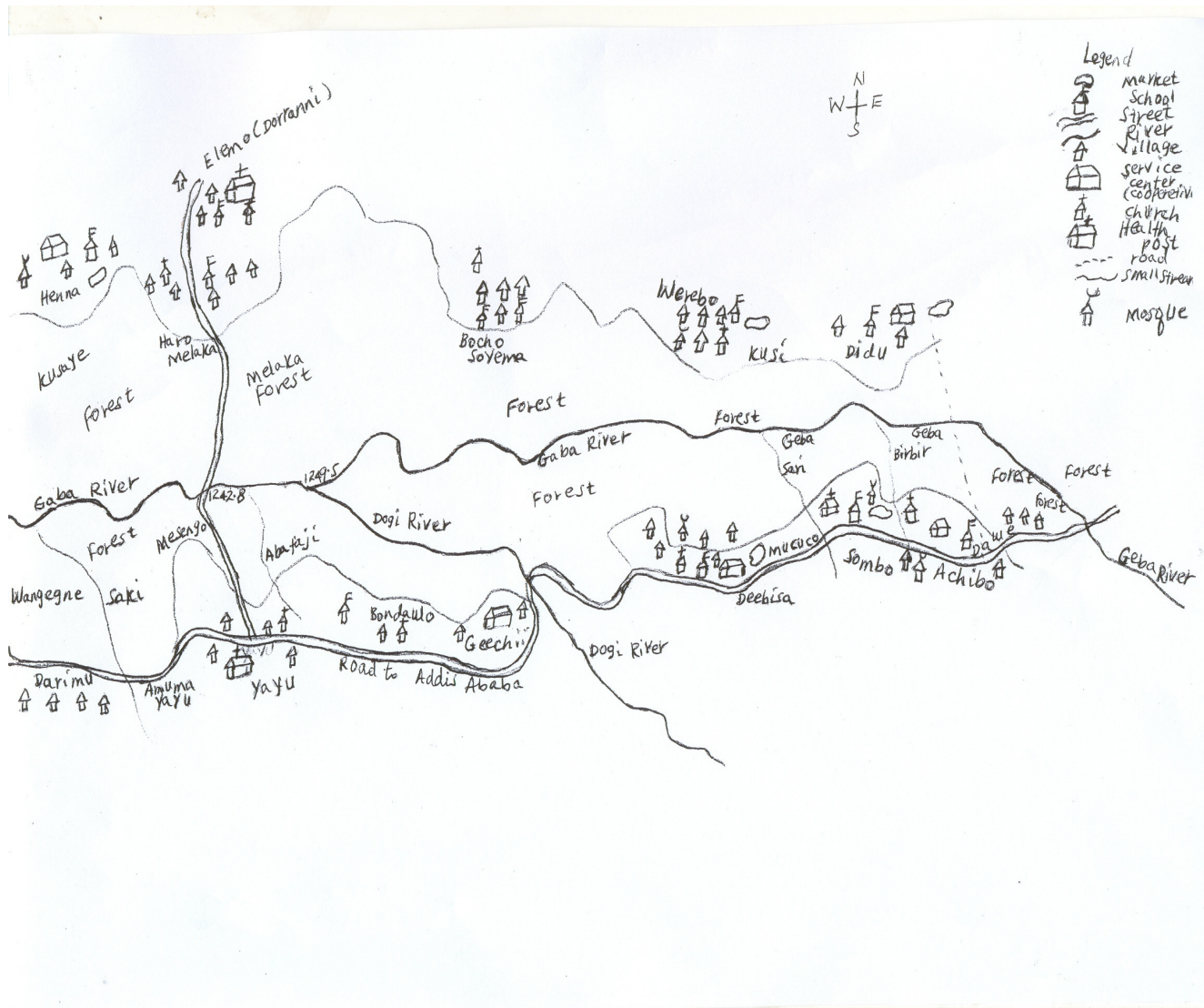


Figure 2.2. Map of Gabba-Dogi forest (crosscutting the three districts) as drawn by community representatives

As can be observed from the map, the area north of the Gaba River is administered under Dorenni district while the southern part is administered by Yayo district except very small places to the west (only two *kebeles*) that lie within Hurumu district.

Yayo [Gabba-Dogi] forest represents the largest (10,000 ha) undisturbed forest fragment kept for the conservation of wild *Coffea arabica* population earlier identified as a potential coffee gene reserve (Gole T.W., 2003:2).

Topographically, deep river valleys (dissected by *Gabba* and *Dogi* rivers), gorges, escarpments, ridges and rolling sceneries and hills characterize the study site. The major part of the locality consists of rising and falling plateau. In areas where there

are no deeply incised valleys, the territory is rolling with a pattern of small rounded hills and ridges, usually forested but sometimes cleared and cultivated. The altitude of the district ranges between 1139.2 and 2581.9 m.a.s.l; the lowest altitude is found at *Gaba* River and the highest is on the top of *Sayi* Mountain (2,581 m.a.s.l) in *Keresi*. The districts have hot and humid climatic condition. The mean annual temperature is about 23⁰c ranging between 18.59⁰c mean minimum annual temperature and 27.88⁰c mean maximum temperature (YDRADO, 2005:10). The physical conditions and variations in altitudes have resulted in a great diversity of climate, soil and vegetation. This, in turn, has brought about the evolution of many plant species with large diversity (EDE, 1991:1).

The rainfall pattern of the districts varies annually from 1,191.6 to 1,960.7mm showing variations from year to year. It is a unimodal type of rainfall that increases from May to October and declines in November.

The three districts have three climatic zones: These include 3.5 percent (5750.4 hectares) highland (*badda*); 85 percent (138465.85 hectares) temperate (*baddadare*) and 11.47 percent (18684.75 hectares) lowland (*Gammoojji*). Such diverse climatic conditions and habitats partly contributed to the occurrence of high species diversity in plants and animals, making Ethiopia one of the 20 richest countries of the world in biodiversity (WCMC 1992 Cited in Gole T.W, 2003:35).

2.1.2.2. Population and Settlement Patterns

Yayo, Hurumu and Dorenni districts have a total population of 132, 177 (66,352 male and 65, 823 female) based on the 2007 Population and Housing Census that constitute 10.34 percent of the zonal population. Of the total population, 12, 072 (9.13 percent) live in urban areas while the rest 120, 105 (90.87 percent) live in rural areas (CSA, 2007). Based on the previous census, the district (Yayo) has an average population density of 65.9 people per km² which is comparatively sparsely inhabited in relation to 80.3 persons per km² of the zonal population density. This contributed to the highest percentage of forest coverage (58.8) in the zone as well as in the country due to its relatively lower population pressure on natural resources. Statistical abstract from Oromia Bureau of Planning and Economic Development (OBPED) reveals that the average household size of the districts is 4.5, i.e., 4.4 for urban and 4.5 for rural. Economically dependent population, which is found in the age group 0-14, comprises 43.8 percent. Those above 64 years make up 4.7 percent of the total population in the districts (OBPED, 2000:236). Despite having sparse population density, higher dependency ratio entails or forces the majority of the population to engage in unwise use of natural resources to clutch their daily subsistence. Economically active segment of the population (15-64 years), on the other hand, comprises 51.5 percent of the total population. The zonal annual population growth rate was 3.2 percent (Tafesse, 1996, cited in Gole T.W., 2003) which is one of the highest in the country, implying some level of pressure on natural resources.

Settlement patterns of the population in the district are sparsely distributed mainly over the highland areas. Lowland areas particularly both sides of *Gabba* River have very few settlements far from the river. In other words, the settlement is mainly found on the plateau surface on the small hills and ridges. There are few sporadic settlements at lower altitudes. This is mainly for the reason that, as the majority of the dwellers stated, they left their earlier settlement areas, near *Gabba* River, due to animal diseases and crop destruction by wild animals. Substantial portion of their crop is usually damaged by wild animals such as Colobus baboon, bush pigs and monkey in the relatively dense forest around the river. Wood stated that settlers were unable to build up herds in the areas they were beginning to settle because of animal disease (Wood A., 1979:53). This confirms that both the forest coffee damaged by the earlier resettlement program and the environmental situation (the prevalence of animal disease that makes life difficult for human settlement) contributed to the remaining forest coffee near both sides of *Gabba* River. This is confirmed by the informants. The roads in the settlement areas near dense forest unsurprisingly follow the ridges and hills away from the lowlands and densely forested areas with hot and humid temperature.

2.1.2.3. Natural Resource Endowment

Southwestern Ethiopia in general, Iluu Abba Bora zone, and Yayo, Hurumu and Dorenni districts in particular are well known for their natural resource endowment. With a variety of vegetations, soil types and wild animals, Yayo, Hurumu and Dorenni districts are primarily known for their vast natural forests that form the major part of “Yayo National Forest Priority Area (NFPA)”. It incorporates forests from the other four adjacent districts. The natural forest has wild coffee grown under it. There is significant amount of coffee in Yayo, Hurumu and Dorenni districts that accounts for 24.42 percent of the total forest coffee in Iluu Abba Bora zone (IZRADD, 2005:6) which is the second highest figure next to Mettu district.

2.1.2.3.1. Vegetation and Wild Animals

The forest of southwest Ethiopian is among the diverse bionetwork in the country, varying from broad-leaved deciduous woodlands in the lowlands to montane rainforests in the highlands. Studies conducted in Ethiopia (Friis, 1992 cited in Gole T.W., 2003) show that there are seven vegetation types in Ethiopia. Gole stated that four of these are found in Southwest Ethiopia: A) dry peripheral semi-deciduous Guineo congolian forest (B) transitional rainforest, (C) Afromontaine rainforest, and (D) riverine forest (Gole T.W., 2003:11). Riverine forests occur along the Gabba River from the southwestern edge at about 1450 m.a.s.l (Ararsa, *et al.* 2000:6). The montaine rainforests of Ethiopia are home to various endemic and indigenous plants (Mesfin 1991b cited in Gole T.W., 2003:35). They contain the wild gene pools of some important plants for food and agriculture such as *Aframimum* corrorima, *Coffea*

arabica and *piper capense* (Gole T. W, 2003:35). Gole further stated that *Coffea arabica* is one of the common trees in the lower stratum of small trees and shrubs below 10 m both in the afro-montane and the transitional rainforests (Ibid: 14).

2.1.2.3.2. Overview of Yayo Forest

Yayo is one of the few areas in the country that is endowed with a variety of vegetation types including few species found only in Ethiopia. Yayo forest is about 90,890.7 hectares constituting 58.8 percent of the total area of the district (YADO, 2005). It is part of Yayo National Forest Priority Area (NFPA) that covers 193,534 hectares from four adjacent districts including Yayo, Metu, Darimu, Algee and Chora (IZRADD, 2005). From the 58 National Forest Priority Areas in the country, Illuu Abba Bora zone has five National Forest Priority Areas that cover 608,396 hectares of land including the Yayo NFPA.

2.1.2.3.3. Background of Gabba-Dogi Forest Coffee Project: Specific Research Site

Gabba-Dogi forest coffee conservation project (a portion of Yayo forest) was formally established in June 2003 at the local level before it was handed over to OARDB. The project site is geographically located in Yayo, Hurumu and Dorenni districts of Iluu Abba Bora zone, Oromia Regional State. It lies between 8⁰21'-8⁰26'N and 35⁰45'-36⁰03'E along *Gabba* and *Dogi* rivers from which the name is derived.

It is selected as *in-situ* conservation area for the wild *Coffea arabica* populations based on such criteria as the presence of wild coffee populations, relative accessibility for research and management and size of the forest area. Based on these criteria, Yayo forest (which is located between 793870-830490 m E and 923320-934340 m N, zone 36) is the most accessible and the largest of the other areas (Gole T.W., 2003: 36). Coffee production is the major source of income for the majority of the local population. It is customarily harvested from wild plants in the undisturbed forest or from managed forests in the area; the non-feasibility of the landscape for other agricultural practices thus increased the feasibility of Gabba-Dogi forest coffee for *in-situ* conservation.

The forest ecosystem is endowed with a variety of plant species. The most common are *Hambabessa* (*Albizia gummifera*) *Waddessa* (*Cordia africana*), *Qararoo* (*Aningeria adolfi friedertel*), *Hogda* (*Ficus varta*), *Sondi* (*acacia lahai*), and *Alale* (*Albizia grand ibracteata*). Hence, the vegetation diversity of Yayo forest is very important for the genetic conservation of *Coffea arabica* and rare plant species. An overview of natural forest around *Gabba* River is shown below.



Figure 2.3: Overview of the natural forest

Apart from *Coffea arabica*, the Yayo forest is a habitat for different species of animals among which arboreal and species of bird are the most dominant. Anubus baboon (*Jaldessaa*), colobus monkey (*weenni*), vervet monkey (*qamalee*), porcupine (*xaddee*), fox (*waango*), hyena (*waraabessa*), bush buck (*bosonuu*), duiker (*quruphee*), birazas monkey (*chena'a*), several cats (*Iyyanii*), ant-eater (*awaal diigessa*), leopard (*qeeransa*) and bat (*simbiro halkanii*), are also among the wild animals living in the Yayo forest. Very small numbers of big wild animals such as lion (*leenca*), buffalo (*gafarsa*), bush pig (*booyyee*), and warthog (*karkarro*) also exist in *Gabba-Dogi* forest. Some of the wild animals such as anabus baboon, bush pig (*booyyee*) and warthog (*karkarro*) share substantial amount of food crops of the local community and therefore dwellers have recently been permitted to kill some of them, principally anabus baboon and monkey.

Implementation of *Gabba-Dogi* forest coffee conservation project started under the supervision of ORADB operating in four management zones since 2003. The demarcations include core zone, buffer zone-I, buffer zone-II; and transition zone. Figure 3.2 shows different management zones of *Gabba-Dogi* Forest Coffee Conservation Project.

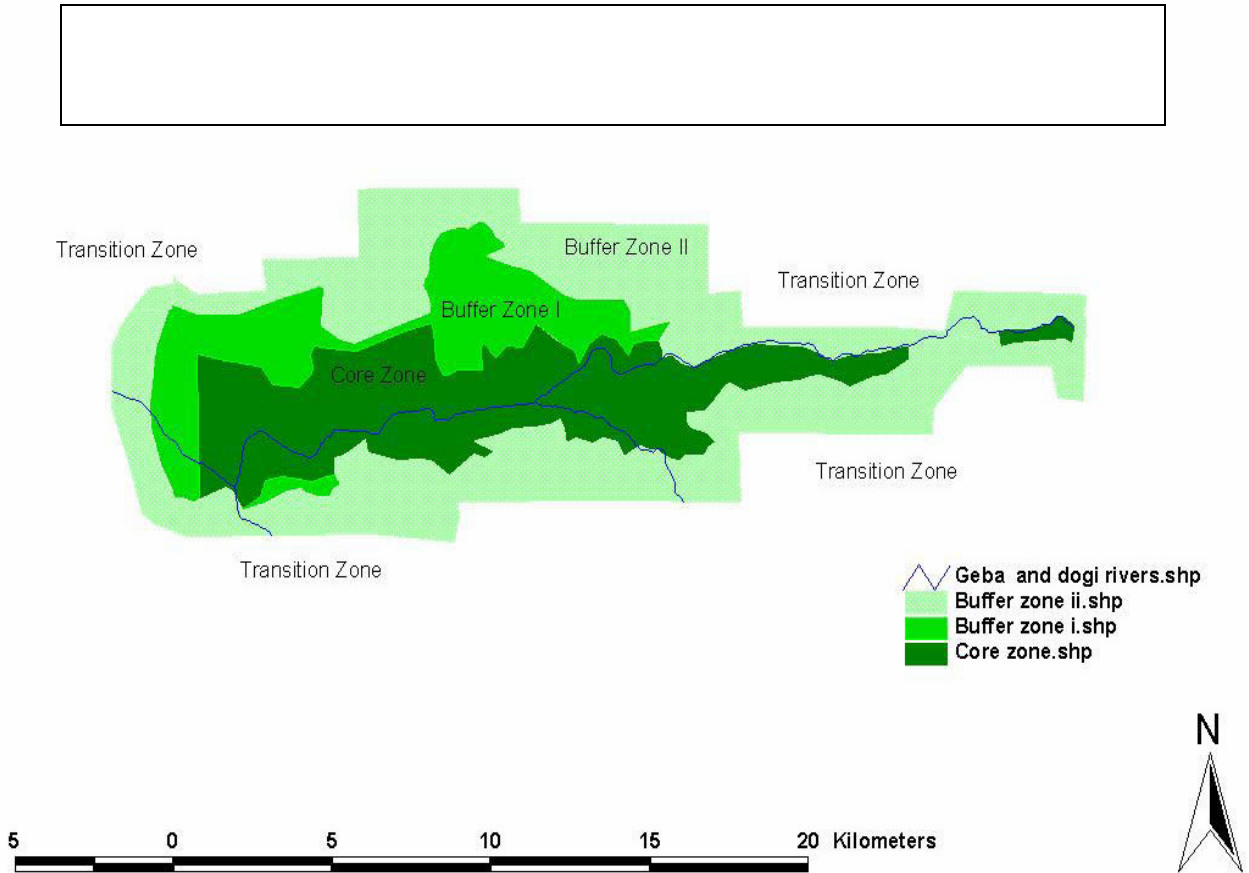


Figure 2.4: Different management zones of Yayo Forest Coffee Gene Reserve

Source: (Gole T. W., 2003b:10)

Gole described the significance of zoning as follows:

Core zones are strictly protected areas for conserving biological diversity. Activities that are allowed in this zone are low-impact uses such as education and ecotourism as well as non-destructive research. The buffer zones are clearly identified areas, and usually surround the core zones. Buffer zones can be used for cooperatives compatible with sound ecological practices, including environmental education, recreation, ecotourism and research. The transition or cooperation zones may contain settlement areas, farms and other human activities where local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests, and other stakeholders work together to manage and sustainably develop the areas' resources (Gole T. W., 2003:99-100).

Information gathered from the forest coffee conservation project shows that out of 6141 households living in the area that covers 11 *kebeles* or 32 *goxs*, 1,692 households own coffee in the buffer zones and 308 households are in disagreement about their coffee demarcated in core zones (Source: Gaba Dogi project document).

The project has an objective of forest coffee *in-situ* conservation, together with all other biological diversities living in association with coffee in their natural habitat at *Gabba-Dogi* forest site, Iluu Abba Bora zone of Oromia Regional State (ORADB, 2004:6). It intends to adopt participatory, policy-compatible and gender-sensitive approach on the basis of research outcome and indigenous knowledge systems (Ibid: 6-7).

2.1.2.4. Social Organization

The majority of the population in the study area shares similar forms of social organization and cultural characteristics. People living in *Gaabaa KA* share homogeneity in ethnic and religious background while *Achibo* and *Badessaa* (particularly *Haroo goxe*) consist of relatively some heterogenic characteristics, as there are influential numbers of resettlers from Tigray, Wollo and Gonder. This does not mean that there are extreme differences among the resettlers and the indigenous people. There is homogeneity among the host people and resettlers mainly from *Wollo* as an influential portion of both groups practice Muslim folklore and some traditional beliefs, which has been a strong bridge to share some similar indigenous institutions.

2.1.2.4.1. Kinship

Kinship is important in studying the role of institutions in various development endeavors. It is important in natural resource management as this enhances the role of institutions. For this reason, it is a social organization that strengthens societal bonds contributing to various socio-economic development activities. Kin groups, for instance, sometimes force compliance with the rules of some institutions.

Both consanguine and affinal kinship relations are widely observed among the Iluu Abba Bora Oromos. They trace consanguine kinship groups through patrilineal family that is common among the Oromo people (Bartels L., 1975:12). Hultin pointed out that the *Macha* consisted of a number of patrilineal descents and the existence of genealogical relation between (*Macha*) as a whole and the *Tulama* (Hultin, 1979:183). Likewise, the people in Yayo area reckon their kinship descent mostly from five to thirteen generations back through male links/lines. Peoples form special relations with their close and distant relatives (*firaa*). It starts from family (*warraa*) which mostly includes parents and siblings that are more often grouped in first degree kin groups followed by grandfather (*akaakayyuu*), grandmother (*akka'oo*), uncle (*eesumaa*), and aunt (*adaada*), which are grouped under second degree kinships. They further trace distant relatives with whom they have blood relatives as well as the clans they believe to have blood relation after some generations. Lineages are mostly referred to (*fira dhiyoo*). They also trace their distant common ancestors with a large group of people known as *gosaa*, which refers to clan.

The Oromos in the area trace their kinship to two major clans who came from a place in West Shoa, particularly around Ambo area called *Noonno Roggee*, as some informants stated. This concedes with Lamberts idea that, in the course of the 16th century, the Oromo moved from their homeland, probably near the *Ganale* River when the *Matcha* tribe moved westwards in

search of new land, walking in the footsteps of their cattle as they phrase it themselves (Bartels L., 1990:20). On the basis of genealogical calculations, Tesema Ta'a (1980:28) estimates that the settlement process of western Oromos was over by the 1680s (cited in Triulzi A., 1996: 251). Estimation of the informants' genealogical tracing also shows that they settled in the area nine generations before.

They trace their kinship to two major clans known as *Jahan Noonnoo* and *Torban Hadheesso* which literary means the six *Noonnos* and the seven *Hadheessos*, respectively. Gradually, the *Noonnos* developed into *Hurumuu*, *Aferson* (*Goree* area), *Matuu*, *Qrettii*, *Didduu* and *Alгаа*. The *Hadheessos*, on the other hand, developed into seven clans. One of these clans is known as *Hadheesso* itself that incorporates *Caalii Shonno*'s family whose other name is *Iluu Abba Bora* that become the name of the zone. *Lagoo*, *Bachoo*, *Sarsaroo*, *Dongoro*, *Yakunoo*, *Bodee*, *Binooraal* and *Tuulamas* represent the other clans derived from *Torban Hadheessoo*. Key informants in the study area indicated that the two grand clans (*Jahan Noonnoo* and *Torbbaan Hadheessoo*) developed further beyond their original number due to the groups' migration to the area at different times. Among the main groups remembered in Matcha traditions, Gidada (1984:92-129) listed *Mucucoo*, *Gabbato Agadi*, *Kaza*, *Daamata* and many others (cited in Triulzi A., 1996: 251). From these groups *Mucucos* dwell in *Wixete Kebele (KA)* (an area in the research site) which is also the name of the *gox* currently in that area. This confirms existing kinship ties and the expansion towards the west.

Kinship enables individual people to identify their destination and origin. The kinship system among the *Iluu Abba Bora* Oromos in general is traced through unilineal patrilineal clan family that has a wide range of similarity with the Borana Oromos. The Borana Oromos trace themselves to unilineal descent groups comprising 18 clans divided into two exogamous moieties of, respectively, 15 and 3 clans (Knutson E. K., 1967:135). The *Iluu Abba Bora* Oromos, as stated earlier, similarly originated from the two major clans named *Jahan Noonnoos* and the *Torban Hadheessos*. These are in turn divided into six and seven sub clans, respectively. This has a wide range of implications on property rights, marriage and co-operation in work, solidarity and in conflict management. Many informants in the study area agree on the fact that privileges, rights, duties, seniority, and social identity are embedded in the kinship system. However, it is difficult to clearly separate the constituents of lineage and clan as this is very diverse (Bartels L., 1990:205) and still remain the major difficulty among many societies.

Kinship is the source of some indigenous institutions. As the Oromos came from the central part of the country to the present area, elderly key informants stated that those who arrived during the first phase became *qoro*, the highest rank under the regional Oromo governance before the conquest of Menelik. *Qoro* later became the title under vice district administrators and then affiliated with feudal landlords. There is a fabulous explanation among some informants that those who came later to the area were mostly the extended families of the original comers that could get the title of *abba lagaa* that is elected by *qoros*.

Affinal kinship ties are also traced starting from neighborhood (*ollaa*), and friendships (*michuu*), while various group relationships are created through marriage and other socio-economic and cultural relations. Bartels pointed out that though in many respects people think in terms of kinship concepts of neighborhood, community and friendship, voluntary association and personal achievement often play a greater part in daily life (Bartels L, 1975:12).

All these forms of kinship groups have an impact on access to resources such as land or other natural resources and property rights. In this regard, it is stated that kinship has “far-reaching implications for economic development, attitudes toward collective or individual ownership of property, conception of legal responsibility, and reactions toward individualistic behaviour” (Asmerom L, 1973:37).

2.1.2.4.2. Marriage

Four different types of marriage are usually acknowledged among different groups in the study area. These marriage types are practised in different extent. Arranged marriage, *naqii*, *aseena* and wife inheritance are the different types of marriages or mechanisms through which marriage contract is established. Marriages in the vicinity are mainly exogamous, patrilocal and monogamous.

A. Arranged Marriage: This is the most widely practised type of marriage. This type of marriage is commonly known *cidha*. This is also a word used to describe the wedding day itself in other Oromo communities. Arranged marriage is conducted with little or no knowledge of the two partners. It is organized by parents or close relatives. Parents of the two partners make cautious mate selection sometimes in cooperation with close relatives who share common destiny because of socio-economic ties. Holcomb stated in this regard that the father is choosing not only a wife for his son but people who will become *Sodda* (in laws), that help each other in various agricultural activities (Holcomb B., 1979:108). This type of marriage is, however, currently changing its face, as partners are beginning to create some informal relationship before marriage, i.e., the partners’ role in mate selection is being enhanced.

B. Naqii: It is a type of marriage where the groom’s parents go to the bride family’s home during the evening to pass the night on the outlet of the brides’ compound. This is done on selected days mostly on Saturdays, Mondays and, in rare cases, Wednesday evenings to get the bride the next day. Various people often accompany the groom’s parents and they carry different materials to perform some rituals. They include individuals from some special clans mainly *Dagoyye* and *Badi* in Wixete and *Baddessa* areas who are resolved not return without getting the bride. Where the bride’s parents refuse to accede to the marriage request, they will risk being cursed by the guests seeking their daughter’s hand in marriage. The groom’s parent also takes a horse to tie on the outside gate and carries a moist grass (*irreessa*) and a plant (*urgessaa*) to place on the gate as a ritual. Refusal to accept the proposal may lead to cursing and social outcasting of the bride’s parent from the local community. This type of marriage is rarely practiced, however.

C. Aseena is the other type of marriage that takes place mainly in *Baddessa* area. This kind of marriage is mostly arranged with the knowledge of the two partners and the groom’s parents. The bride is oftentimes encouraged by a woman in the neighbourhood who, acting on behalf of the would-be groom, persuades the girl to accept the groom’s proposal for her hand in marriage. After agreement is reached, the bride consents to sneak out of her parent’s house to go to a place pre-arranged by the groom and the middle woman to pave the way for a willful abduction.

D. Inheritance: Marriage of this kind is rarely practised among the Muslim community in the area. It takes place in families where one of the sons dies leaving his wife behind. In this case a brother of the deceased son inherits the wife. This arrangement is done in an informal manner

and the whole purpose is to ensure the social and economic security of the family. Polygynous marriage is also rarely observed in the study area although it is becoming increasingly outdated. Almost all the marriages practised in the area are patrilocal bearing a great impact on the exercise of property rights and the participation of women in resource management.

2.1.2.4.3. Religion/Belief System

All the societies in the study area believe in the existence of a Supreme Being whom they call *Waqaa*, the creator of everything in the universe. They are mainly followers of Christianity (Orthodox and Protestant) and Muslim religion. A sample survey of household religious composition indicates that 71.7 percent of the households are Christians and 28.3 percent are Muslims. Many of them also practise some traditional beliefs such as *qallu* institution; *abdaari* (*qollo*) etc, hand in hand with the major religions. Traditional beliefs serve as a base for the compliance of the majority of the rules and punishments of many indigenous institutions. The way the rules of indigenous institutions are enacted and implemented until now is mainly based on the traditional belief system and the indigenous knowledge of the local community. Cursing (*abaarsa*), swearing (*kaka*) involving various practices and rituals; and identifying and exposing offenders or violators of rules of indigenous institutions are considered part of traditional belief systems.

Information gathered through different mechanisms shows that religious institutions, in general, were very significant in the operation of many indigenous institutions. The influence of government-led formal institutions at local level and the interference of external socio-cultural and economic practices, however, significantly reduced the value of these religious institutions. Nevertheless, they still play a part in the activities of indigenous institutions.

2.1.2.4.4. Local Institutions

There are local institutions, both formal and customary/informal/indigenous, having a crucial role in the livelihood of local dwellers. This can be categorized into state-formed formal institutions and indigenous institutions that are principally based on the indigenous knowledge and/or long experience of local people. Indigenous institutions in the area are categorized into territorial-based administrative indigenous institutions, self-help work organizations, religious institutions and indigenous knowledge of forest coffee conservation and use (Zewdie J., 2005).

There are various indigenous institutions that are directly or indirectly involved in forest coffee conservation as well as other natural resource management activities. *Qoro*, *abba lagaa*, and *abba bokku* are heads of the Oromo indigenous institutions existing until the coming of the *Derg* regime. *Tuulla*, *xuxee* and *shane* are the other territorial-based indigenous institutions that operate in descending chain of command under the *Abba Lagaa*. Teklu, (2006) also identified different coffee forest management institutions found at different levels. He categorized institutions into politico-administrative structures, organizational structures and community-based local organizations. Politico administrative structures include *Wereda* administration, *kebele* administrations and development teams. Organizational structures, on the other hand, include agricultural and rural development coordination offices, agricultural cooperatives, civil society groups and special purpose committees. Religious organizations,

conflict resolution organizations, rotating credit and saving organizations, labour-based work organizations and oxen sharing organizations are the major community-based local organizations he identified (Ibid).

2.1.2.5. Livelihood Strategies

Agriculture that embraces both crop production and animal rearing is the major means of subsistence for the society in the study area. Their economic subsistence can be categorized into crop production and animal rearing. These can be depicted as cereal crop production, coffee production, use of minor forest products, and animal production including cattle rearing, beekeeping and wild animal rearing from which few benefits are obtained. The statistical abstract compiled for the former Yayo-Hurumu district Rural and Agriculture Development Office (YDRADO) shows that crop, animal and coffee production account for 51 percent, 14 percent and 30 percent of the total production in the district, respectively. The remaining 5 percent of the production is covered by *chat* growing and other agricultural production activities (YDRADO, 2005).

From the above figure, it is possible to argue that agriculture is the mainstay of the population in Yayo, Hurumu and Dorenni districts. YDRADO reveals that 94 percent of the populations make their livelihood based on agriculture while trade and daily labour serve 6 percent of the population as a means of subsistence. From the total population whose livelihood is based on agriculture, 98 percent are coffee producers.

Animal rearing is the other means of subsistence for the people in Yayo, Hurumu and Dorenni district. There are over 87,292 cattle, 26,043 pack animals and 53,843 chickens in the districts (Ibid). The wide prevalence of animal disease in the districts is the foremost problem that has impact on agricultural productivity of the area. The majority of informants indicated that farm oxen die of diseases within one or two years. This brings a negative impact on agricultural activity in general and on animal production in particular. Relatively better income from coffee production is the major coping mechanism with a high rate of animal death due to disease, for instance, through earning income to replace lost farm oxen.

Maize, sorghum, *teff*, and wheat are the main cereal crops commonly grown in the district. This has an impact on wild coffee conservation practices in the area as it sometimes involves illegal deforestation to expand farmland for cereal crop production.

Forest and forest related production systems are the other means of subsistence for the society in the three districts. Forest coffee or wild *Coffea arabica* is one of the foundations for the economic subsistence that grow under the natural forest canopy. Yayo district has the highest percentage of forest coverage compared to the other districts in Ethiopia. It has the greatest amount of forest coverage far beyond the percentage for the southwestern part of Ethiopia (18 percent) and that of a country as a whole (2.7 percent) (Tafesse, 1996; cited in Gole T.W., Denich M. and Teketay D. and Vlek P.L.G2002). This makes production of managed as well as wild *Coffea arabica* under the natural montane, riverine and transitory forest canopy very attractive.

Beekeeping is the other source of income. Research conducted in the adjacent district, included under one NFPA with *Gabba-Dogi* i.e., Yayo NFPA (Ararsa R, *et al*, 2000), revealed

that 92.6 percent of the population in the study area have coffee in the forest (Ararsa R. *et al*, 2000:57) from which 57.3 kg of honey on average is harvested per household per year (Ibid: 19).

Wild animals that dwell in the forest significantly supplement the subsistence of the society. Bushbuck (*bosonuu*), duiker (*Quruphee*), bush pig (*booyyee*), etc are among animals, which dwellers used to hunt selectively to meet their food requirements.

Various timber and non-timber products also considerably contribute to means of livelihood both in cash and in kind. People depend on forest products for timber in house construction as well as for sale mainly before land was demarcated in forest coffee. They also depend on non-timber products such as different climbers (*hidda*) for various purposes such as fencing, house and beehive construction.

As a whole, the population of *Yayo* district depends on crop production, animal rearing and various forest products for livelihood. In other words, agricultural production activities include crop, livestock, coffee, and honey production as well as the use of forest products form the basises of livelihood.

2.2. Methodology of the Study

2.2.1. Field Work

The first step in field work consisted of a preliminary field visit conducted with the aim to design possible approaches of the study and familiarization with field tools. The next step consisted of designing different data collection tools, steps and procedures based on the preliminary visit and previous experience with research problems identified as a gap. The two methods were then identified as primary and secondary sources of data collection.

Secondary sources of data collection primarily consisted of journals, articles and books related to resource management, mainly forest. Journals published by forestry and institutional researchers are widely used. The research also extensively used various forms of legal documents including policies and proclamations and official documents such as reports, guidelines, objectives, job descriptions and organizational structures.

2.2.2. Primary Data Collection

Various forms of primary data collection techniques that involve both quantitative and qualitative approaches were used. In analyzing the institutional setting at different levels and the issues of conflict that include its cause, nature and management approach, qualitative data collection methods are used while quantitative data are used to gather data on the incentives and disincentives in the rules currently governing the protected area. Participatory rural appraisal techniques (PRA) such as interviews (unstructured or in-depth and semi-structured) of key informants, focus group discussion, direct observation, and household survey are the main techniques used in the primary data collection. In-depth interview was conducted with experts and professionals at different levels, administrative staff, community representatives, elders, traditional leaders and farmers.

2.2.2.1. Interviews

The research employed mainly semi-structured and unstructured interviews which also used to supplement the ideas and questions designed in the household survey. Different forms of interviews were conducted with 58 respondents chosen mainly from six villages and from different levels and offices. According to Bernard (1995), a sample size in the range of 30 to 50 is sufficient for exploratory and in-depth work (Yasmi Y., 2003). The research thus employed unstructured or in-depth interviews that foster a holistic understanding of the interviewees' point of view or situation (Dawson C., 2002). Interview schedules were also prepared for semi-structured interviews mainly during the last phase of the field research. Different forms of interviews contributed significantly in obtaining first hand data on many of the crucial issues pertinent to the research. Many of the informants represent a cross-section of the society with their different views on the coffee forest, people, and issues related to the institutional aspect of the study. As a result, the interview included professionals and experts from federal, regional, zonal and district and *kebele* offices. Ordinary farmers or forest users, local leaders, elders and heads of traditional institutions are also interviewed. Heads of some institutions at different levels are also interviewed mainly in attempts to explore the structure, objectives and links of their institutions with the people and the coffee forest. Interviews are conducted on different institutional structures, linkages, contentious property right issues at different time, etc.

Key Informants interview

Key informant interview is qualitative in-depth interview with people who have deep knowledge about the community. As the name indicates, key informant is any person who can provide elaborate information and opinion based on his rich and may be long experience on the topic or a particular issue. People who are supposed to know some

particular issues in depth due to their specialized knowledge have been approached as key informant. These are people with deep personal knowledge or experiences gained as a result of their particular social position or because of professional training. They are selected from diverse backgrounds so that information that can address the ideas of the target society will be secured.

Key informant interview has been used to get information on pressing and problematic issues related with the use and conservation of coffee forest. It was also employed to understand the belief and the motivation of the community on the issues of the protected area. Key informants are selected based on information obtained from the people about their knowledge and experience on different topics of the study. It helped to obtain information from people with diverse backgrounds through in-depth probing process.

2.2.2.2. Focus Group Discussions (FGD)

Focus group brings 7-12 people on average to discuss issues under study and to obtain perceptions, opinions, and attitudes of the people with common characteristics on the research topic (Kleiber P. B., 2004). The interaction of the group stimulates people to think beyond their private thoughts (Ibid). Eleven (11) focus group discussions were conducted to gain ideas of the informants on debatable issues such as property right systems existing before and after the demarcation. It also helps to get views and experiences of the informants on the topic as well as several perspectives on the same topic. FGD also helps to gain peoples' shared understanding of every day life (social research update, 1997). The main reason for using the focus group discussion is to gain understanding on the "respondents' attitudes, feelings, beliefs, experiences and reactions" (Ibid) which cannot be obtained through other methods.

Focus group discussions were conducted mainly with local community members participating different social group activities during which they were asked for their views on different issues. It included women, men, elders and knowledgeable people. Group discussions were also held with representatives of some stakeholders involved in coffee forest management or use and conservation including district ARDO, Justice Office, Gaba Dogi Project, District administration and Police office in order to analyse conflict situations in the area mainly using the 4Rs approach. Also participants in the focus group discussions were youths, elders and women from all groups of the society in order to get different views from different section of the community on different issues. The study employed both medium and large group discussion where a range of ideas on different dimensions of the coffee forest management at different times was thoroughly explored. Nearly two FGDs are conducted on the *kebeles* identified as the targets of the research. Of 11 *kebeles* that the coffee forest is adjoining, six are used as a main research site as they are supposed to provide information that is representative of the whole population in the study area. See the pictures/plates below for FGDs conducted at different times. The FGDs shown below are those conducted in Waangegne, Achibo, Badessa and Gaabaa in that order.



Figure 2.5: Participants of the FGD at different time and place

Stakeholder identification and analysis was also conducted during the last phase of data collection. This was targeted to analyze the causes and management approaches of conflicts that arose in the coffee forest management process. Group discussions and rating of different issues of conflict in a matrix was also conducted in two *weredas*.

In the identification and analysis of the stakeholder's affectedness by the conflict, the power of each stakeholder, alliance among stakeholders and the proximity of different stakeholders to the conflict issue, all participants of the discussion indicated these issues on the flip chart following discussion among themselves. After reaching some consensus, participants (representatives of the stakeholders) indicated these issues on the flip chart. In the analysis of the nature of conflict, different stakeholders participated in rating the rights, responsibilities and returns based on their mutual consensus after thorough discussion. This has been done as an exercise on two districts (Yayo and Dorenni) and the average rating was taken or recorded for each stakeholder on 3Rs. Similarly, on the 4th R, stakeholders made a graph in which they schematically showed their ideas on flip chart regarding the relationship among different stakeholders.

2.2.2.3. Direct Observation

Participant observation helps to gain deeper understanding of the behavior, motivation and attitude of the people being studied (Dawson C., 2002). Participant observation was conducted to observe how the life or the means of subsistence of the communities in forest area is linked with the coffee forest and their response to the exclusionary conservation measures through different angles. I partially participated in the culture and the context being observed. However, most of the time I was not participant observer as I didn't become participant in some contexts, Instead, I was watching and not taking part in many of the activities carried out by the informants. Direct observation focused mainly on certain contexts and issues unlike the totally immersed situations of the participant observation that takes much more time than the direct observation.

Direct observation is a situation where the researcher observes more than taking active part. Direct observation helps to observe the people and the research agenda in their natural setting without influencing the people by the presence of the researcher (Taylor-Powell E. and Steele S., 1999). Direct observer doesn't try to become a participant in the context. It enables the researcher to study more than a single individual and the interaction of the group. It was done mainly through walking around to observe what is going on in transition, buffer and core zones that can show how the society is currently interacting with the coffee forest ecosystem. Using this technique, I was able to observe how the community is currently using different portions of the coffee forest. It was also essential to observe how the community members are sustaining themselves and the available options of livelihood.

As seeing and listening are key to direct observation, I have tried to see and listen to different affairs of the study community, both intentionally and unintentionally. Direct observation was also used as a tool to confirm many of the debatable issues discussed during the group discussions and interviews mainly with local resource users or the community.

2.2.2.4. Household Survey

Household survey is a method of collecting data about human population. Before undertaking the survey, a pilot survey or pre-testing was conducted on 12 households that helped to adjust questionnaire and to use the pilot survey in sample size determination. Based on (Levey and Lemeshow, 1999:74), the sample size for systematic random sampling (SRS) is determined based on the formula developed from the total population³ of N=1794. Out of the total number of 1794 household who have direct contact with the

³ However, total households in all the 11 *kebeles* adjoining the coffee forest including those who do not have coffee forest in the demarcated areas (both buffer and core zones) are 6732 (5879 male & 935 female households)

coffee forest, 180 households, nearly (10%) of the total population, were selected as the sample size that can adequately represent the total population.

Sample households were selected through a combination of systematic and simple random sampling. They were drawn from six of the eleven *kebeles* adjoining the coffee forest. The samples were taken from ten villages (*gots*) of the six *kebeles* bordering the coffee forest. The names of the interviewed households were selected systematically from the list of the households who have coffee forest in the area.

The major aim of the household survey is to gather data on the range of core points comprising households' participation in the activities of different traditional institutions, coffee forest property right, ownership after demarcation, households' harvesting of forest products, the households' need to harvest; their participation in conservation and regeneration activities, and impact of demarcation on wild coffee productivity. The household survey was also intended to know the attitude of the households towards the rules and the demarcation, their participation in rule making, their willingness to reduce forest consumption in favor of biodiversity conservation, agreement to coffee forest protection, etc.

2.2.3. Levels of Data Collection and Analysis

Data for the research was collected at different levels ranging from local community to federal level and from different institutions, organizations and individuals and groups. Data have been collected using different forms of interview methods. At local level, data were collected from different sections of the local community and influential figures; at district level, they were collected from experts and heads of different institutions and from similar people at regional and federal levels.

It is demanding to analyse qualitative and quantitative data. In this research, qualitative data collection and analysis were mostly conducted. Qualitative data is primarily based on ethnographic descriptions of the ideas of different informants. The analysis of this research is also extensively based on discourse analysis that leads to key points on different issues that the local community and people at different level raise. The analysis of quantitative data is based on simple descriptive statistics using SPSS.

Chapter Three

3. Literature Review and Theoretical Framework

“If institutions to govern forests are absent, unenforced, or poorly defined, the result is open access, leaving the forest in unrestricted state The future of these resources depend largely on human ability to craft new institutions, or improve existing ones for sustainable resource management from local to regional to global scales” (Trucker C. M. and Ostrom E., 2005: 82-83).

3.1. Literature Review

The literature consulted for this study mainly consisted of works providing scientific truths and current resource management paradigms relevant to the management of the Yayo/Gabba-Dogi coffee forest. These works mainly focus on ecosystem-based resource management, protected area, biosphere reserve, decentralization and participation. Some of these issues are raised due to the fact that the study site is a wild coffee protected area on which initiatives are being made to have it registered as a UNESCO biosphere reserve. Empirical portions of the study reveal that there are problems related to the absence of real decentralization and participation that are characterized by frequent conflicts among the actors and stakeholders of the coffee forest management. Some of these perspectives of resource management are recent paradigms in resource management throughout the globe mainly in developing countries. The literature also assesses the resource management approaches such as collaborative and/or co-managements identified as a way out from the current complexities in institutional arrangements. Hence, the literature is used to survey what is going on in the world and on the study site regarding issues pertinent to the coffee forest. The literature also deals with theoretical (IAD and political ecology) and conceptual frameworks

3.1.1. Natural Resource Management Perspectives: *Shift from Management by Exclusion to Management by Partnership*

There are two broad categories of arguments in the fields of natural resource management: these are the move towards people-oriented natural resource management and efforts towards a strict protection of natural resources to promote sustainable conservation of the threatened ecosystem. Supporters of the latter category (Wilshusen P. R, Brechin S. R., Fortwangler C. L and West P. C., 2002; Rangan H., 1997) argue that there is a need to reinforce the strict protection of protected areas and national parks to salvage the critically threatened habitats in many parts of the earth. Advocates of this approach tend to believe in the strict protection of natural resources to avoid the threat posed by human activities. This approach promotes the exclusionary approach. In other words, they argue that the current people-oriented approach of conserving biodiversity is more harmful than beneficial. This idea originates from failure to acknowledge the social and political dimension of natural resource management. They advocate for the renewed

emphasis on the strict protection of national parks and other protected areas as they are viewed as the last remains of secure heaven to the large territory of ecosystem. Hence, (van Schaik et al. 1997, 64 cited in Wilshusen P. R, Brechin S. R., Fortwangler C. L and West P. C., 2002) argued that protected areas require strict protection. The proponents of this approach assert that conservation linked to development does not protect biodiversity and ecologically friendly local communities are myths (Wilshusen P. R, Brechin S. R., Fortwangler C. L and West P. C., 2002: 26 and 31). In general, they state that people-oriented approaches to conservation are usually seen as failure.

On the contrary, many scholars argue in favor of real decentralization of state-owned forests and other resources saying that state ownership is a major source of resource degradation. One sub-group known as eco-populists advocate that people have to gain full control over commons while neo-liberalists prescribe market-driven solutions. In the final analysis, both groups argue that the government has to withdraw from the sphere of natural resource and environmental management (Rangan H., 1997). The argument is that people-centered conservation is more effective and important for sustainable livelihood and conservation of natural resources (Enters T. and Anderson J., 1999; Badola R., 2000) as it involves local people as active partners. They further argue that top-down exclusionary management has been replaced by forms of participation and devolution. In other words, the local community's indigenous knowledge and culture are getting acceptance in the face of contemporary resource management practices. Here it is essential to recognize that top-down and exclusionary approaches go together just like the participatory, ecosystem-based approach and decentralized systems have strong links and similarity.

This researcher and other researchers like (Rangan H., 1997; Enters T. and Anderson J. 1999) do agree with neither of the above two groups of scholars. Entirely community-centered biodiversity conservation may be just as insufficient as totally government-centered system of resource management (Enters T. and Anderson J. 1999). This is mainly due to the reason that both approaches are problematic as natural resource management issues are shaped by the interplay of social, economic, political and ecological factors at local, regional, national and international levels. Hence, the best option for contemporary conservation efforts is to design ecologically-sound, politically-feasible and socially-just programs that can incorporate both the social and biophysical dimensions of resource use and conservation.

3.1.1.1. Ecosystem-Based Natural Resource Management

Some scientists believe that the field of natural resource management is at the center of paradigm⁴ shift (e.g., Cortner and Moote 1994 quoted in Imperial M. T., 1999). In the United States of America, the shift was accelerated from individual resource management

⁴ The new paradigm actually covers many aspects or attributes of resource management such as decentralization or devolution, participation, ecosystem approach, protected area, collaborative resource management where all attributes agree on the principal objective of granting forest management rights, responsibilities and decision making power to the local people along with its benefits.

towards the broader perspectives of ecosystem management and collaborative decision making and resource management (Imperial M.T., 1999). There is a tremendous move towards the expansion of ecosystem-based resource management in the United States of America. A broad move in the management of natural resources is explicitly/practically noticed since 1992 when the American Forest Service Agency adopted the ecosystem approach. Ecosystem is an approach adopted as a response to the prevailing biodiversity crisis (Grumbine R E., 1994). It is a response to the failure of the existing management approach in 1990s (Butler K. F. and Koontz T. M., 2005). It is not only a change in scientific practice but also a change in social and political practice. Grumbine states that “ecosystem management integrates scientific knowledge of ecological relationships within a complex socio-political and value framework toward the general goal of protecting native ecosystem integrity over the long term” (Grumbine R E., 1994:31). Cortner and Moote (1999) described ecosystem management as comprising of four ideas that include socially-defined goals and objectives; holistic, integrated science, adaptable institutions, and collaborative decision-making (quoted in Butler K. F. and Koontz T. M., 2005). Grumbine, on the other hand, identifies ten important themes of ecosystem management that encompass historical context, ecological boundaries, ecological integrity, data collection, monitoring, adaptive management, interagency cooperation, organizational change, human embedded nature and values, (Grumbine, 1994: 30-31). According to these writers, people-centered bottom-up move toward decentralization approach is gaining ground in the new paradigm shift (Beiyaminsen T. A., 1997). As a result, scientists, government practitioners and environmentalists are supporting the decentralization and collaborative ecosystem-based approaches of natural resource management (Imperial M.T, 1999). That is why (Enters T. and Anderson J., 1999) state that there is a developing awareness that the solution to the ecosystem problem rests on social, cultural and economic systems which initiated a new paradigm and which does not consider people as a part of the problem; they rather consider it as part of a solution. The major question that needs to be responded is: how do protected areas (including the subject of this study) need to be managed based on this perspectives of resource management?

Ecosystem is one of the approaches of biodiversity conservation that involves working towards both ecological and social goals (McCance E., 2003). What makes ecosystem-based approach important are its qualities described by (Slocombe 1993b: 296). He argued that the common characteristics of an ecosystem-based approach are that it ‘is holistic, interdisciplinary, goal-oriented, participatory, and aimed at getting people to realize that people are part of the ecosystem—not separate from it’ (Slocombe 1993b: 296 quoted in Imperial M.T, 1999). However when the concept of ecosystem approach and collaborative decision making take hold, there is an expected challenge to this approach as it requires institutional and administrative design. Broadly observed, ecosystem management is a mechanism of improving natural resource management through changing institutional arrangements and strengthening coordination between organizations (public, private non-profit) that comprise inter-organizational network (Imperial M.T, 1999).

To sum up, the new paradigm shift in natural resource management is a move towards the ecosystem-based Natural Resource Management (NRM) that involves collaborative, participatory, bottom-up or decentralized approaches that center around people's livelihood in a way that reconciles the social, political, and ecological situations.

3.1.1.2. Protected Area

Protected area, as defined by (IUCN, 1994), is 'an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources, and managed through legal or other effective means' (Locke1 H. and Dearden P., 2005; Phillips A., 2003). The definition used by the Convention on the Biological Diversity (CBD) is different: it is a "geographically defined area which is designated or regulated and managed to achieve specific conservation objectives" (Article 2) (Phillips A., 2003). Protected area is a means to an end or towards the maintenance and the conservation of wild biodiversity before its destruction by competing human activities (Locke1 H. and Dearden P., 2005).

Protected area is one of the many approaches for the conservation of different natural resources. Many scientists argue that protected areas have to follow a new approach in order to meet the need of the community in the 21st century. Protected areas are very important for many reasons that include biodiversity conservation, watershed protection, storm protection, tourism and recreation, soil conservation, carbon sequestration, research, and protection of cultural values (Jeffrey A M., 2008) though some of these benefits can be obtained from unprotected and degraded areas. The international Conservation Union (IUCN) identified a list of protected area categories that range from one through seven, of which the first six are designed for biodiversity conservation (Rodgers A., 2003; Locke1 H. and Dearden P., 2005). The management plan of many of the Protected Areas (PAs) in tropics and elsewhere follows the principle of zonation that allows differential resource use and conservation. It is usually followed by the principle of UNESCO concept of Man and Biosphere reserve (MAB) and is the underlying principle behind many core and buffer zones (Rodgers A., 2003).

The major activity in managing protected area has to focus on setting the main objective of the protected area at all levels mainly at system/national and site (local) level; setting the objective helps to determine "who gets what benefits, and who pays what costs at what scale". This is a political process that should involve dialogue with key stakeholders including landowners, scientists, local communities, NGOs, and the private sector (Jeffrey A M., 2008). The major focus in the management of protected area needs to rest on the way support will be gained from the local community. At any cost, local communities have to be consulted on decisions affecting their life and building appropriate channels that enable the local people to get benefits from the protected area. It also helps to get and maintain their positive attitude and relationship between protected area and the local community.

Research findings indicate that the main problems affecting the communities in and around the protected area are related with problems of socio-economic origin like poverty, land tenure, and equity; they also involve national-level concerns such as land use, and resource management and global concerns such as biodiversity, climate change, and generation of new knowledge about the living world (Jeffrey A M., 2008). Experience from India shows that very little of the protected areas (PA) are sustainable both ecologically and sociologically as there is a big conflict between the people and the conservation agents and when vegetation is not regenerating (Rodgers A., 2003). The current principle suggests the need for the participation of pertinent stakeholders that can comprise partnership between all government stakeholders at all levels, private sectors, non-government organization and communities (Rodgers A., 2003; McNeely J. A., 2008). The relationship between PA and the local people is not influentially explored in the Ethiopian context.

Scholarship on the protected area faces two extremely contradicting views on the management of the protected areas. On the one hand, there is a swift urge to involve the local community in the conservation and use of protected areas so as to sustain community livelihoods, achieve sustainable conservation as well as to maintain positive relationship with the local community. On the contrary, there are those scholars who argue that the changing paradigms in the PA management mainly the increase of social science input or the humanized PA approach is at the cost of eroding wild biodiversity (Locke1 H. and Dearden P., 2005). Nevertheless, the former approach is getting wider acceptance throughout the world as is evident from the ideas forwarded by different scientists and activists.

After the IUCN portrayed the new paradigm, it became the focus of the 2003 World Park Congress that brought a shift in the focus given to wild biodiversity. The new paradigm undermines conservation biology and the need for strict protection. It places people at the center of the PA conservation that erodes wild biodiversity conservation (Locke1 H. and Dearden P., 2005). In other words, there is a need for more inputs of social scientists to build the relationship between the community and the PA which somehow leads to the devaluation of the need for biologists. It was also argued that the “new paradigm”⁵ leads to biologically-impooverished planet as it gives priority to the humanized protected areas (Locke1 H. and Dearden P., 2005). The old paradigm of the protected area is based on the exclusionary principle that violates the indigenous, human and constitutional rights of the people. On the contrary, the new paradigm of PA conservation and management is based

⁵ The new paradigm of the protected area which became the agenda of discussion on the Durban Park Congress held from 18-18, September, 2003 is ensured indigenous peoples’ and local communities’ right, that also upheld in the planning establishment and implementation of the protected areas.

on the right-based conservation approaches that recognize the human, constitutional and indigenous right of the community (Rambaldi G., 2008)⁶.

The way in which this is put to the benefit for the local people living around the protected area usually depends on the management aims of the protected area (Hockings, 2000; Lockwood et al., 2006 quoted in Jeffrey A M., 2008). The support provided by the local community in protection is maintained only as long as they continued to get benefit from the protected area (Jeffrey A M., 2008) especially in terms of products such as animal skins, construction materials, fibers, firewood, fodder, fruits, game meat, honey, medicinal plants, ornamentals and timber. The Durban Congress underscored the need to give bigger attention and priority to the local poor community living in and around the protected area (Jeffrey A M, 2008).

In efforts to ensure sustainable conservation of protected areas, there is a need to understand the political, ecological, economic, social, and cultural values of the protected area and the establishment of appropriate institutions to manage the protected area in cooperation with concerned stakeholders. There is also a need to ensure equitable flow of benefits to the protected area and the surrounding community. Ensuring the flow of information for its management both from the traditional knowledge of the local community and the modern science is also required.

In theory, the conservation practice of the protected area in Ethiopia supports the sustainable use and conservation of biodiversity in the protected area. In practice, it is quite different as it is based on the exclusionary principle of the protected area that contributes to efforts to maintain perilous relationship with the local community. The major problems facing protected areas need to be tackled through the establishment of institutions at appropriate level with appropriate role. Diversity of institutional approach is needed by the protected area system (Jeffrey A M, 2008). The question that needs a response is: how and what kind of institutions need to be established?

Literatures illustrate that protected areas are forms of arrangement designed to improve forest condition and to enhance biodiversity conservation. However, it is not the only mechanism or alternative institutional arrangement for effective forest conservation. (Ostrom E., 1999; Hayes T. and Ostrom E., 2005) showed that many conservationists are reluctant to step outside the confines of the protected area model and explore alternative institutional arrangements for forest management. However, protected areas often failed to engage in positive relationship with local residents and with indigenous peoples though they need to complement local rule enforcement to be more effective. This mainly resulted from the principle of protected area that require shielding the area from people living adjacent to them that often lead to hostile relation with the local people (Ongugo,

⁶ It is an introductory paper posted by Giacomo Rambaldi , for Annual Meeting of the Association of American Geographers Las Vegas, Nevada; March 22-27, 2009. On PGIS/PPGIS del.icio.us bookmarks. November 09, 2008

P., Njguguna J., Obonyo E. and Sigu G. (n.d). This forces local people to lose secure property right that also forces them to lose incentives to protect the resource as they did in the past, which in turn forces them to focus on short-term benefit from the forests leading to deforestation (Meroka P, 2006). Research conducted in this regard shows the need to create participatory harmonious relationship between protected areas and the local community (Hayes T. and Ostrom E., 2005). The IFRI forest study shows that, on average, protected areas that do not allow forest users to make rules are ranked lower in vegetation density. This research thus needs to assess how to craft participatory rules that helps to manage the protected area.

3.1.1.3. Biosphere Reserve

The scientific ground for the conservation of natural resources since the beginning of the Man and Biosphere program MAB in the late 1960s is rooted in the formulation of the concept of biosphere reserve. The network of the biosphere reserve was established in 1968 as one of the program areas of the Man and Biosphere reserve of UNESCO; it operates through the independent committee established in all the participating countries (Fletcher S. R., 1997). It was launched to establish the scientific base for the relationship between man and nature. Biosphere reserve is a special place where a variety of different international agreements addressing convention of biological diversity such as Convention on Biological Diversity, Ramsar Wetlands Convention, the Bonn Convention, the European Directives etc., are implemented (Bioret, F.; Cibien, C.; G&tot, J.-C.; and Lecomte, J., 1998).

The IUCN categorization of protected area in 1978 identifies the biosphere reserve as a protected area category. Later it was excluded from the categories of protected area in the revised version of the Protected Area (PA) in 1994 (Stoll-Kleemann S. and Job H., 2008). It is based on the idea that biosphere reserve is not solely based on the primary goal of biodiversity conservation (Stoll-Kleemann S. and Job H., 2008). Biosphere reserve is a special kind of protected area. Or biosphere reserve is much more than the protected area as they have become an actual area for portraying the principle of sustainable development (Jardin M., 2008). There would be no change in the management of the biosphere reserve and it will continue as it was before its recognition as a biosphere reserve (Fletcher S. R., 1997). The absence of legal status, the zonation system, and being a part of (organized as) networks are some of the attributes of the biosphere reserve (Bioret, F.; Cibien, C.; G&tot, J.-C.; and Lecomte, J., 1998).

The management of the biosphere reserve began to take shape at the international level with the issuance of two management texts that govern the world network of the biosphere reserve adopted at the UNESCO General Conference in 1995: *The Seville Strategy* and the *Statutory Framework*. Prior to that, biosphere reserve was simply a project in MBP initiated program in the late 1970s (Jardin M., 2008).

There are three major objectives or functions of the biosphere reserve. These comprise biological and cultural diversity conservation; providing models of land management and experimental sites for sustainable development; and serving as a place for research, education, environmental monitoring and research (Bioret, F.; Cibien, C.; G&tot, J.-C.;

and Lecomte, J., 1998). The success of the biosphere reserve depends both on socio-cultural and ecological factors. It is primarily designed to undertake diverse activities that promote environmental education, training, monitoring conservation and sustainability issues as well as conducting research which are proposed by the *Seville Strategy* (Stoll-Kleemann S., 2007; Jardin M., 2008).

Biosphere reserve models are becoming popular throughout the world. They are mostly designed as people-oriented strategies to reduce conflicts that might be created on the right to use forest products and conservation of resources (Rao K. S., Nautiyal, Rakesh S. Maikhuri K. and Gopal Saxena K., 2000). Areas can be nominated only with the recognition and support of the local community (Fletcher Susan R., 1997; Bioret, F.; Cibien, C.; G&tot, J.-C.; and Lecomte, J., 1998). This clearly shows that the establishment and management of the biosphere reserve are not solely based on the rules and regulations specified to conduct certain activities (Bioret, F.; Cibien, C.; G&tot, J.-C.; and Lecomte, J., 1998). This indirectly shows that the existence of biosphere reserve facilitates the cohabitation of different structures concerned with a single area or piece of land as biosphere reserves do not have their own legal status (Ibid).

Review of previous works on biosphere reserve shows that it has no its own legal status and does not change the previous management system; it is part of the network geared towards people-oriented approaches. The current initiatives to adopt a biosphere reserve approach in the Yayo coffee forest area has to incorporate issues considered mandatory in developing the area as a biosphere reserve. In particular, the need to convince the local community and the existence of appropriate institutional arrangement has to be given special consideration.

3.1.1.4. Decentralization and Community Participation

Decentralization and community participation are the two steps or components of the same process in the move towards the same goal. “Decentralization and participation are vital channels for bringing broader sections of a population into the decision-making process” (Ribot J.C., 1999). Democratic decentralization is a promising means of institutionalizing and scaling up popular participation that makes community-based natural resource management (CBNRM) effective (Ribot J. C., 2002). Decentralization involves different degrees and levels of popular participation. It is the way for the bottom-up approach where the community and other stakeholders at all levels play an active role through participating in planning, implementation, benefit sharing, etc of a given resource management or a project activity.

3.1.1.4.1. Decentralization

Decentralization and devolution are principal topics in modern literature that gained acceptance in many developing countries. They are concepts getting prominence with the failure of many governments in developing countries to manage their forests and the prevailing high deforestation rates that forced them to adopt this concept. Although the two terms are used interchangeably, they are used differently in many literatures and in

their applications. “Decentralization can be defined as the relocation of administrative functions away from a central location, and devolution is the relocation of power away from a central location” (Fisher R.J., 1999). Devolution involves both power transfer and equitable representation (Ribot J.C., 2002). In the context of this definition, power is understood as the capacity to be involved in decision making. Decentralization can also be understood as the “distribution of power, resources, and administrative capacities through different territorial units of a government and across local groups’ (Agrawal A. and Ostrom E., 2001). Though it is possible to undertake decentralization and devolution together, it is also possible to conduct decentralization without devolution (Fisher R. J., 1999; Dembner S.A. and Perlis A., 1999). The major question in this approach is related to the existence of genuine decentralization and devolution even in countries and regions where decentralization is identified as a major policy which primarily concerns the Ethiopian practical context. This is primarily for the reason that most decentralization efforts are characterized by insufficient transfer of power to local institutions for which most local institutions are not held accountable to the local community (Ribot J.C., 2002).

There are people who argue both against and in favor of decentralization (Andersson K., 2006). The results of decentralization are not always positive as much as expected. In fact, they are sometimes seen to aggravate deforestation. This is mainly due to the fact that many of the decentralization aspects are initiated by political intents in many developing countries including Ethiopia. In countries like Ethiopia where the spread of many political party systems is emerging, the adoption of decentralization is designed in response to and control of pressures from different ethnic groups in the country (World Bank, n.d). The main argument against decentralization and devolution of forest management power is that, as some argued, the community does not have the capacity and/or will to manage forest (Fisher R.J., 1999) showing lack of trust and confidence in community. The major failure of many decentralization programs in developing countries including Ethiopia rests on the absence of real representation of the local population in matters of public resource use due to lack of appropriate institution, and imposition of elected local government. Decentralization is also considered by many people as a panacea for all the past problems related with development while others observe it as a tragedy that constrain resource use and conservation (Andersson K., 2006).

The major issue that enhances or discourages genuine devolution and decentralization is trust which depends on the existence of appropriate and effective organizational or social and institutional arrangements. This requires building trust between the government/local forests and the community and among the community themselves which can be achieved through building effective and reliable institutions at local and upper levels. The institutional arrangement has to incorporate check and balance mechanisms that offer equality and efficiency in terms of right and responsibility as well as ensuring effective rule enforcement arrangements. Decentralization shapes the way the government relates to the community and provides space to build the new socio-political and institutional arrangement in forest management. The main reasons for decentralization are to create facilitative conditions for responding to local needs, enhancing public participation, as well as reducing political authority and power of the central government, etc.

Krister Andersson categorized literatures on decentralization into four: the first group argues that successful decentralization of environmental governance depends on community participation while the second group argues that positive outcome of decentralization results when the government is downwardly accountable to resource users. The third group of literatures state that successful decentralized governance depends on the technical capacity of the local agent to which resource management responsibility is devolved. The final group of scholars argues that without reliable and secure source of fund, local government agents can do little on resource management (Andersson, 2006:26). In general, decentralization requires genuinely devolving and pluralistic decision making and setting of objectives leading to sustainable forest management.

Types of Decentralization

Three types of decentralization are identified (Fisher R.J., 1999; Fisher R.J., Durst P. B., Enters T. and Victor M., 2000) based on the direction of decentralization: 1) from a central bureaucracy to regional or local bureaucracy; 2) to local political structures (i.e. local government); and 3) to local communities or natural user groups established by the community not administrative structure. The first type of decentralization took place when the government seeks community participation with centrally set objectives. A good example is the Indian mode of joint forest management. The second type of decentralization takes place when the government delegates forest management responsibilities from the central government to the local government, and not to the local community. The third type of decentralization involves the handing over of significant amount of responsibility and control to the local community. This approach involves both decentralization and devolution which is mostly ideal except in few cases. It focuses on the importance of complete transfer of the rights and the responsibilities of forest management to the community (Fisher R.J., 1999).

The dominant trend in the Ethiopian decentralization context falls in the first category which gives the right to manage forests to the regions and some political offices at zonal and district level without giving genuine right to protect and use forest to the local community. This practice has become a source of conflict leading to deepening forest degradation. The Ethiopian process of decentralization is thus marked by confusion as the government is not living up to its responsibilities in setting clear guidelines to help regions in biodiversity conservation (Gatzweiler F., 2005). Decentralization of responsibilities to local political offices without devolving real power to them obviously locked them in conflict with the local community. On the one hand, government offices at the local level were given the right to protect forests but, on the other hand, they were denied the decision-making power to allow or not to allow utilization of forest by the community. The absence of real devolution is revealed by the fact the local officials and the community are always expected to work according to standards set by authorities at the central or regional level.

The major assumption behind decentralization and participation is that greater public participation in decision making brings positive results as it enhances efficiency, equity, effectiveness and sustainable resource management. The principal aims of most decentralization programs are political governance and democratization that emanate from the desire of the people to have a say in their own affairs (Ribot J.C., 1999). Scientists argue that the effectiveness and equity or better resource management practice of decentralization depends on the weight of local voice and control through local decision making. (Ibid).

3.1.1.4.2. Community Participation

Since inception in the 1960s and 1970s, development projects and participation have become buzz terms of development jargon. Participation has many definitions based on the type and degree of participation. There is no single definition of participation as it varies based on the degree of participation. Hence, many argue that participation involves continuum of participation that ranges from negligible/co-opted to self-mobilization and collective action where the local people become initiators (Cheetham N., 2002; Pimbert M. P. and Pretty J.N., 1997; Carter J. with Gronow J. 2005:2). Participation takes many forms including sharing information, consultation of the community, collective decision-making and supporting self-regulating community interest. Researchers (e.g. Cornwall 1996; Borrini-Feyerabend, 1997) have also indicated that “participation can mean different things, ranging from manipulation or co-option, in which lip-service is paid to local involvement, to autonomy or self-mobilization, in which local people control decision-making” (Carter J. with Gronow J. , 2005:2). Other researchers identified a continuum of participation categorized into seven steps which specify different levels of participation (Pimbert M. P. and Pretty J. N., 1997: 9-10). These include passive participation (people told what is going to happen or what has already happened), participation in information giving, participation by consultation, participation for material incentive (people participate by giving resources such as labour and cash), functional participation (people participate through forming groups to meet predetermined objectives), interactive participation (joint analysis which leads to action plan and formation of new group) and finally self-mobilization which involves the participation of people independent of external institution to run the system (modified from Pretty, 1994). On his part, (e.g. Cheetham N., 2002) states that the continuum of "participation" ranges from negligible or "co-opted"—in which community members serve as token representatives with no role in making decisions to collective action in which local people initiate action, set the agenda, and work towards a commonly defined goal. He defines six levels of participation that incorporate co-opting, cooperating, consulting, collaborating, co-learning and collective actions in increasing the degree of participation or decreasing in the outside control and increasing local action and ownership.

There are different views regarding the importance of participation in different spheres of livelihood. Many argue that participation is very essential for the success of development projects and the conservation of natural resource such as forest biodiversity conservation (Isager L., Theilade I. & Thomsen L. 2002). However, it is also argued that,

notwithstanding the rewards of true participation, some kinds of participation may also serve to camouflage a continuum of top-down planning. It is stated in the same vein that genuine participation is an exception than the rule (Enters T. and Anderson J., 1999). Increased participation also results in increased conflict that may sometimes result in positive outcomes and, in rare cases, even negative results from sustainability view point (Colfer P and Wadley R. L., 1996). Regardless of the opposing views, many others (Ribot J.C., 2002; Colfer C. J. P. and Wadley R. L., 1996) advocated the need for participatory approach in order to promote effective environmental management and enhance equity and justice for local people. Hence, the major question often raised in relation to participation is how to realize an effective participation involving people in conservation throughout the organization and decision making process? Successful conservation requires genuine participation of the local people for which the government and other concerned bodies have to provide an appropriate institutional and regulatory framework.

However, institutional modes of participation have often been criticized for placing special focus on formal institution to achieve project outcomes instead of focusing on empowering and enhancing the capacity of local people thereby bringing benefit to the marginalized groups (Rosendo S., n.d). Rosendo is also argued that participation is criticized for the fact that it often implemented from above by NGOs, donors and governments to improve the effectiveness of natural resource management and to meet the objectives of specific project and intervention rather than empowering the local people to self-govern the resources on which they depend. The most important point to underline is that building the participatory institution is the key feature during the decentralization, co-management/collaborative and partnerships with local population. Participatory approaches place emphasis on the local community to manage natural resources as a common property system. In the Ethiopian context, in general, and in the management of the coffee forest, in particular, participatory approach finds itself in the first continuum of the participation level. It often does not go beyond lip service as the community has no real power and input. The people were often told what has already happened: the demarcation of the coffee forest as a protected area for wild coffee genetic diversity conservation in Yayo area. Yet greater work needs to be done by way of establishing and forstering a solid relationship of trust between the government and the community as well as other stakeholders.

3.1.1.5. Co-management and/or Collaborative Forest Management

Co-management is a form of institutional arrangement in which the government, local resource users and other stakeholders share authority and responsibilities in the management of resources such as forest, fishery, water, etc. Debates persist among people supporting different forest management approaches that can be identified as annexationist, pragmatist, and populists (Sundar N., n.d). The annexationists argued in favor of complete control of forests by state while populist advocate for the right to control of forests by the local community. Pragmatists, on the other hand, advocate for the existence of different types of forests such as state forest, village forest and private forests (Ibid).

Decentralization of authorities and devolution of responsibilities to the lower level governments is getting acceptance among many of the developing countries (Banerjee. A.K. 1997; Meinzen-Dick R. and Knox A. 1999; Husain Z. and Bhattacharya R. N., 2004). In contrast to this positive experience, state-led institutions seem to fail in the management of natural resources. This trend has led to the founding of other management approaches that include a variety of collaborative (co-management) arrangements (Birner R. and Wittmer H. n.d; Husain Z. and Bhattacharya R. N., 2004; Carlsson L. and Berkes F., 2003, Plummer R. and Fitzgibbon J., 2004). In other words, it is a move away from the centralized approach towards the practice of co-management (Kooiman 1993, Box 1998, Delacourt and Lenihan 1999 quoted in Plummer R. and Fitzgibbon J., 2004). It is also a kind of paradigm shift from management by exclusionary approach towards management in partnership with the local community (Kant S. and Cooke R., 1998). The new approach usually incorporates government organizations and the local community such as user group and non-governmental organizations (Borrini-Feyerabend G, 1996; Birner R. and Wittmer H. (n.d).

There are also views against the importance of co-management as an institutional arrangement. Studies on the case material from Northern Canada and South Asia (Castro A.P. and Nielsen E., 2001) reveal that co-management can set into motion new conflicts and can reinstate or escalate old conflicts. Castro A.P. and Nielsen E further argue that co-management is becoming a mechanism for strengthening state control over resource allocation, management and policy legislation as well as marginalizing the community and resource users instead of contributing to the local empowerment. This argument emphasizes that indigenous and other local people have political, legal and cultural obstacles that forbid their equitable negotiation of co-management arrangements. Yet they believe in the fact that co-management is an agreement among government agencies, local community and other stakeholders to exert collective efforts in dealing with natural resource management and conflict management.

3.1.1.5.1. What is Co-management?

Many scientists use co-management interchangeably with collaborative and joint forest management. Brown (1999), for instance, defines it as a “working partnership” between local communities and the state, with its principles embodied in participatory forestry, collaborative forest management and joint forest management” (Brown, 1999; Castro A. P. and Nielsen E., 2001: 230). The term co-management “is synonymously used with collaborative management, participatory management, joint management, mixed, multi-party or round-table management” (Borrini-Feyerabend, G., 2000). Building partnership between institutions and the local community is usually given many names that include collaborative, joint, participatory and multi-party management (Ibid). Nonetheless, co-management is quite different from participatory forest management and joint forest management though it hardly differs from collaborative forest management (CFM).

Various definitions are given by different scholars throughout the world which have a very close meaning. It is, for instance, defined by (ICLARM and NSC, 1996) as a sharing of authority and responsibility among government and local resource users over the management of resources such as forestry and fishery. It (co-management) is a continuum or spectrum of arrangements (Berkes F. 1994; Borrini-Feyerabend 1996) that lies between the centralized approach and the self or community management approach. Co-management is not a single strategy to solve the problem of forest management; it should rather be observed as “a set of alternative management strategies” suitable for some areas and conditions (Pomeroy, R.S. and Williams M.J. 1994; ICLARM and NSC, 1996). It is a collaborative institutional arrangement where diverse stakeholders share authority, responsibility and accountability for managing and using natural resources within a range of common property resources such as watershed, forestry, fishery, and protected areas where exclusion on these resources are difficult, though often a reality (Castro A. P. and Nielsen E., 2001). Sharing authority and decision making among different stakeholders in the use and management of forest is a fundamental concept in co-management.

Co-management, as highlighted above, is a continuum of arrangements (i.e. from simple exchange of information to formal partner) (Berkes F. 1994; Borrini-Feyerabend 1996), that involves diverse sharing of power and responsibility between the government and the community or different stakeholders (Taiepa T., Lyver P., Horsley P., Davis J., Bragg M. and Moller H., 1997; Plummer R. and Fitzgibbon J., 2004; Ahmed M., Capistrano A.D. and Hossain M., 2006; Carlsson L. and Berkes F., 2003; c.f. Berkes, George, and Preston, 1991:12 cited in Carlsson L. and Berkes F., 2003). It is also defined as a distribution of rights and responsibilities pertaining to a particular resource (Plummer R. and Fitzgibbon J., 2004). Co-management can also be broadly defined as “a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of management functions, entitlements and responsibilities for a given territory, area or set of natural resources” (Borrini-Feyerabend G., 2000:7). In the context of this research, co-management can be understood as an agreement among state agencies, local community and other stakeholders that focus on the sharing of power and responsibility over the management of a given resource. The continuum or the degree of co-management varies as much as the degree of participation in resource management varies. The degree of participation somehow indicates the level of collaboration or co-management.

3.1.1.5.2. Significance and Forms of Co-Management

Co-management has several benefits that motivate people to respond positively to the social and material incentives of this arrangement. Listed below are some of the benefits of co-management identified by different scholars:

- One of the justifications for the adoption of co-management is that increased participation of stakeholders enhances the efficiency and equity of the entwined common property and the social system (.Castro A. P and Nielsen E., 2001).

- Co-management may offer a way for resource users to obtain a proprietary share in the authority and decision-making powers that endorse management (Castro A. P. and Nielsen E., 2001).
- Co-management is an environmentally and socially suitable arrangement that facilitates the participation of the local community in resource decision making (Castro A. P. and Nielsen E., 2001).
- It leads to recognition of different interests, values and concerns involved in resource management (Borrini-Feyerabend, G., 2000).
- Co-management is open to various types of NRM entitlements beyond the ones legally recognized such as private property or government mandate (Borrini-Feyerabend, G., 2000).
- It promotes equity and transparency and also allows the society to assume important roles and responsibility (Borrini-Feyerabend, G., 2000).

The application of collaborative forest management in the Ethiopian context is partly confirmed by the proven importance and eligibility of co-management/CFM both for production and protection of forest managements (Carter J. and Gronow J., 2005:2). This can be analyzed against the two forms of forest management mechanisms revealed in the recent Ethiopian Forest Proclamation 542/2007., i.e, the categorization of forests into productive forest and protected forest.

The importance of CFM is also revealed through the acceptance and recognition of the values of development and conservation without regarding as antagonistic the views and the commitment of the local community to participate in resources like forest management (Carter J. and Gronow J., 2005). The importance of CFM is also reflected in its eligibility to serve as a response to crisis in forest management and in resource conflict management process (Ibid). The rationale behind using CFM from donor or government perspectives can be observed under two major categories: i.e., social justice and equity concerns; and technical, effectiveness and efficiency concerns (Brown, 1999 quoted in Carter J. and Gronow J. 2005).

3.1.1.5.3. Collaborative Forest Management (CFM): What Is It and Why We Need It?

The notion of collaborative forest management is interchangeably used with co-management. It is possible to argue that there is no major difference between the two approaches of resource management except in the context it is applied. Collaboration is viewed as a sharing of responsibility among the people on the management of resources or something they care about (Hummell and Freet, 1999 quoted in Moote A., 2006). In some places, the definition given for co-management, as stated above, is exactly repeated for collaborative forest management (CFM). David Chrislip and Carl Larson define CFM as “mutually beneficial relationship between two or more parties who work toward common goals by sharing responsibility and accountability for achieving results” (Chrislip, D. and Larson C., 1994). The concept of collaboration is also defined as a “bottom-up strategy involving negotiations and problem solving among a variety of governmental and non-governmental stakeholders” (Kamienieki S. and Kraft M., 2005). Collaborative forest management is also loosely defined as a working partnership among

stakeholders in the use and conservation of forests that include government organizations (local forest department), local community or forest users and NGOs, civic groups, private sector and other stakeholders (Carter J. with Gronow J., 2005). This definition includes a variety of partnerships in different tenure situations and implies a need to manage complex social and institutional issues (Carter J. and Gronow J., 2005:2).

Definitions given for collaboration or collaborative forest management have many things in common. Collaboration is a way of conflict resolution; it involves participation of local citizens and development of civic community; builds interconnection between ecological, social and economic goals; and stakeholders participate directly in the development or review of the proposed action (Moote A., 2006). There is no tangible difference between co-management and CFM. Hence CFM can be defined for the purpose of this research as a form of institutional arrangement whereby state, local community and other relevant stakeholders share power, right, accountability and responsibility over the management of forests. In consequence, the two terms (co-management and CFM) are used interchangeably throughout this research.

3.1.1.5.4. Forms of Collaboration

There are different forms of collaborative (co-management) forest management arrangements (ICLARM and NSC, 1996; Carter J. and Gronow J., 2005). Diverse forms of collaboration can be listed based on the way it is applied or by the type of the resource it is applied for. Carter and Gronow, for instance, identified two major forms of collaborative forest management on state land (Carter J. and Gronow J., 2005). This comprises the shift of management over forests from the government to communities and sharing the role of forest management amongst multiple stakeholders.

The former type of collaboration is undertaken with the primary aim of conducting far-reaching devolution of forest management responsibility from the state to the local people. In this type of collaboration, the government devolves the management responsibility of the forest in a situation where satisfactory agreement or management plan is in place. This type of collaboration is closer to the activities performed in joint and participatory forest management practices. Here it is essential to recognize that collaboration or co-management involves devolution/decentralization and participation. The second type of collaboration is the situation in which the state discharges the management responsibility either shared among the multiple stakeholders or with the local community. This form of collaboration looks more appropriate in the context of coffee forest in western Oromia where there are diverse stakeholders from state side as well as the local community and private sectors with differing interests and perceptions.

Co-management or CFM is not good or bad per se as this is influenced by changing conditions. The importance of co-management for forest resource management rests on two major grounds. These are the inability of the local people to manage resources alone and the ineffectiveness of the centralized resource management approach of the government. It has been identified that (Lars Carlsson and Fikret Berkes, 2003:12-13) co-management incorporates allocation of tasks, exchange of resources, linking different

levels of organization, cross-scale linkage, reduction of transaction costs, risk sharing, and conflict resolution mechanisms and power sharing. The key players in collaborative Forest Management (CFM) may include national governments, donors and international technical agencies, research organizations, local NGOs and other private sectors.

Case studies mainly from Tanzania and Uganda show that genuine shift towards collaborative forest management is an indisputable and potential approach in tackling problems related to the inability of the protected area, park and other resource manager to solve problems through law enforcement approach (Hinchley D., n.d; Nurse M. and Kabamba J., n.d). In the Ethiopian context, there is no rich experience on the effectiveness of the collaborative forest management. Yet SOS Sahel Ethiopia has set up a collaborative forest management but it is too early to comment on its effectiveness. Nevertheless, (Boku T. & Irwin B. 2003) argue that the CFM project is a good start in establishing the management system in which local people and institutions have control over sustainable use of natural resources.

3.1.2. Institutions and Forest Management

3.1.2.1. Understanding Institutions and Institutional Arrangements

It is essential to highlight some of the essential concepts at the outset of the research. It is proper to define institution and its underlying concept based on a variety of powerful literatures mainly in economics, political science and sociology. In attempt to realize this prime objective, this researcher tried to distinguish and cluster definitions given to institutions based on some criteria such as field of study like sociology, anthropology, economics and political science. The researcher found out that it is almost impossible to differentiate the concept of institution based on fields of study. It is rather possible to define the appropriate concept of institution in the context it is used and “on the purposes of the analysis” (David D, 2006).

Although the usage of the term ‘institution’ in social science dates back to Giambattista Vico in his *Scienza Nuova* of 1725 (Hodgson G. M., 2006), there is not unanimity or universally agreed definition of ‘institution’ (Scott, W. R., 2004, Hodgson G. M., 2006; Haita C., 2006; David D., 2006). That is why (Ostrom E., 2005) stated that understanding the concept of institution is a serious endeavor. Nevertheless, it is impossible to conduct some empirical and theoretical scrutiny without gaining clear understanding on what the terms like ‘institution’ and ‘organization’ are. Hence, it is necessary to have enough insight on the concept of institutions, organizations, rules and other related concepts.

Institution is a very complicated word for which any of its definition has to be kept as placeholder for further analysis (Agre E. P., 2000). Different definitions are given from different perspectives and for different purposes. Many scholars define institutions in a very similar but still different ways based on the context and purpose in which they are used since the appropriate concept of institution depends on the purpose of the analysis.⁷ The difficulty of defining institution forced some writers to give up definition and get

⁷ <http://www.allbusiness.com/finance-insurance/4095905-1.html>

down on some practical matters (Hodgson G. M., 2006). Definitions given by different scholars can be summarized under the following major themes or, one can say, perspectives which are not exclusive of one another.

Regularities and Structured Human Interaction: Institutions are durable regularities of human action in situations structured by rules, norms and shared strategies as well as by the physical world. The rules, norms and shared strategies are constituted and reconstituted by human interaction in frequently occurring or repetitive situations (Crawford S.E. S. and Ostrom E, 1995: 583; Agrawal A. and Gibson C. C., 1999; Imperial M.T., 1999: 453). There are three approaches: These are *institution-as-equilibria*, *institution-as-norm*, and *institution-as-rules* approaches (Crawford S.E. S. and Ostrom E, 1995). The three institutional approaches explain the prevalent regularities in human interaction. The difference among the three approaches mainly rests on the argument in which the observed regularities are explained. According to these two authors, institutions are viewed as a “regular behaviour pattern sustained by mutual expectations about the actions that others will take” (Crawford S.E. S. and Ostrom E, 1995: 583). Elinor Ostrom similarly viewed institutions as “prescriptions that humans use to organize all forms of *repetitive and structured interactions* including those within families, neighborhoods, markets, firms, sport leagues, churches, private associations, and governments at all scales” (Ostrom E., 2005).

Institution as a Social Structure⁸ that Provide Order and Stability: (Hodgson G. M., 2006). Scott (1995:33, 2001:48; Agrawal A. and Gibson C. C., 1999) assert that “institutions are social structures composed of normative and regulative elements that together with associated activities and resources, provide stability and meaning to social life. For (Scott, W. Richard, 2004), institution means stability that is subject to change processes”. Hodgson viewed institutions as systems of established and prevalent social rules⁹ that structure social interactions. He further states that institutions are systems of established and embedded social rules that structure social interactions (Hodgson G. M., 2006). According to him, language, money, law, systems of weights and measures, table manners, and firms (and other organizations) are thus all institutions (Hodgson G. M., 2006). Institutions both constrain and enable behavior (Hodgson G. M., 2006; Agre P. E., 2000). Broadly speaking institutions are a system that can structure social interaction. However, not all social structures are institutions (Hodgson G. M., 2006).

Institutions as the Rules of the Game: Scholars (North C. D, 1990, 1991, Hodgson G.M, 2006) defined organization which has an interrelated, overlapping and very close meaning with institutions. Hodgson, for instance, defines the interrelation between the two terms as follows: organizations are a special kind of institution, with additional features. Organizations are special institutions that involve (a) criteria to establish their

⁸ See the concept social structure also on IAD framework specifically as a component of action arena

⁹ Rules are defined (S. Crawford and Ostrom, 1993) as prescriptions that identifies “what actions (or out comes) are required, prohibited or permitted, and the sanctions authorized if the rules are not followed” (Quoted in Ostrom E, Gardner R., and Walker J., 2003:38). Institutions are also defined as the rules, norms and behaviors that structure the interaction of two or more people and help in making decisions that produce outcomes and consequences (Hess C. and Ostrom E., 2004).

boundaries and to distinguish their members from non-members, (b) principles of sovereignty concerning who is in charge, and (c) chains of command delineating responsibilities within the organization (Hodgson G.M, 2006:8). On the other hand, (North C. D, 1990) states that if institutions are the rules of the game, organizations and their entrepreneurs are the players. The origin of organizations and how they evolve is influenced by the institutional framework and in turn organizations influence how the institutional framework evolves (ICLARM and NSC, 1996). Institutions in this context (Berkes and Folke, 1998) also seen as codes of conduct that define practices, assign roles and guide interactions; the set of rules actually used.

Institutions as the rules of the game are quite different from the players. This idea is mainly formulated by (North D., 1990). According to this context, Douglas C. North argues that “institutions are humanly devised constraints that structure human interaction. They are made up of formal constraints (for example, rules, laws, constitutions), informal constraints (for example, norms of behaviour, conventions, self-imposed codes of conduct), and their enforcement characteristics” North C. D. 1998: 248; 1991:97). In North Douglas’s definition, we find the phrase “ informal constraints” (1990:4; 1991:97) that stands for three main purposes: “1) extension, elaboration, and modification of formal rules, (2) socially sanctioned norms of behavior, and (3) internally enforced standards of conduct”.

Institutions as Players of the Game: Douglas North identified a range of economic, political, educational, religious and social organizations. Organizations include political bodies (political parties, the senate, a city council, regulatory bodies), economic bodies (firms, trade unions, family farms, cooperatives), social bodies (churches, clubs, athletic associations), and educational bodies (schools, universities, vocational training centers) (North, C. D., 1998:249; 1990). Hence institutions in this context are understood as the players or the group of people who are bound together to achieve some common purpose.

Institutions as Social Norms: Many scholars from the social sciences define institution as a social norm, moral belief and custom that structure human interaction and impose different types of sanctions and enforcement mechanisms (Ramstad Y., 1989, 763; Commons [1934] 1959 cited in David, D., 2006). Institutional economists such as Yngve Ramstad (1989, 763) argued that institutions are the working rules and customs forming "the 'rule structure' within which individuals must confine their activities subject to sanctions"(Quoted in, David, D., 2006). Hodgson viewed all institutions as normative in the sociological sense of social norms by writing "[t]o some degree, moral beliefs, sanctions and constraints operate" even in the case of institutions that emerge spontaneously as coordination equilibria (Hodgson G. M, 2006, 12). Others also define institution as “socially-shared pattern of behavior and/or thought”, (David D., 2006). Uphoff also defined institution as a ‘complex of norms and behaviours that persists over time by serving some socially valued purpose (Uphoff N., 1992). The grounds for seeing institutions as norms and rules are based on the pattern of interaction based on shared perception and common understanding, respectively. Rules include norms of behavior and social conventions as well as legal rules. Such rules are potentially codifiable (Hodgson G. M., 2006). He also stated that an institution is a special type of social

structure that involves potentially codifiable and normative rules of interpretation and behavior (Ibid).

Commons [1934] 1959 defined an institution as “collective action in control of individual action” (Cited in David, D., 2006). According to Commons, collective action ranges from unorganized customs to many organized actions that involve normative compulsions that have binding effect. Commons indeed appeared to equate institutions with social norms as collective action indicates what individuals can, must, or may, do or not do, enforced by collective sanctions" (Ibid). For others, all institutions are social norms while this is not the case for other scientists.

Sociologists also widely use the concept institution in many ways. Many sociologists treat all institutions as social norms, thus excluding self-enforcing conventions from the category of institutions. Among the founders of sociology in general and of institutionalist sociology in particular, Emile Durkheim emphasized in his seminal work the role of institutions as systems of knowledge, belief, and moral authority backed by sanctions (David, D, 2006). Talcott Parsons conceived institutions as orienting action to a set of normative standards and values. For him, institutions are normative rules that regulate social action through some mechanism of social control (Ibid). Anthropologist (Mary Douglas, 1986:46) states that “institutions are sustained at the cognitive level by a parallel "justifying principle" that needs to be "grounded in something other than conventions."

Main Attributes of Institutions: A range of attributes of institution are defined that can also show what institutions are (Agre P. E. 2000). Institutions own ontology, role, rules, terrain of activities; they also structure interaction, simplify life, enable and constrain and persist for long without change.

Based on these literatures, what does institution really mean? In the context of this research, institution can be defined as rules, regulations, norms, customs, property rights ,both formal and informal, policies which form repeated regularities or that structure human interaction or enable and constrain human behavior as well as create stability and order. Organizations on the contrary connote, as (North.C.D, 1990) stated, a group of people who are bound together to achieve some common objective. Broadly, institutions in the context of this research mean both the rules of the game and the players of the game as the research has a far-reaching aim to focus both on the formal and informal rules, regulations, norms, conventions, policies and customs governing the coffee forest as well as the structure, objectives and interrelations among different organizations.

3.1.2.2. Institutional Arrangements and Forest Management

Institutional arrangements, as defined by (Thomson James T. and Freudenberger K Schoonmaker, 1997), are arrangements of rules that may incorporate operational, collective decision-making or constitutional rules) and thus set up “a set of legal permissions (liberties), authorizations (rights) and commands specifying certain acts or

behaviour that individuals must or must not carry out (duties)". Forestry legislation, forestry code, or non-formal taboos that affect how people use forest resources are all examples of institutional arrangements within the forestry sector." Hence institutional arrangements constitute permissions, rights, and guidelines that may be formal or non-formal and that specify certain acts that must or must not be performed and applied on how people use and conserve certain resource such as forestry. According to (ICLARM and NSC, 1996), institutional arrangements are sets of rights to a particular resource that forest users possess in relation to the rules that define what actions they can take in utilizing forest product. In efforts to structure their harvesting, forest users must develop rules to establish how rights are to be exercised. In the review of the 'tragedy of commons', (Dietz, T. Ostrom E., Stern P. C., 2003:1907) unintentionally defied institutional arrangements as "a way in which humans organize themselves to extract resources from the environment and eject effluents into it". In most cases, as (Ostrom E., 1990:23) stated, "institutional arrangements can be thought as games in extensive form". She further states that institutional arrangements provide the means to avoid Hardin's (1968) "Tragedy of commons" and resolve collective action and common pool resource problems (Ostrom 1990 cited in Imperial M.T, 1999).

Institutional arrangements can be viewed from diverse perspectives. There are various forms of arrangements that range from local to international level along vertical arrangements. It can also be viewed as centralized or decentralized arrangements. Institutional arrangements can also be viewed based on property right regimes that engross communal, state, open access and private. It is impossible to clearly demarcate different institutional arrangements. This is because local institutions are embedded in, and affected by, regional, national and global influences. It is also mainly due to the fact that decisions in the outside world affect the local use of resources or national decisions may influence both international and local activities, (Berkes F., 2000).

Literatures confirm the importance of diverse institutional arrangements that fit to different local contexts over different resource management regimes imposed on wider groups and geographic areas (Becker C. and Gibson C., 1998; Ostrom E., 1990). Scholars disclose both destructive state interventions through excessive centralization and examples in which the state has created enabling legislation that facilitated the development of local-level institutions (Berkes F., 2000). In relation to this, (Ostrom E., 1990) argued that neither the state nor the market is uniformly successful in enabling individuals to sustain long-term productive use of natural resource systems other than communities of individuals who have relied on institutions over a long period of time for reasonable degrees of success. (Gibson *et al*, 2005) similarly stated the need for more than a single institution to solve commons dilemma. (Gautam A.P., Shivakoti G.P. and Webb E.L., 2004) state in a similar vein that differences in local institutional arrangements that define rights and responsibilities of the local people towards forest has been reported to be the major factor leading to variations in community forestry programs across the country.

There are different outlooks on the institutional arrangement and forest condition especially regarding the significance of different property right regimes on forest

condition. Some research findings indicate that different property right systems can influence forest conditions while others mainly label the condition of the forest to existing institutional arrangement (Ostrom E., 1990). Research finding from Ugandan forest, (Banana A. and Gombya-Ssembajjwe W., 1998), also indicate that government, communal or private forests can be degraded if there is no successful institutional arrangement. On the other hand, some researches give emphasis to the property right regimes than institutional arrangements in a given context. From their research in Loma Alta, Ecuador, Becker and Gibson argued that people choose to cut trees in the reserve first when they seek timber other than plots individually held where forest is less exploited (Becker D. and Gibson .C., 1998). From their research in Loma Alta, they further demonstrate that strong individual property rights alone do not guarantee a forest's health. Policymakers must address the incentives or alternatives and less destructive activities to these users that drive their behaviors and importance for sustainable existence of forest.

3.1.2.3. Local Institutions and Forest Management

Scholars on institutional arrangement indicate that local institutions play a central role in shaping the condition of natural resource in general and forest in particular (Blunt P. and Warren D.M. 1996; Agrawal A. and Yadama G, 1997; Banana and Gombya-Ssembajjwe W, 1998; Varughese G, 1998; Berkes F., 2000; Stellmacher T. and Gatzweiler F., 2005; Andersson K. and Agrawal A., 2006; Pacheco D., Andersson K. and Hoskins M., 2004). Effective local institutional arrangement facilitates sustainable use of forest. Traditional customs are parts of institutional arrangements ensuring conservation of Namungo's Forest in Uganda, not guards (Banana A. Y. and Gombya-Ssembajjwe W., 1998) like in many forests in other parts of the world. They further stated that in most Ugandan forests, top-down institutional arrangements have failed; the costs to protect or maintain forestry resources are far too high in relation to the capabilities of local community's effective system of maintaining forest condition. The fact that the ecosystem of Koma Forest, in southwest Ethiopia is relatively intact until now, forced (Stellmacher T. and Gatzweiler F, 2005) to question how far traditional property right systems positively impact forest conservation. It was also argued that local-level institutions learn and develop the capability to respond to environmental feedbacks faster than centralized agencies do (Berkes F., 2000). Local institutions facilitate capacity building, participatory decision-making and sustainable approaches to forest conservation (Blunt P. and Warren D.M. 1996).

Local institutions help ease various factors or variables impeding successful resource management practices. They help mitigate, enhance or even cancel the effect of inequalities and heterogeneities on resources. Research findings also suggest that effects of social, economic and or political inequalities on ecological outcomes are also mediated through local institutional arrangements (Andersson K and Agrawal A, 2006). The mediating effect of local institutional arrangements in the population-environment dynamics has important consequences for participatory approaches to governing natural resources (Varughese G., 1998). They can also play a critical role in mediating the influence of structural and socio-economic variables (Agrawal and Yadama G.N., 1997). Compared to central government institutions, local institutions are considered better at

providing rules related to access, harvesting, and management and provide a forum that can respond to conflicts quickly and cheaply (Banana, A., Gombya-Ssembajjwe W., and Bahati J. (n.d). Local institutions are important in developing policy aimed at preserving the environment (Varughese G., 1998), and generating incentives and behaviors that explain forest use and condition (Agrawal A. and Yadama G.N., 1997).

3.1.2.4. Local Community at Crafting Institutions

There are different views pertaining to the right and ability of local people to craft or develop their institution and its impact on forest condition. Some scholars argue that local people are unable to develop their own institution. Contradicting the presumptions that resource users are incapable of crafting and enforcing forest management rules (Ostrom E., 1999) illustrated that forest users themselves have devised rules that regulate harvesting patterns so as to ensure the sustainability of forest resources over time. Other scholars argue that the local community has the ability to develop its own resource management institution which highly correlates with better forest condition or vegetation density. International forestry resources and institution (IFRI) studies on forest management show that resource users are capable of crafting forest rules. Research on correlation between forest product rules and forest vegetation density in more than 80 IFRI forests in 13 countries finds that the right of user groups to define forest rules or local resource users' rule making and monitoring and enforcement activities significantly correlated with abundant vegetation density, (Hayes T. and Ostrom E., 2005). A similar research in Uganda showed some evidences from the pilot studies that local institutions organize and develop their own rules in a long time (Banana A., Gombya-Ssembajjwe W. and Bahati J. (n.d). The involvement of local communities in forest management may help to improve forest conditions. There is also an argument that higher levels of institutional arrangement will serve as a motive for the peoples to develop their own rule and for the occurrence of better forest condition. (Agrawal A., 2001) also argues that resource users often create institutional arrangement regimes that help them allocate benefits equitably over a long period. IFRI research on forest shows that protected areas that do not allow forest users to make rules are ranked lower in vegetation density, (Hayes T. and Ostrom E., 2005).

In addition to crafting rules based on the particular socio-economic, biophysical, cultural, political and demographic circumstances, rule enforcement also has a profound significance in improving forest condition (Ghate R. and Nagendra H., 2005; Banana A., Gombya-Ssembajjwe W. and Bahati J. (n.d); Gibson *et al*, 2005). The significance of rule enforcement can be clear from the reality that a forest with enforced rules limiting forest exploitation is most likely in better condition than forest where rules are not enforced (Banana A., Gombya-Ssembajjwe W. and Bahati J. (n.d). When users of a common-pool resource organize themselves to devise and enforce some of their own basic rules, they tend to manage local resources more efficiently than when rules are externally imposed on them. When the local community devised rules by themselves, this would lead to improvement of forest conditions (Ghate R and Nagendra H., 2005). The same research finding indicates that local enforcement has been most effective in the case where forest

management was initiated by the community (Ghate R. and Nagendra H., 2005). They further indicated that rules made and enforced by national or local government will not be effective without common understanding and enough resource to monitor and sanction. Individuals' agreement at the local level on the rules they follow is very important for the existence of successful enforcement. If either local forest users or government guards monitor forest use, a lack of agreement about rules would achieve a lower level of rule compliance (Gibson Clark C., Williams J. T., and Ostrom E., 2005).

Collective action and property rights have a strong link with forest condition than other variables like heterogeneity and group size. According to (Poteete and Ostrom, 2004), heterogeneity and group size do not have linear relationship at least to some forms of collective action. Heterogeneous groups may devise institutions that lay a basic foundation for collective action. Given the diversity of group characteristics and ecological conditions, rules that work to develop collective action for one group may not work for another group that entail the need to avoid imposing a particular type of institution or rules for different forest user groups in different contexts, (Ibid: 2004). In other words, the diversity of institutional arrangements helps to overcome the problem of collective action. Lessons drawn from previous experiences show that it is necessary to rely on local knowledge in order to craft institutions that create enticements to solve the problem of collective action. There are many indigenous institutions that function well based on indigenous/customary knowledge of the local community that needs further in-depth analysis (Zewdie J., 2005). These institutions can serve as a foundation to achieve various collective action activities especially on crafting forest coffee management rules.

3.2. Theoretical and Conceptual Framework

3.2.1. Theoretical Framework

3.2.1.1. Institutional Analysis and Development (IAD) Framework

The IAD framework has been developed by Elinor Ostrom and her colleagues, “public choice researchers”, at workshop in political theory and policy analysis, Indiana University, USA (Hess C. and Ostrom E., 2004; Kenney D. S. and Lord W. B., 1999; Rudd M. A., 2002). They/the researchers/ are building blocks over the past three decades in unifying diverse regularized human interaction which helps to explain human interaction in these situations (Ebenho E., 2007). The initial published attempt to describe IAD was made by Keser and Ostrom, (1982) in the “Three Worlds of Action: Metatheoretical Synthesis of Institutional Approach” (Ostrom E., 2005). IAD is a framework serving as tool to explain empirical facts related with how different variables interact in institutional analysis to produce different outcomes. IAD is a framework for organizing research on institutional analysis and governance structures (Ostrom E., 2006; Hagedorn, K, 2007)¹⁰. It is a conceptual “map” (Ostrom E., 2005) designed to help integrate the works of professionals from different discipline such as political scientists, sociologists, economists, anthropologists and others interested in understanding “how

¹⁰ Both Elinor Ostrom and Konrad Hagedorn's citations are from their respective powerpoint presentations made at different times and in different places.

institutions affect the incentives to individuals and their resultant behavior”. IAD is an overarching way of looking at natural resource management and societal activities (Rudd M. A., 2002).

The IAD framework has its root in classic political economy, neo-classical economic theory, institutional economics, public choice theory, transaction cost economics and non-cooperative game theory (Ostrom E, Gardner R., and Walker J., 2003:25). It also has roots in the theories of rational choice, collective action, common property and social capital (Trucker C. M and Ostrom E., 2005). It is compatible with theories such as “Microeconomic theory, game theory, transaction cost theory, social choice theory, public choice, constitutional and covenantal theory, and theories of public goods and common-pool resources” (Ostrom E., 2005: 28). These theories share a common factor with the IAD framework as most of them give due attention to rules. In other words, the IAD framework draws attention to the rules and how they structure the relationship between individuals and the organizations (Imperial M. T, 1999). The fact that IAD is not closely attached to a single social science discipline instead involving interdisciplinary research makes it unique from many other frameworks. Scholars who attempt to explain behaviors within the *hierarchies* may exclusively depend on political and sociological theories like other scholars who want to explain that behaviors in *collective action* environment depend on non-cooperative game theory (Ostrom E, Gardner R., and Walker J., 2003). Hence, the operationalization of the IAD framework in this work depends on the fact that institutional analysis is conducted at multiple levels and with different stakeholders, with different perceptions and structures.

3.2.1.1.1. Using the IAD Framework

Many scholars have been using the IAD framework to guide and validate their empirical research. (See Ostrom E., 2005 for the lists of empirical researches successfully used IAD framework). Different scholars used IAD for different purposes: for instance, (Ebenh'oh E., 2007) used it for water management regimes; (Hess C. and Ostrom E., 2004) used for studying scholarly communication; (Anderssson K. 2006) used for understanding decentralized forest governance; (Rudd M.A., 2002) used IAD for ecosystem-based fisheries management; and (Parto S., 2003) used to study the transition to new technological regimes. This substantially indicates the growing confidence in using IAD by many researchers throughout the world in diverse empirical researches.

3.2.1.1.2. Why IAD Framework?

There are many attributes that make the IAD framework essential for the analysis of research on the institutions of coffee forest management. The number of variables involved in the empirical study varies across different studies using IAD frameworks. Though, for instance, the IAD framework owns three main exogenous variables that include biophysical attributes, community attributes and rules-in-use, this study gives

special emphasis to institutional arrangements or rules-in-use and how they influence the action arena leading to patterns of interaction and the outcome.

The purpose of institutional analysis is to understand how institutional arrangements or the set of rules and regulations affect or structure resource governance, management and use. The adoption of IAD framework to guide this research is based on different facts that are related with the characteristics of the work under investigation: first, it helps to identify different variables where individuals involve in repetitive situations that help to undertake systematic analysis of the structure of situations that individuals face and how they are affected by the community, the rules-in-use, and the physical attributes (Ostrom E, Gardner R., and Walker J., 2003:25; Ostrom E., 2005). It also helps to identify broad categories of variables to be included in theories and models (Ostrom E., 2006). Second, the importance of the IAD framework for this research rests on the fact that it is consistent with a wide range of theories (Stellmacher T, 2006) and draws attention to some social, cultural, ecological/biological, political and economic processes that shape the outcome of institutions for forest management mainly based on interdisciplinary approach (Trucker C. M and Ostrom E., 2005; Imperial, M.T., 1999). Third, institutional analysis helps to examine the way the institutional arrangements influence the behaviour of users and the incentives to cooperate, coordinate and contribute to the formulation and enforcement of the management regime. In institutional analysis, it is also essential to examine the organizations for their strategies that may influence or lead to the change in institutions (ICLARM and NSC, 1996). Fourth, the IAD framework has no normative bias on the type of institutional arrangements. It does not also favor one form of resource management approach over another. In other words it doesn't favor decentralized approaches over centralized approaches (Imperial, M.T., 1999).

3.2.1.1.3. Major Components of IAD Framework

The major feature of the IAD framework is that the three exogenous variables affect the action arena which in turn affects the patterns of interaction leading to the outcome. The IAD framework helps you to understand how the patterns of interaction lead to the outcome and how the variables in action situation lead to patterns of interaction and how the whole process can be evaluated (Hess C. and Ostrom E., 2004). The IAD framework also helps you to understand how the variables in action situation lead to the patterns of interaction and how they all can be evaluated (Hess C. and Ostrom E., 2004). It is difficult to understand how institutions affect the action arena and then patterns of interaction without clear boundary. (Kiser and Ostrom, 1982) have found that it is useful to distinguish between three levels of rules that in turn affect three levels of action arenas which again cumulatively affect the patterns of interaction and the outcomes obtained” (quoted in Hess C. and Ostrom E., 2004). The IAD framework is indicated schematically as follows:

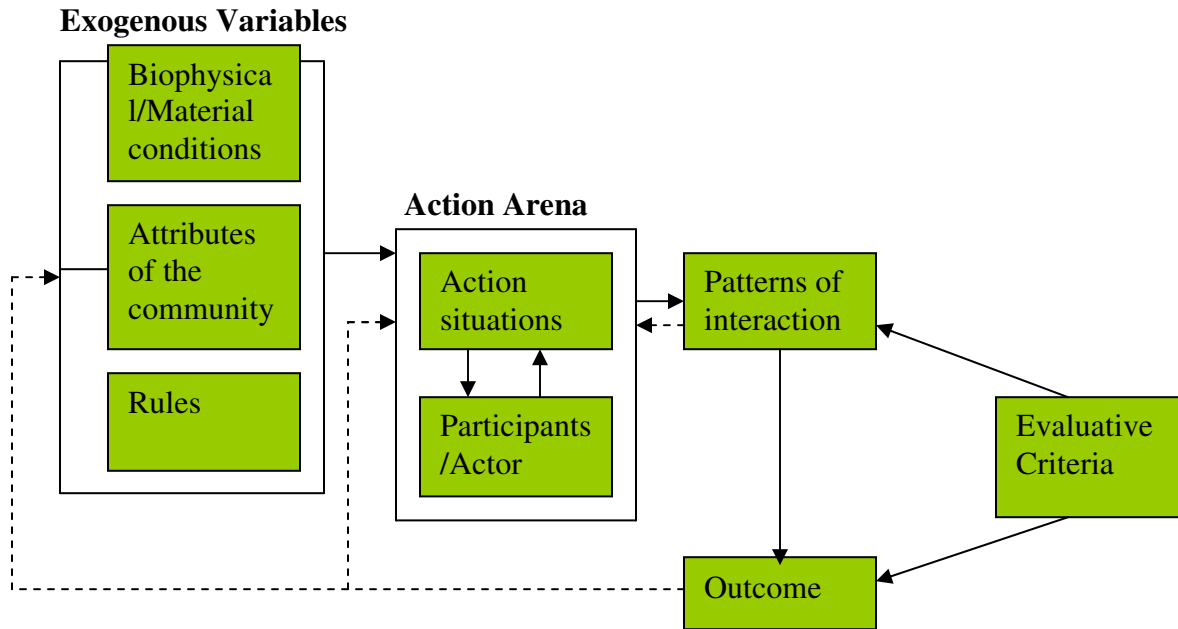


Figure 3.1: the IAD Framework

Source: (Ostrom E., Gardner R, and Walker J, 1994: 37; Ostrom E., 2005:15)

D) Action Arena: Actor/participants and Action Situation

One of the main challenges in institutional analysis is identifying the appropriate level of analysis. The first step in using the IAD framework starts with identification of the ‘action arena’ that includes an action situation and the actors (Ostrom E, Gardner R., and Walker J., 2003:25; Andersson K., 2006). Action arena is the unit of analysis in using the IAD framework (Imperial M. T, 1999; Koontz T. M., 2003; Parto S., 2003). The holon¹¹ action arena which by itself has two sub-holons consisting of the participants and the action situation is the major unit of analysis in institutional analysis (Ostrom E. 2005). Actors and the action situation are affected by exogenous variables which produce outcomes affecting the participants and the action situation. The action arena exists at all levels of analysis: at local, regional, national and international levels. Exogenous variables affect the structure of the action arena and create interactions that lead to outcomes. The outcome and the patterns of interaction (the performance of the system) can be evaluated or judged based on the efficiency, equity, effectiveness and sustainability of the system. The outcomes feedback on to the participants and action situation may transform over time. The outcomes may also affect some of the exogenous variables over time (Ostrom E., 2005). In the context of this study, the action arena is the Yayo coffee forest of southwest Ethiopia and its management activities and discourses at all levels (from local to national level). The action arena includes individuals and organizations that make coffee forest management decisions based on the information they have or how the actions influence the outcome and different costs and benefits

¹¹ “What is a *whole* system at one level is a part of a system at another level. Arthur Koestler (1973) refers to such nested sub-assemblies of part-whole units in complex adaptive systems as *holons*” (Ostrom E., 2005:11).

attached to the actions and outcomes (Ostrom E., and others 1994:27 cited in Imperial M. T, 1999) that yields positive and/or negative outcome through the patterns of interactions. The action arena consists of action situation and the actors as stated below:

A) The Action Situation: The action situation by itself is characterized using seven variables that include: participants, positions, potential outcomes, action-outcome linkages, the control that participants exercise, types of information generated and the costs and benefits assigned to actions and outcomes (Trucker C. M and Ostrom E., 2005; Ostrom E., 2005; Rudd M. A., 2002). The action situation, therefore, refers to the social space where participants with diverse preferences, different individuals, groups, or stakes exchange goods, dominate one another, solve problems or fight (Ostrom E, Gardner R., and Walker J., 2003:25; Ostrom E., 2005:14). In the context of the Yayo coffee forest in Western Ethiopia, as an action arena, the action situation is the social space where farmers or the local community, private enterprises, different government and non-government organizations interact over use and conservation of the coffee forest. Conflicts among the local community and different government organizations that usually lead to the negative outcome occur in the action arena mainly in the action situation. This is because the behaviors of participants and the physical environment (the coffee forest) as well as the rules governing the coffee forest create conflict among these stakeholders. The action situation is a social space where the local community and their indigenous institutions are dominated and marginalized by the government-led formal institutions over the management of coffee forest that fuel conflict on the use and conservation. The negative outcome of the conflict may be the lack of sustainable and legitimate institution and rules governing the coffee forest leading to deforestation and serving as feedback to the exogenous variables (mainly to the rule-in-use) and the action situation. The three clusters of exogenous variables include the rules that participants use to structure their interaction, the attributes of the biophysical conditions that acted upon the action arena and the structure of the community within which the action arena occurs (Ostrom E., 2005). The action situation consists of three main variables that comprise “the physical environment, the actors (and their behavior), and the institutional rules” of which the IAD framework gives focus to the institutional rules (Kenney D. S and Lord W. B., 1999). In this context, it particularly means that the action situation is determined by the innate behaviour of individuals, groups and the physical environment in which the individuals are found. The action situation in the IAD framework is affected by three exogenous variables that include the characteristics of the resource (physical attributes), Community attributes (commonly called socio-cultural conditions) and the rules-in-use as against the rules-in-form”. The action situation deals with the behavior of the people or “how people cooperate or do not cooperate with one another in diverse circumstances” (Hess C. and Ostrom E., 2005).

B) Actors: Once the action arena is defined, it is essential to identify the actors. Actors usually depend on the existing institutional design of a country’s forestry policy. The main actors in the Yayo protected area coffee forest include the rural community (farmers) living in and adjacent to the coffee forest, NGOs, externally-funded project representatives, local, regional and central governments’ agents, private coffee traders, timber producers and others. These actors participate in different action situations. The

forest governance in Yayo coffee forest is made up of government bodies enforcing different coffee policies and rules and regulations. This is the exclusionary protected area approach for the protection of wild coffee biodiversity. Hence the action situation is the specific type of interaction in which these actors are involved to arrive at this decision (Andersson K., 2006). It has been revealed (Ostrom E., 1990; Ostrom and others, 1994) that actors are characterized by four factors that include “the resources in the situation; how they seek alternate actions and outcomes; the knowledge and information they get and possess; and the mechanisms by which actors select particular actions” (cited in Rudd M. A. 2002). Actors may be people who are using and conserving the coffee forest, or organizations controlling the governance of the coffee forest and those who monitor compliance to the rules.

II) Exogenous Variables

Biophysical characteristics, attributes of the community and the rules-in-use are exogenous variables affecting the action arena and patterns of interaction and thereby the outcomes (see Figure 3.1).

A) Biophysical Characteristics (Resource Attributes): Exclusion and subtractability are the biophysical attributes of the resource that can influence the action arena. These two attributes are mostly used to distinguish the four¹² different types of goods and services that include toll good, private good, public good and common-pool-resources. The coffee forest can be categorized as strictly regulated common-pool-resources for which human institution is needed to prevent the “tragedy of commons” in which individuals prioritize their short-term individual interests to destroy the coffee forest. Collective action institutions (mainly gained from informal institutions) are needed to constrain these short-term interests. Action situation is also affected by the attributes of the given physical world.

In an efforts to realize sustainable management of forest and other resources, it is essential to identify the attributes of the resource which in this case is the forest in the protected area. This helps us to understand how institutions interact with the resource system for producing incentives that help sustainably manage or destroy the resource system. The two most commonly known attributes of the resource system are excludability and subtractability of the resources (Becker C.D. and Ostrom E., 1995; Ostrom E., 2005). Meanwhile, the degree of mobility of the resource and the presence of the storage is also another type of attribute of the resource. It was stated that the attributes of the resource determines the type of institutional arrangement used to solve resource management problems (Becker C.D. and Ostrom E., 1995). Excludability and subtractability are institutional mechanisms without which common-pool-resources like the coffee forest under study become “open” access resources available to everybody and difficult to protect leading to depletion and disappearance (McKean M.A., 2000).

Exclusion: This deals with how costly it is to exclude or limit potential users of the resource once it become available by nature or through the efforts of other individuals.

¹² See (Vincent Ostrom and E. Ostrom, 1977 for detail meanings of the four types of goods.

Exclusion can be done through physical exclusion of beneficiaries from goods such as fencing and packaging which can be backed by legal or institutional system such as the property right system (Becker C.D. and Ostrom E., 1995; Ostrom, Gardner R., and Walker J., 2003) for effective exclusion. The problem of 'free riding' on the efforts of other people occurs when exclusion becomes difficult (Ostrom E., 2005; Becker C.D. and Ostrom E., 1995) due to the nature of the good. Governments are using the exclusionary approach in many of the resources mainly in protected areas when there is a need to save the threatened species through the protected area approach. Poteete states that government exclusion of resource users from forest resources, and from recognized customary tenure, and ambiguity in legal standing of harvesting forest products are all important indicators of exclusionary action. She also concludes that political factors are the most important predictors of efforts to regulate forest use through exclusion (Poteete A. R., 2001). Excludability is derived both from the physical attributes of resources and from the institutions used in particular jurisdiction (Ostrom E., 1990).

Subtractability: This is an attribute of the resource where the subtractability differs across a range of goods with different characteristics. Subtractability refers to the situation when the utilization or appropriation of a specific resource reduces the availability of that resource to other individuals. The use of knowledge from website by one individual, for instance, may not reduce the availability of that information to other user. Or as (Becker C.D. and Ostrom E., 1995) stated, the enjoyment of sun by one individual does not reduce others' enjoyment of sunset. On the contrary, during the extraction of forest product by one individual, the amount of forest products extracted by that individual will no more be available to other individuals. Hence such attributes of the resource decisively determine the design of the institution for resource management. Institutions adapted for public¹³ good may not fit for the management of common-pool-resources or resolve the over harvesting problem of common-pool-resource. In otherwords, the rules we need to have to manage resource from website should not be the same with the coffee forest which is easily diminishing up on extraction unlike the website resource.

B) Attributes of the community: The second set of variables that influence the action arena are the attributes of the community that include generally accepted behaviour of the community such as homogeneity of preferences among the community, the size and composition of the given community, level of common understandings among participants of the action arena about the structure of the action arena and "the extent of the inequality of basic assets among those affected" (Ostrom, E, 2005; Ostrom E, Gardner R., and Walker J., 2003:46; Ostrom and others, 1994:45 cited in M. T Imperial, 1999). The attributes of the community also include socio-economic conditions such as the level of poverty, religion, culture, historical background of the group considered as the main actor.

Though the IAD framework deals with the influence of all exogenous variables, this study gives special focus to how the rules-in-use structure the action situation instead of

¹³ Public good is characterized by the problem of exclusion without any subtractability (Becker C.D. and Ostrom E., 1995)

dealing with the entire framework as it is essential to focus on the parts of the framework (Hess C. and Ostrom E., 2004) as it may not always be possible to deal with the whole components of the framework in detail.

The institutional arrangement is one of the three attributes in IAD framework that owns three levels of analysis (operational level, collective-choice and constitutional-choice level) each of which may own their own action arena at which decisions can be made. The elements of an action situation and an actor may be used to form the action arena at all levels.

C) Rules-in-Use: Rules are defined and understood differently among different scholars. Rules in the context of this study may refer to regulations. Black identifies four types of the use of the term 'rule' that denote regulations, precepts, instructions, and principles (Max Black, 1962 quoted in Ostrom E, 2005). (Ostrom E., 2005) argues that like the way genes combine to build the phenotype, so also will rules combine to build the social structure or the action situation. The property rights that participants or actors hold in different settings is a results of the rule-in-use (Libecap 1989 cited in Ostrom, E., 2005). Rules are also viewed as (Ostrom E., Gardner R., and Walker J., 2003; Crawford S. and Ostrom E., 1995) prescriptions about what actions are prohibited, permitted, required and sanctions followed if rules are not followed. It is also seen as a set of instructions for creating an action situation in a particular environment (Ostrom E, 2005). Rule is one of the three exogenous variables affecting the action arena. Understanding the rules helps you to understand the structure of the rule that influence inter-organizational relationship (Ostrom E. and others, 1994). The IAD framework also indicates that the biophysical world imposes essential constraints in the development of the rule.

The rules-in-use are norms that are actually respected by the actors participating in the action situation (Andersson K., 2006). Rules-in-use influence the incentives and behaviors of the actors in action arena that include both the self-enforcing social norms and the formal rules (Rudd M. A., 2002). This study mainly focuses on the rules and regulations governing the protected forest coffee area, social norms, forestry policies, and both formal and customary property rights as the rules-in-use that govern the behavior of different actors mentioned above in the action situation. These rules are fundamental independent variable that influences the incentive that actors (mainly the local community) face as discussed in chapter five. It is possible to question whether the rules-in-use can sustainably solve the previously observed institutional and forest management problem or not.

III) Patterns of Interaction

The pattern of interaction is determined by the cumulative effects of the exogenous variables, all the other actors, incentives and the actions all of which contribute to patterns of interactions. In commons, how the actors interact strongly determines the success or failure of the resource (Hess C. and Ostrom E. 2005). Various interactions at different action situations form patterns of interaction that leads to the predicted outcome

over time (Andersson K., 2006). Analysis of the patterns of interaction helps to identify the institutional incentives of different actors in an action situation that can yield a good outcome. The outcome which may be “the extent to which the social dilemmas are resolved” (Ibid) may be evaluated by the issues of sustainability, equity, effectiveness and efficiency. The outcomes affect both the action arena and the exogenous variables in future interaction. Patterns of interaction directly result from the behaviors of the actors in the action situation

IV) Outcomes: The outcomes in the context of this study are the absence of reliable and legitimate institution that can lead to deforestation; lack or reduced means of subsistence by the local community, etc or improvement of forest conditions resulting from the activities of different actors in the action arena which can serve as a fundamental feedback to improve the exogenous variables mainly the rules-in-use as well as the action arena.

Levels of Analysis: Elinor Ostrom states that “rule or institution at one level create rules at another level” in explaining the three levels of institutional analysis: Operational-choice level, collective-choice level and constitutional-choice level rules. Operational level rules change physical variables while collective choice level rules create and change rules at operational level. Rules at constitutional level, on the other hand, change and create rules at collective-choice level. Operational level rules govern day-to-day activities and decisions related with the use and conservation of forest. It is about where, when and how to do something. Collective-choice rules deals with how operational rules are changed and who can change them thereby affecting the operational activities. Constitutional-choice level rules deal with crafting the collective-choice level rules which in turn affect the operational rules (Ostrom E, Gardner R., and Walker J., 2003; Koontz T. M., 2003; Hagedorn, K., 2007 power point presentation). “What is a *whole* system at one level is a part of a system at another level” (Ostrom E., 2005:11).

3.2.1.2. Political Ecology

Theories focus on parts of the framework¹⁴ (Ostrom E., 2005) or theories from diverse disciplines may be compatible with frameworks (Koontz T. M., 2003) as I used political ecology to complement to the parts of the IAD framework. Frameworks permit the combination of several theories (Koontz T. M., 2003). In this case, the theory of political ecology is employed to complement the IAD framework thus revealing the political struggle over resources (the coffee forest) among the community and different government institutions/organizations and stakeholders at different levels.

Political ecology is a term coined in 1980s in an effort to integrate ecology and broader perspectives of power relations focusing on the relationship between society and natural resources (Blaikie and Brookfield 1987, p. 17 cited in Lund S. and Lund C., 2005;

¹⁴ It is actually vague to categorize political ecology as framework or a theory as different scholars call it differently (see Budds J., 2004; Bryant R. L. and Bailey S., 1997)

Johnston *et al.*, 2000:590 cited in Budds J., 2004). It originated from the overlaps between anthropology and geography in human and cultural ecology. Others say it was adopted after the 1970s to study the relationship between ecological science and environmental politics (Forsyth T., 2005). It is an emerging framework dealing with the interaction between political and environmental phenomena (Bryant R. L. and Bailey S., 1997). The two most important fields influencing the formation of political ecology are political economy that links the distribution of power with productive activity and ecological analysis that deals with bio-environmental relationships (Greenberg J.B. and Park T. K., 1994). Political ecology studies the way people are related with nature and is mediated by cultural and social practices, systems and structures. Political ecology explores the relationship between human society and the politicized environment (Bryant R. L. and Bailey S., 1997) such as protected areas which are inherently political (Adams W. M. and Hutton J., 2007).

Political ecology places environmental changes within the realm of the relationship between the context of local-global articulation and the linkage between the local community, the nation state and international institutions (Biersack 1999 quoted in Luzar J., 2007). The political ecological perspective in the context of this study depicts how the coffee forest protected area in Yayo, which by itself is a product of economic and political imperatives arising from the ever increasing utilization needs and insufficient coffee forest resources, has shaped the economic and political environment in which the peasants of coffee forest in southwest Oromia live. The main theme of political ecology is that environmental problems like the management (the use and conservation or deforestation) of coffee forest cannot be perceived in isolation from political and economic environment within which they occurred (Bryant R. L. and Bailey S., 1997). It deals with how political issues influence the way that people interact with their environment; it deals with how the government forestry policy created the current social environment. Political ecology departs from the premises that nature has been politicized and cannot be understood in isolation from political and economic issues. Power inequality between the government and community as well as their respective institutions governing the coffee forest is a subject of this study on political ecology that influences the way in which resource is allocated and managed. Free Encyclopedia, (2009) states that political ecology is the study of how political, economic and social factors influence environmental issues. It is the way state, society, corporate and transnational powers influence environmental problems and policies. It is apt to argue in this context that, for instance, the rate of food self-insufficiency and poverty among farmers living adjacent to the coffee forest is being aggravated by the exclusionary policy of the protected area that alienates them from their traditional use and conservation mechanism.

Scholarship in political ecology elucidates the way indigenous people mainly in developing countries are influenced by parks and protected areas (Sodikoff G. 2007; Adams W.M. and Hutton J. 2007). It mainly shows the political, moral and economic reasons for which the indigenous communities are resisting conservation efforts in developing countries (See Getachew G, 2007; Adams W.M. and Hutton J., 2007 for the best and acute cases of parks and protected areas in Ethiopia). Political ecology in the context of this research help us to understand the relationship between people and coffee

forest where power relations play a central role. It helps to elucidate the relationship between the actor of the coffee forest management and users and their relationship with the physical environment or the coffee forest. The political ecology mainly depicts the fact that uneven or unequal power relation created the control that one party (the government agents) has over the environment of another party or the local community's coffee forest or living environment leading to environmental conflicts or the struggle over resources.

In general, political ecology helps this study to understand how the local community make decisions on coffee forest in light of their environment, subsistence or economic pressure and societal regulations; how unequal relations among actors, mainly government agents and community affect the coffee forest environment; and helps to inform policymakers and concerned organizations on how existing complexities in coffee forest governance and development lead to better resource management and environmental governance.

3.2.2. Conceptual Framework of the Study

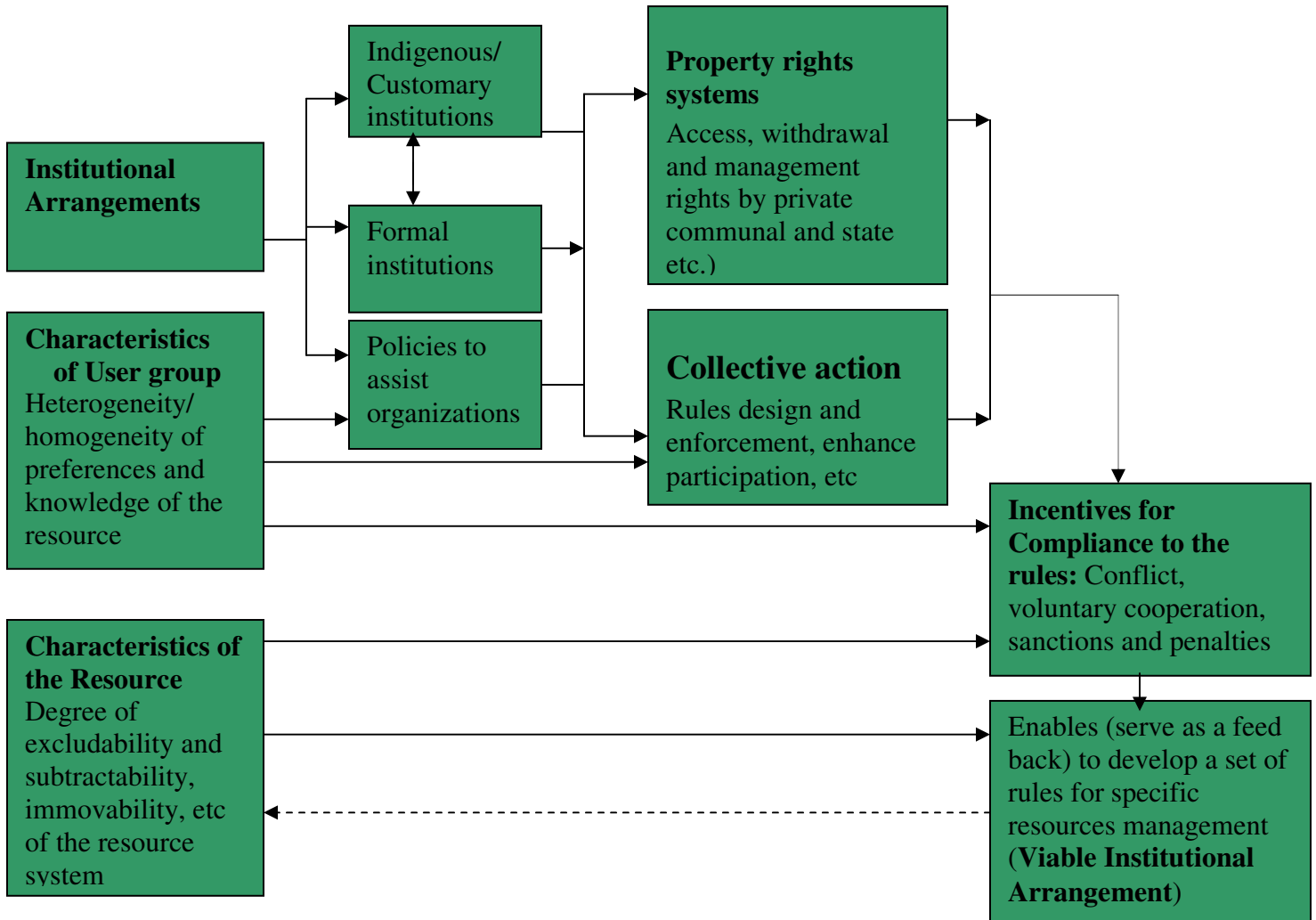


Figure 3.2: Conceptual Framework of the Study

The figure above presents conceptual framework for examining the processes and relationships between institutional arrangement, user group and the condition of natural resource or forest coffee which partly espouse (Gibson, C. McKean M. A. and Ostrom E., 2005; Poteete A. R and. Ostrom E., 2004; Agrawal A, 2001). These scholars identified that characteristics of the resource, characteristics of the group, institutional arrangements and the external environment that lead to successful outcomes in commons. These factors in turn influence their (community) decision to participate in the crafting of an institutional solution. Local institutions can take different forms usually dichotomized into community-initiated indigenous/customary institutions and state initiated formal institutions based on their origins (Stellmacher T., 2005). Local level institutions vary due to various factors that engross the interaction among themselves and the influences of external conditions. The modes of interaction between customary and formal institutions

as well as among themselves, in turn, affect the resource management outcome through creating various incentives or disincentives towards resource management.

Collective action and property right institutions as well as rules and regulations (institutions) in general can also determine forest coffee situations through presenting incentives and disincentives behind the NRM Practices. This is mainly due to the fact that institutional arrangements influence users' behavior and their incentive to cooperate, coordinate and participate in the enforcement and implementation of the management regime (ICLARM and NSC, 1996). Collective action involves organizations that design rules and undertake action, participation in the process, and enforcement of rules that are perceived as being beneficial to the group (Rae J., Arab G., Nordblom T., Jani K., and Gintzburger G., 2001). This also in turn determines the incentives and disincentives towards forest coffee management. Varying customary practices, formal rules and institutions, and organizations and development partners also influence property right systems. Rules may create incentive structures that contribute to coordinate or fuel conflicts among resource users (ICLARM and NSC, 1996) that in turn serve as feedback for the establishment of new and viable institutional arrangement. The establishment of new viable institutional arrangement helps to improve or negatively affects the coffee forest condition. On the other hand, attributes of the resource or the type of the resource determine rules and the institutional arrangements designed to solve the problems of forest management (Becker C.D. and Ostrom E., 1995).

The characteristics of user groups, mainly homogeneity of preferences among the leaders and the community, consistency of the communal norms etc. can also influence success in collective action among different groups thus affecting resource management or forest coffee conservation and use practices by collectively enforcing rules and regulations.

4. Institutions in Coffee Forest Management in Ethiopia

This chapter is devoted to analyse institutions, mainly as players of the game, at different levels based on their objective, structure, and their links among themselves and with the coffee forest so as to know their importance, impact and dependability to manage the coffee forest sustainably. The chapter is structured to cover four important forms of institutions that include formal institutions at different level, informal/customary institutions, policies and proclamations and property right. From formal institutions, two institutions from federal MoARD (IBC and CIP), two institutions from regional level (OARDB and Oromia State Forest Enterprises Supervising Agency) and three institutions from local level that include, District Agriculture and Rural Development Office (DARDO), district administration and Gabba-Dogi Forest Coffee Conservation Project. Two forms of territorial based administrative institutions and self-help work organizations are the two forms of customary institutions analysed in this chapter. Policies and proclamations at federal and regional levels are also assessed in this chapter. The chapter finally focused on different forms of property right before and after the demarcation and its implication towards conservation and use. Analysis of these all forms of institutions indicate the absence of viable and dependable institutional set up that can sustainably and effectively manage the coffee forest.

4.1. Institutional Arrangements and Coffee Forest Management

Institutions mediate the interaction between people and natural resources. Through long historical processes, there have been periods of ups and downs in institutions, whether formal or informal. Different institutions have been formed at different times and places in an attempt to respond to increasing pressure on natural resources. As part and parcel of the Ethiopian natural resource system, the southwest coffee forest has been exposed to recurrent changes in institutional arrangements. Broadly speaking, institutions can be categorized into formal and informal/customary based on the formality¹⁵ of their rules and regulations or can be classified into local and beyond local institutions based on their levels of operation. Informal or customary institutions take precedence in managing natural resources. In other words, the involvement (establishment) of formal institutions in natural resource management mainly forest is a recent phenomena in Ethiopia. The formal-informal institutions interaction is characterized by the gradual isolation of previously strong informal/customary institutions and the gradual domination of formal institutions that created power vacuum leading to forest and other resource degradation. This chapter seeks to analyse the link of different institutions at different levels and how they are linked among themselves and how they are linked with the coffee forest management. This answers the question whether the existing institutional arrangements are viable, dependable and can sustainably manage the coffee forest or not.

¹⁵ Formal institutions are institutions with formally designed and written rules and regulations mainly by government bodies.

4.1.1. Recurrent Changes in Formal Institutions of Coffee Forest

There are formal institutions related with coffee forest management that operate at local or higher levels. The Ministry of Agriculture and Rural Development, Institute of Biodiversity Conservation, *Wereda* and *Kebele* Administrations, and Oromiya Government Forest Supervising Agency are some of the formal organizations operating in coffee forest management or own potential relevance to the coffee forest management. Each of these formal institutions has its own historical root or undergone recurrent changes in their institutional set-up. The analysis of these institutions may indicate the potential stakeholder in building future coffee forest management institutions.

4.1.1.1. Ministry of Agriculture and Rural Development (MoARD)

The current Ministry of Agriculture and Rural Development effected structural changes in 1979, 1985, 1989 (1980/81 EC), and 1993, (MoA, 1993) 2001 and 2004. In the 1979 structural change effected by what was then MOA, Forest and Wildlife Protection and Development Department emerged as one of the six major departments that were made directly accountable to the deputy minister. At the time, no mandate was given to this department to care for forest and forest coffee genetic diversity conservation. Its mandate focused mainly on preparation of guidelines on protection and conservation of forest, wildlife and natural resources. This involves preparation of policies, plans and programs on forest and wildlife protection.

In the 1984 structural change, forest management came under the authority of the natural resource development and protection sector which was one of the five major sectors of the Ministry. There were three departments under this sector including government forest development, cooperative forest and soil protection department, and land use research and monitoring department. It is possible to see from the structure that no due attention was given to the forest or coffee forest biodiversity conservation.

In the 1993 structural change in the MoA, there were six main departments made directly accountable to the Vice Minister, one of which was the Agriculture Extension and Development Department that directly dealt with forest. It worked on how to reduce rural peoples' use of forest products for fuel and light and provision of alternative energy sources. Some informants from the MoA explained the other way. It was explained that the Ministry of Agriculture was then divided into two branches known as extension and regulatory. Under extension, there are different experts positioned as coffee development expert, coffee nursery expert, coffee protection expert, agroforestry, soil and water conservation experts, forest extension expert, crop production expert, fruit and vegetable expert, irrigation expert etc. Under regulatory department, there are three departments: under the first department, there are environmental protection, forest protection, and forest conservation and pollution prevention experts. The second team under regulatory department consisted of crop protection that deals with the protection of different crop varieties. The third department under regulatory section is coffee marketing and quality control. It is true that some of the experts under extension department deal with forest protection and conservation. However, none of them dealt with forest or forest coffee

genetic diversity conservation under the Ministry of Agriculture. In 2002, natural resource and irrigation was established as an authority, being detached from MoA while the rest remained as they were. Coffee production, processing and marketing remained under MoA.

In 2004, the MoA was restructured as the Ministry of Agriculture and Rural Development (MoARD). The organizational structure became more complex than ever before. The Ministry is classified into those accountable to the Minister and those held accountable to the sector State Minister. Three of the organizations that include Disaster Prevention and Preparedness Commission (DPPC), Ethiopian Agricultural Research Organization (EARO) and Ethiopian Social Rehabilitation Development Fund (ESRDF) are directly accountable to the Minister. The structure has also three Sector State Ministers held accountable to the Minister. These are Agricultural Marketing and Inputs Sector State Minister, Agricultural Development Sector State Minister and Natural Resources Sector State Minister. Under Agricultural Marketing and Inputs Sector State Minister, there are seven departments, one commission and two enterprises out of which coffee, tea, spices and cotton marketing department is one. Forest and forest products marketing departments is also under this Sector State Minister. Under Agricultural Development Sector State Minister, there are seven departments, two centers and one institute. Coffee, Tea and Spices Development Department is one of the seven departments under this Sector State Minister. Under the third Sector State Minister (Natural Resources Sector State Minister), there are three departments, two centers and one institute. The Institute of Biodiversity Conservation (IBC) which deals with forest genetic diversity conservation and other issues is structured under this sector state minister. Forest land use and soil conservation and development department is also structured under this Sector State Minister.

Though the above structures mentioned under the three sector state ministers are related with coffee and forest conservation and use, there are so many other departments, centers and institutes under the structure. Recurrent changes in organizational structure have substantial impact on coffee and forest conservation and use. As is possible to observe from previous experiences, it creates instability among workers due to the replacement of one structure by the other before becoming familiar and operational.

Changes made in institutional structure of the Ministry of Agriculture since the early 1990s did not address the need for separate body or government structure dealing with coffee forest management or conservation and use. This may have given rise to increasing deforestation of coffee forest in southwest Ethiopia. It also entails the necessity to design institutions based on the practical situation of the two resources (natural forest and wild coffee) to ensure sustainable conservation and use of coffee forest. In addition, the organizational structures changing from time to time had no significant impact in terms of addressing the key issue of ensuring sustainable coffee forest management.

Currently the Ministry of Agriculture and Rural Development is executing a new structural set up called the Business Process Reengineering (BPR) which was launched in 2007. Business process reengineering is defined as an “approach for redesigning the way

work is done to better support the organization's mission and reduce costs” (GAO, 1997). A look into the current application of BPR in the MoARD will help us understand the nature of resource allocation and the emphasis given to natural resources management in general and forest and coffee forest management in particular.

There are three sector state ministers under the Minister of MoARD. Under the three sector state ministers, there are six core processes held accountable to their respective sector state ministers. However, there is no hint that indicates the forest conservation issues like biological diversity and conservation in light of its inherent coexistence with wild coffee in some districts or areas. It rather would create conflicting features for different process owners or experts dealing with coffee or forest being in different offices and institutional structures as may not have similar understanding and objective towards the same resource like what has happened at local level regarding coffee forest .

In general, when observing the attention given to forest and forest coffee conservation and use under the MoARD and its branch offices and regional offices, there is no due attention given especially to forest coffee biological diversity conservation as discussed below. Who is responsible for coffee forest biodiversity conservation and use?

4.1.1.1.1. Coffee Improvement Project (CIP)

It is a project for the improvement of coffee production in the peasant sector whose funding was shared between the European Union (the community) and the Ethiopian Government. The first three phases was implemented between 1976 and 2000. The third phase was implemented between August 1989 and June 2000. The primary aim of all three phases had been to increase incomes of coffee farmers in the 18 (originally 15) coffee growing areas (*weredas*) through coffee extension activities, improved on farm coffee practices, supply of Coffee Berry Disease (CBD) resistant varieties, and promotion of food crop in the farming system (AGRISYSTEM, 2001:1). A new project for further phase (Phase IV) of assistances to the coffee sector was designed in July 2001. The overall objective of the proposed project is to improve standard of living in coffee growing areas. Improved delivery of coffee research results, the provision of an effective coffee extension service and sustained increased supply of CBD resistant coffee seedlings with local land characteristics are the main activities proposed. CIP III identified initial areas for conservation and CIP IV would invest in the conservation of the identified areas. The project has five operational components to address the identified problems. Extension, nursery, research, conservation and marketing are the five components of the project (AGRISYSTEM, 2001).

The conservation component of the project deals with the shrinking gene pool that comprises Ethiopia’s ‘wild’ or forest coffee. With the forest being depleted at an alarming rate, the forest coffee genetic resource is also endangered. Ethiopia’s Institute of Biodiversity Conservation was an institution assigned to undertake the coordination of the conservation component of the CIP IV project. Under the auspices of the third CIP project, the IBCR through EARO identified and demarcated three sections of primary

forest that are rich in wild coffee resources (Ibid). Out of the three forest coffee areas rich in wild coffee resources, two are in Southern Nations, Nationalities and Peoples State (SNNPS) namely Boginda-Yeba (2,764 ha) in Kafa Zone and Kontir-Berhan (9,025 ha) in Sheko Wereda in Bench-Maji Zone. The third coffee forest which is the subject of this research is in Oromia Region (i.e. Gabba-Dogi about 10,000 ha) in Yayo *Wereda* in Iluu Abba Bora Zone. Each forest conservation area was supposed to have office, storehouse and houses for contract personnel. It is clearly stated in the project document that most of the specialist staff needed for the project would be supplied from the regions as the contract personnel. Short-term researchers (Silviculturists, botanist, taxonomists, and forest management specialists) would also be supplied under contract (AGRISYSTEM, 2001: 34).

Communication Channels

There are three lines of accountability or systems of delegation of accountability in the CIP project. On one hand, the Ministry of Agriculture and Rural Development passes budget to the Coffee, Tea and Spice Development Department which in turn passes down to CIP IV coordination office which in turn sends the money directly to the coffee forest conservation office (Gabba-Dogi). In other words, financial flow is directly made from the donor (European Union) to the MoARD (CIP IV project coordinator) which in turn passes it to Gabba-Dogi forest coffee conservation office. The second channel is the way the regional bureau runs the forest area. Oromia agriculture and rural development bureau passes accountability to the zonal agriculture and rural development which in turn transfers to district agriculture and rural development. The District Agriculture and Rural Development provides guidelines to Gabba-Dogi forest coffee conservation. However, zonal and district ARDO have indicated that they have no formal working relationship with Gabba-Dogi forest coffee conservation. Their relationship is more of symbolic and not based on clearly defined lines of accountability and responsibility. The third line of communication is from federal IBC to Gabba-Dogi forest coffee conservation site which mainly is related to the provision of technical support to the forest site or Gabba-Dogi Project. This fragmented and multifarious relationship existing between Gabba-Dogi forest coffee conservation project and the different offices and bureaus at deferent levels has led to a situation where responsibility and accountability become very loose. This is mainly due to the fact that as the three channels are not supporting each other, institutions given administrative responsisibility or technical responsibility are with out budget.

4.1.1.1.2. Institute of Biodiversity Conservation (IBC)

In January 2004, the Institute of Biodiversity Conservation (IBC) underwent structural changes (amendments) which were gazetted in the Ethiopian Federal *Negarit Gazeta* as Proclamation No.381/2004. By this proclamation, the name of the institute was changed from “Institute of Biodiversity Conservation and Research (IBCR)” to “Institute of Biodiversity Conservation”. The accountability of IBCR, hereafter IBC, is also shifted from Ethiopian Agricultural Research Organization (EARO) to the Ministry of Agriculture and Rural Development (MoARD) by this proclamation sub article 2. No significant change was made in the objective of the institute. The main objective after this

proclamation is to ensure the appropriate conservation and utilization of the country's biodiversity. Similar to its former objective, it continued to ensure the conservation of the country's biodiversity using *ex-situ* and *in-situ* conservation methods through working in cooperation with concerned federal and regional bodies.

Under plant genetic resource program, forest genetic resource conservation and research program has become responsible for forest coffee gene pool conservation. However, this section of the institute is not responsible to the coffee forest gene pool conservation as the mandate was transferred to the Oromia Regional State Bureau of Agriculture and Rural Development. The concerned technical staff of the IBC provides only technical support to Gabba-Dogi forest coffee conservation project as of 2004 when the logistics destined for this project was shared with the Oromia bureau of agriculture and rural development following the letter written from the Deputy Prime Minister and Minister of Agriculture and Rural Development. The main message of the letter, as the respondent stated, is the need to decentralize the *in-situ* conservation of the coffee forest to the region. This is the key point of departure at which the coffee forest administration was no longer the responsibility of a single body. The concerned department from IBC stated that the IBC is only responsible to provide technical support such as provision of training and preparation of guidelines for *in-situ* conservation. According to informants from IBC, Oromia regional state bureau of agriculture and rural development is also responsible for community management and provision of alternative means of livelihood for the people around the project. The region is also responsible for provision of incentives and staffing the project while the central coordination office of Coffee Improvement Project (CIP) IV controls the project (Gabba-Dogi). Here it is essential to explore that the project is stretched between three bodies found at federal, regional and district level without clear delegation of authority and responsibility. This will become clearer as we discuss OARDB and Gabba-Dogi forest coffee conservation project. The existing link can be described as the provision of technical support and budget from federal offices and the provision of administrative support like staffing from regional office and undefined relation with zonal and district government offices.

At the designing of the project the responsibilities given for the Institute of Biodiversity Conservation as a conservator of the country's plant genetic resource include: coordination of the conservation component through the conservation coordination office and passing down the funds to the forest area office and to the other project implementers (AGRISYSTEM, 2001:50).

4.1.1.2. Oromia Agriculture and Rural Development Bureau

Oromia Agriculture and Rural Development Bureau got this name and structure in 2004 during the structural change effected from federal to district level. During this structural change, regional agriculture and rural development bureau (ARDB) got a new structure consisting of three main branches or three departments, three service sectors and personnel section all of which are directly accountable to the bureau head. The three main branches namely agricultural department, agricultural inputs provision and marketing, and rural natural resource development and irrigation departments are directly held

accountable to the bureau head. Under agricultural development branch, there are four major departments out of which coffee development and horticulture department is one. Under this department, there are three teams that include coffee development team, coffee quality and trade monitoring team and horticulture team. As a principle, Gabba-Dogi forest coffee conservation project is under this coffee development team though their relationship is limited to provision of non-technical supports such as hiring manpower and vehicle administration.

4.1.1.2.1. Coffee Development Team

The coffee development team under agricultural development branch of Oromia bureau of agriculture and rural development (OBARD) is a body that has strong working relationship with IBC and CIP IV project. Experts working in this team state that CIP IV allocated budget three years ago for the designed project and the area demarcated by IBC, i.e. Gabba-Dogi. However, the IBC could not manage the project (Gabba-Dogi) as it could not have reliable structure that enables it to run the project. The IBC's responsibility on *in-situ* conservation was thus terminated by a letter from MoARD. The management of this coffee forest (Gabba-Dogi) was subsequently transferred to Oromia Bureau of Agriculture and Rural Development (OBARD) with the design to conduct participatory forest management in May 2005. The budget and materials allocated for the project were not ready at the beginning as it is released from the federal CIP IV coordination office. The CIP budget is released once annually which makes it difficult to recruit people who can work for this project as the contract is for a single year. However, the IBC is still preparing guidelines as originally promised during the transfer of the project from federal to region. Most of the duties planned for implementation in the Gabba-Dogi forest coffee conservation have no relevant experts both at regional and local level.

The main duties assigned to the region (i.e. for coffee development team) is staffing, monitoring the physical performance of the project, evaluating the report and reporting to the federal office. However, the region is not performing as per the agreement due to lack of qualified personnel for the designed objective and plans of coffee forest conservation and use project. For effective performance, the project has to get responsible administrator or project manager. There is high labour turn over in the project. There is a problem in hiring qualified staff as the payment for the project area is not attractive. Budget, vehicle and shelter for the workers were not fulfilled in time. There is no guideline and clear lines of responsibility to govern all stakeholders. Some issues are decided by assemblies or letters written from the boss. In addition to the scattered responsibilities among different offices and bureaus at federal, regional and district levels, there is no common understanding and awareness on forest coffee gene pool conservation among these stakeholders and the community at large. There is also no coffee expert assigned for gene pool conservation at regional office. Besides, the works assigned for OBARD are without budget and technically qualified personnel at regional level.

The second major branch under OBARD is a branch of provision of agricultural input and marketing. This branch has three departments that work on marketing agricultural products, administration of purchasing and provision of agricultural inputs and distribution of agricultural technology. The third main branch of the Oromia Bureau of Agriculture and Rural Development (OBARD) is rural natural resource development and irrigation. This branch has four departments that include the department of forest and wildlife. Forest development and conservation team and wildlife conservation and development teams are the two teams under this department. Forest development and conservation team mainly deal with the development, protection and utilization of forest.

4.1.1.2.2. Business Process Reengineering (BPR) in Oromia Agriculture and Rural Development Bureau

In Business Process Reengineering (BPR), work processes are reengineered and people are reallocated to different positions based on the new revised work process and structure that became operational (not yet finalized) as of October 2007. Based on this new structure, there are many process owners (*adeemsa Hojii*) who are accountable to the bureau head. There are many performers under each of these process owners. Coffee development performers are assigned within one of these process owners who are identified as a focal person to Gabba-Dogi forest coffee conservation project. Under process owner of agricultural extension in coffee producing areas, there are two coffee development performers at bureau level and one at zonal and one at district level. This shows that manpower allocated for coffee development at bureau level is larger in number than that allocated at zonal and district level. The position prepared for coffee development focus neither on biological diversity conservation of *Coffea arabica* nor on its habitat or natural forest biodiversity conservation.

Process owner for protection, development and utilization of natural resource is also another process owner directly accountable to the bureau head and deals with natural resources management. Under this process owner, there are three “performers” working on development, protection and utilization of forests. The three performers on the forest development, protection and utilization work on wide range of activities pertaining to forest. Activities planned and the mandates given to the three experts do not principally focus on genetic diversity conservation and use of coffee forest.

4.1.1.3. Gaba- Dogi Forest Coffee Conservation Project

Gabba-Dogi forest coffee conservation project started operation in June, 2003 in Yayo District of Illu Abba Bora Zone in Southwest Oromia. The project was designed and demarcated by Institute of Biodiversity Conservation and Research (IBCR) under close supervision of the then EARO, now named EIAR. The project was designed with the primary objective to conserve (*in-situ*) the wild *Coffea arabica* gene, together with all other biological diversities living in association with coffee in their natural habitat. The project has three major planned activities that include community development activities, conservation activities and infrastructure activities. Identifying community members having farmlands adjacent to the core zone, coffee lands in a buffer zone, coffee lands in

a core zone, coffee lands in between the two core zones and farmlands adjacent to the narrow buffer zone are some of the planned community development activities. Organizing forest dwellers under cooperatives, creating an alternative income generating means for the community, undertaking socio-economic study of 11 PAs (peasant associations) and awareness creation are the other planned community development activities.

Conservation activities are the second major group of planned activities that includes creating new buffer zone, restoring narrow buffer zone, strengthening the boundary of core zone, establishing the boundary between buffer and transition zone, opening permanent nursery and seedling production are the conservation activities planned for the project life time of 2004-2006. Cutting fire break, constructing guard and residential houses, erecting fire towers, fencing nursery site and constructing water wall are infrastructure activities planned that support conservation activities. These activities are expected to be implemented by the Gabba-Dogi Forest coffee conservation project. There is no clearly indicated inter-organizational support and relationship over the implementation of the coffee forest project. Like any other project, the document should have stated the responsibilities and roles of different institutions at local level that pose a major problem in the implementation of the planned activities. The project (Gabba-Dogi coffee forest conservation) has many problems which will be discussed in the next chapter. This is simply to show that there are no shared responsibilities among concerned local institutions that could have solved the prevailing problems in institutional structure that led to poor implementation.

4.1.1.4. Oromia Regional State Forest Enterprises Supervising Agency

Oromia Regional State Forest Enterprises Supervising Agency was established based on Proclamation 84/1999 article 3 (1) in June 2007. The organizational structure of the agency starts from Oromia Administrative Council, Board (that is chaired by the Oromia Administrative Council President), agency, enterprise, area office (i.e., team or satellite unit) and guard in descending order. Each of these structures, especially the agency and the enterprise, have their own detail organizational structures and objectives to achieve. The agency monitors 8 enterprises established throughout Oromia. Thirty eight (38) national forest priority areas in Oromia Regional State are categorized into eight (8) enterprises administered under the agency. The eight forest enterprises include Finfinne Forest Enterprise, Arsi, Wellega, Jimma, Ilu Abba Bora, Borena and Guji, Bale and Harerge Forest enterprises. Yayo (Gabba-Dogi) forest is under Ilu Abba Bora forest enterprise

4.1.1.4.1. The Agency

The name “agency” stands for Oromia Regional State Forest Enterprises Supervising Agency. The agency is established according to Proclamation 90/1999. The accountability of the agency is to Oromia Regional State Government Administrative Council through the board governing the agency. The board that monitors the overall

performance of the agency is chaired by the Regional State President. The objectives of the board are to monitor the administration of government forest enterprises; providing support to the enterprises so as to improve their manpower qualification and their administration, and enabling to use modern technology; supporting rural development activities being undertaken in and around forest; implementation of the regional state's forest policy and establishing new enterprises when the need arise.

Authority and accountabilities of regional-level agency:

- Supporting, organizing and monitoring government forest enterprises
- Approving plan prepared by the enterprise's administration and monitoring its implementation in cooperation with the enterprise board.
- Administering forest fund in line with Proclamation 90/1999 art 14
- Preparing and implementing different guidelines to ensure efficient utilization of human and budget resources leading to appropriate administration and utilization of forest
- Investigating and follows up of implementation of forest enterprises
- Controlling lower and upper limits of forest enterprises capital
- Ensuring allocation and timely release and utilization of capital from regional government.

Even if the organizational structure of the agency is decentralized with branches at all levels, it lacks the real decentralization of budget and community participation in planning and implementation as it can be observed from their described activities.

4.1.1.4.2. Government Forest Enterprise

From the very beginning, the agency has had eight enterprises operating in different parts of Oromia Regional State. Government forest enterprises are directly accountable to Oromia regional government forest enterprise supervising agency. The enterprise has management board, manager and internal auditor in that order. The enterprise has three main departments accountable to the enterprise manager. Forest areas are also directly accountable to the enterprise manager. The three departments under the manager are forest development department, supportive service department and utilization and processing department. Forest development department has two sections, namely forest, development and protection section and community outreach section. Supportive services department also has four sections that encompass administration service, planning and programming service, financial service and marketing and sales service. The third major department, utilization and processing department, has two sections: utilization and processing section and maintenance and workshop section. Generally speaking, the three major departments discussed above can be categorized into two based on their duties. These are Operational departments that include forest development department and utilization and processing departments. The second category is supporting services that encompass planning, audit, administration, finance and marketing and sales services.

The major objective of the enterprise is to ensure protection, development and sustainable use of natural resources in the forest lands given to the enterprise. It also ensures sustainable conservation and administration of wildlife in the forest. Making substantial contribution in the socio-economic development of the community living around the forest is also among the objectives of the enterprise.

The forest enterprise has the following authorities and responsibilities according to proclamation 91/1999:

- Developing and protecting the resources in a given forest area
- Ensuring the provision of forest products for construction, fuelwood, poles, timber, etc
- Preparing of forest administration plan by the help of the agency and implements the plan when the agency confirmed.
- Provision of technical support for the farmers around the forest area so as to help them have their own forest.
- Facilitating conditions that enable the community to use non-timber forest products (NTFP) such as wild coffee, medicinal plants and apiculture to contribute to the improvement of peoples' livelihood.
- Increasing revenues (income) from forest products through producing office and home furniture, paper, etc
- Utilization of the income from sale of forest products for the development of the socio-economic condition of people living in the forest area are the main authorities and responsibilities of the forest enterprise.

The authorities and responsibilities of the enterprise listed above hardly show the devolution and decentralization of the forest management. Most of the activities are decided at the regional (board and agency) and enterprise level. There are no actions reserved for decisions at community level. Though the forest is “government forest”, it is not without the interaction of the local community as it is strongly linked with their livelihood.

When we see the activities of each department accountable to the enterprise manager, forest development department has technical objectives and manpower for the forest protection. This department in particular responsible for nursery operation, planting seedlings, coordination of forest management plan, plantation maintenance and tending operation, forest protection, provision of forestry extension and awareness to all local communities and support the establishment of forest development associations. Utilization and processing department also performs inventory of a stand ready for harvesting, timber crushing, road construction and maintenance, timber felling, logging, transporting and processing (Ibid).

It is also possible to deduce that the activities specified as the main responsibilities of the departments under the enterprises hardly address the direct conservation and use objective of biological diversity of the *Coffea arabica* gene pool conservation and use in Gabba-Dogi forest coffee conservation site; this is because the objectives of protected area/biosphere reserve or the demarcation of the forest into different management zones

for gene pool conservation hardly fit with the enterprise's objective to earn income from the sale of forest products like timber. Especially, the views of conservation of the core zone without or with very minimal involvement of human activities will not match the enterprise's objective to generate income from the sale of forest products.

Forest area is the lowest structure of the agency accountable to the enterprise manager. It has forest area manager office, administration and finance unit, forest development team, and utilization team where the latter three are accountable to the forest area manager. Forest development team of the forest area has forest development and protection team, forest technicians, nursery foreman, plantation foreman, extension worker, nursery worker and guards. In the context of decentralization, the organizational structure of the agency up to the lower level lacks participatory nature. It is based on the decisions made at higher (Agency and enterprise) and guards at lower level than community participation. The organizational structure designed by the agency especially manpower allocation is not convenient for the conservation and use of *Coffea arabica* gene pool. It needs special design that will fully suit with the biological diversity conservation and the coexistence of natural forest and wild *Coffea arabica*. This is due to the reason that the enterprise is mainly aimed at generating income from forest to conduct some development activities. In contrast to that the coffee forest protected area is for biodiversity conservation where harvesting to generate income is impossible at least in the near future that clashes with the enterprises main objective to generate income.

4.1.1.5. District Agriculture and Rural Development Office

The organizational structure of district ARDO is very similar to the regional (Oromia) ARDB. Out of the four major core processes in the new structure at district level, there is Natural Resource Development, Conservation and Utilization core process under which forest protection sub-process is structured. In this sub-process there are many forest utilization and development workers. Their responsibilities mainly focus on the forest protection activities, seedling production and planting, forest management, controlling illegal forest product movement and giving pass permit to the harvested products, wildlife protection etc. Hence, though the district ARDO has relevant mandates to the forest protection and management, it lacks a structure and objective that directly focus on coffee forest biodiversity conservation. Nonetheless, it works in close contact with the community and can serve as a potential institution for coffee forest biodiversity conservation with some modifications.

4.1.1.6. District Administration

At the end of the Derg regime, the area currently covered by the Gabba-Dogi Forest coffee conservation project was administered by *Gabba Awraja*¹⁶ under which different *Kebele* Administrations were formed. *Gabba Awraja* includes Yayo, Hurumu, Dorenni and Chora districts. In 1991, when the Ethiopian Peoples Revolutionary Democratic Front (EPRDF) came to power the four areas (Yayo, Hurumu, Dorenni and Chora)

¹⁶ Administrative structure above districts during the Derg regime.

dissolved into separate districts. In 2005, three of these districts (Yayo, Hurumu and Dorenni) were combined to form a single district known as Yayo-Hurumu. After the 2005 national election, Yayo-Hurumu was restructured into three different districts named Yayo, Dorenni and Hurumu districts. The forest coffee area under investigation is found in the boundaries of these three districts due to the recurrent administrative changes. The rise and fall or the dissolution and the establishments of district administrations are followed by the dissolution and establishment of line offices that are directly responsible to the coffee forest conservation as shown above. The district administration is responsible for approving the work plans (annual, bi-annual and quarterly), budgets and human and physical resources requirements of the various sectoral offices (Teklu T, 2006:91). This indicates that, as a principle, the human resources responsible for the conservation of coffee forest is directly or indirectly determined by the district administration. However, the case of Gabba-Dogi forest coffee conservation project is different as there is no formal link with the district administration and the project. The central role of the district administration is also the enforcement of the rules devised in the management of coffee forest.

The administrators of the three districts stated that the *wereda* administrative council is in conflict with the people living adjacent to the coffee forest for various reasons. According to the local community and officials, Gabba-Dogi forest coffee conservation project is a federal project that does not directly involve local formal organizations including the district administration. Zonal and District Agriculture and Rural Development Offices, police, justice and administrative councils participate in the protection and conservation of coffee forest. However, there are no clear-cut areas of responsibility directly delegated to these offices. On the other hand, the community living in and adjacent to the coffee forest has been presenting their problems to the district administration. A major problem raised by the local community is inclusion of farmers' coffee, home and other farms in the demarcated coffee forest area. As a result, the communities are opposing the ruling political party as the issue of coffee forest affecting their life is not responded or resolved. This forced the district administration council to come up with the idea that district and zonal bodies should have a primary responsibility in forest coffee conservation. This is because regional government is responsible for managing the forest area (in this case Gabba-Dogi) and for working with the local communities. The case of Gabba-Dogi forest coffee conservation project, however, reveals the centralized nature of coffee forest project. This is for the reason that, as the district administration council ensured, there is lack of participation by local bodies mainly concerned district offices and poor staffing of the coffee forest project resulting in poor performance of planned work.

4.1.1.7. Kebele Administration

Kebele is the government structure under the district administration and above the development team. There are 11 *kebeles* bordering the coffee forest project. Under these 11 *kebeles*, there are 33 development teams. The *kebele* administrations consisted of legislators (*Kebele* Councils (KCs)), executives (*Kebele* Executive Councils (KECs)) and systems of social courts (*Kebele* Courts). They issue operational guidelines regarding

social, economic and political development of interest to the inhabitants of the *Kebele* (Teklu T., 2006:92). *Kebele* administrators mainly deal with the day to day activities of the rural residents. Most of the rules devised at district and zonal levels are implemented at *kebele* level, but there are no rules as such that are devised at zonal and district level for the case of coffee forest. Issues of natural resource management including coffee forest management are monitored at *kebele* level. Violations of rules devised by many formal institutions, both government and non-governmental organizations operating at local level, are followed at *kebele* level. The *Kebeles* impose penalty on those who violate the rules. The coffee forest guards report to the *kebele* administration which has its own militias and social court to control any illegal acts like illegal logging and encroachments. *Kebele* administrators and forest committee allow people to use few trees for timber from the buffer zone based on some arrangements.

4.1.1.8. Development Team

Development team is found under the *Kebele* administration. It usually consists of 20-25 households that based on the number of households living in one area or village. Teklu states that the management team of the DTs is comprised of a chairperson, deputy, secretary and two ordinary members. Members of the management team (leadership) are elected members from the inhabitants of the *kebele* (KA) (Teklu T., 2006:92-93). Development team is the lowest institutional structure where detail planning and implementation are conducted. Aforestation, crop production, coffee conservation and other development activities are planned in light of policies delegated to them. Development team is the basic institution at grass root level that mostly incorporates homogeneous people in terms of socio-economic and cultural aspects who are members of different customary institutions. The involvement of leaders of different traditional institutions in different conservation and use activities begins at this level.

4.1.1.9. Policies of Forest Management

Policies, guidelines and proclamations are issued at different times in efforts to respond to existing pressures on natural resources. Teklu states that “despite the present federal nature of the Ethiopian state, the power of the Office of the Prime Minister is paramount in policy decisions, planning and reporting. Policies and plans emanate from this office and are transferred down to the local level passing through the various hierarchies for implementation and reporting is made back to the same office following the same structure (Teklu T., 2006:93). Most policies, proclamations and plans are based on what has been devised at federal level than on the practical situation of the given area under consideration. The advantage of devising policies at local level with significant participation of the community helps to tackle the practical problem on the ground.

Oromia Rural Land Use and Administration Proclamation 56/2002; and Forest Proclamation of Oromia, Proclamation 72/2003 are some of the guiding principles issued at regional level based on the policies issued at federal level in an attempt to bring effective management of natural resources, particularly forest. Article 5 (3) of Oromia

Rural Land Use and Administration Proclamation states that the customary right of access to land communally like for grazing, ritual ceremonies and public uses shall be maintained both for peasants and pastoralists. Though the statement regarding the customary use of land is vague, it explains the necessity of ensuring access to forest products through their customary right. The practice on the ground and statements of the proclamation are different. In Gabba-Dogi forest coffee conservation project, though the community claims for their customary right, coffee forest administrative structures are not willing to permit access to the forest products. Article 6 (4) of Oromia Rural Land Use and Administration Proclamation also states that the use right of an individual land user shall be subject to termination, only if that land is required for more important public uses and decided with the participation of the community. This article also supports conversion of coffee forest from public use to biological diversity conservation. However, it puts restriction on arbitrary confiscation of coffee forest as it requires decision with the participation of the community. However, the real situation on the ground is different as coffee forests in and adjacent to Gabba-Dogi forest coffee conservation are confiscated without the participation of the farmers or the community. Proclamation 56/2002, article 20 (1) also asserts that government can demarcate priority forest areas, wildlife parks and sanctuaries to protect with all the components of its natural ecosystem for sustainable use. Article 20 (3) indicates that delineation, demarcation, development, protection, rehabilitation and management of protected areas shall be done with the participation of the local community. Proclamation 20 (4) shows that the manner by which the local community shares the benefits obtained from the protected areas shall be facilitated. It also confirms that pockets of natural forest lands shall be identified, demarcated, protected, managed and sustainably used by the local community. Though the proclamation gives a good cover for the benefit and security for the life of local community, there is a problem in its implementation on the ground.

Oromia Forest Proclamation 72/2003 focuses on the development and protection and utilization of forest. Article 4 (2) of the proclamation states that the authority shall secure the consent of farmers in case of the need to evacuate farmers in the process of the state forest demarcation in collaboration with the appropriate parties. The authority also ensures the fulfillment of interest and benefit for the evacuated farmers. Article (3) states that the authority shall strengthen community participation on forest development and protection. The authority also signs an agreement with non-governmental organization, private company, individuals and appropriate parties and concludes a bilateral agreement to strengthen forest protection, development and management Art 4 (6). All the articles mentioned above state the need to ensure farmers willingness and interest when their forest is needed for demarcation or other purposes. Article 7(1) deals with the need to develop and protect different types of tree species in protected forest. The authority may declare: area of rare tree species, wildlife and birds or generally declare protected forest to prevent extinction of genetic resources. Article 12 (2) states that the community around protected forest may collect grass and tree seeds from protected forests and may keep beehive in the protected forest on the basis of permission from the authority. In this case the proclamation doesn't give due attention to the farmers customary right and the socio-economic losses they face during demarcation of forests for genetic diversity conservation. Article 14 (1) b states that it is prohibited to clear the forest resource in

order to plant coffee, *Catha edulis* and practice agricultural activities, etc. It is prohibited to cut any tree, utilize tree products or perform similar activities in the protected forest. This is an important issue that discourages illegal encroachments in buffer and core zones of the coffee forest. However, many stakeholders agree that the demarcation of the coffee forest as a protected area for *Coffea arabica* genetic diversity conservation has to be based on the farmers' consent and full participation as it has a fundamental impact on their livelihood.

In light of the proclamations issued at regional levels, the Federal Ministry of Agriculture and Rural Development has issued policies, strategies and proclamations on September, 2007 which gives a better focus for the problems of local community living in and adjacent to forest. The basic aim of the policy is to meet public demand of forest products and foster the contribution of forest resources to food security and industrial development. The policy also states that “*State forests and forest lands in the country will be administered based on the management plan to be drawn on a two-pronged approach of protected forest and productive forest management system.*” Based on this policy, state forest is administered in two groups as protected forest and productive forest management system. The new policy states that the boundaries of protected forests and forest lands, particularly those that are hotspots for indigenous tree species threatened with extinction, will be delineated and administered, as necessary, by federal or regional governments for their sustainable use. This clearly indicates the lack of commitment by government bodies to conduct real decentralization where the local people can share power in protected forest management. However, the policy has the strategy which seems to conflict with the policy, to participate people in and around the protected area through the grant of permits and technical assistance enabling them to engage in the production of honey, spices, wild coffee and fodder by way of participatory forest development and management. Participatory Forest Management (PFM) is the process where the community and the government body share authority and responsibility in forest management. For protected forests which are hotspots for biodiversity conservation, the policy states that this will be administered by federal and regional governments. But this is not convenient for PFM since the portion of the forest needs to be protected without human involvement. For productive forests, there is no problem with the stated strategy and application of participatory forest management as it is administered by the pertinent government body, individual or organization.

The policy gives special emphasis for the administration of forests by the state. It denies trust to the local community and their customary rights in forest management at this time when the world, specially developing countries, are giving special emphasis to the community and their indigenous institutions in forest management

The policy also states that scattered natural forests and plantations that are not designated and demarcated as a protected or productive forest shall be managed by *kebele* administrations or individuals accorded with certificates of ownership rights. Very important forests designated as a protected area are administered by federal and regional governments. Few scattered forests are given to lower government structures. The only opportunity given to individuals is developing forests on private land and administering

productive forests through concession. The policy are gives trust to state forest administration. This forces to question the sustainability of state forest administration by governments of developing country where there is high political instability and where millions of poor people's livelihood is attached to forest and forest products.

Along with the above mentioned policy, the Federal Ministry of Agriculture and Rural Development issued Proclamation No. 542/2007 that is known as forest Development, conservation, and utilization proclamation no. 542/2007. In this proclamation, Article 2 (6) defines "State forest" as "any protected or productive forest, which is under the ownership of the Federal Government or the regional state". In addition, Article 2 (9) of the proclamation defines private forest as a "forest other than state forest" which also shows the existence of only two types of forest ownership that include state and private ownership as shown in Article 3 of the proclamation. The proclamation has similar idea with the policy in giving special emphasis to state forest. Article 8 (1) states that "in order to properly conserve, develop and utilize forest resources of the country, major forest lands shall be designated as state forests, their boundaries shall be demarcated and they shall be registered as protected and productive forests." From this, it is possible to confirm that both the policy and the proclamation repeatedly and thoroughly indicate strong association between state ownership or the designation of forests as state forest and efficient and sustainable conservation of forests which many researches do not support (see Ostrom, 1990). However, this is not the case in many of the research findings especially in developing countries, where indigenous institutions dominate or effectively manage forests. Article 11 (6) of the proclamation states that "the local community may be permitted to keep beehives, produce spices, forest coffee, forage and the like in a protected forest by providing them forest development and conservation training and technical support". In general it is possible to observe from the policy and the proclamation that it is not based on the ideas of the people living in and adjacent to the forest. It is rather based on the centralized approaches where much of the management activities are decided at federal and regional level. This kind of policy and proclamation will be the major cause for the creation of conflict with the local community and the degradation of the resource. From the very beginning, in a country where traditional resource management persisted for the past many generation, the designation of forests as protected and productive forest of the state might have multi-dimensional consequences on the livelihood of the local community and the sustainable management of forest.

4.1.2. Customary Institutions

Informal institutions play role in the conservation and use of natural resources. The rules and regulation of informal institutions form a portion of the livelihood aspects of the communities. That is why (North D., 1998) stated that institutions are humanly devised constraints that structure human interaction. According to North, institutions are made up of formal constraints (for example rules, laws, constitutions), informal constraints (for example, norms of behaviour, conventions, self imposed code of conducts) and their enforcement characteristics (North D., 1998:248). Traditional institutions are part of

informal institutions which are taboos, rituals and other repetitive cultures. They are also instrumental in natural resource management and rural development processes at large (Kweka D., 2004:2). Analyzing informal institutions helps to understand how the communities have been interacting with natural resources in general and coffee forest in particular. Informal institutions have paramount significance in the livelihood of the rural communities living in and adjacent to the coffee forest. The rules, regulations, guidelines, codes of conduct, etc. which constitute informal institutions can reflect their potential interaction with the coffee forest and other natural resources in their surrounding.

Studying informal institutions pave the way for understanding their importance and how to combine with formal institutions such as government, NGO, and community devised institutions for effective natural resource conservation and use. Studying informal institutions is also the other way to understand the livelihood of the community and their interaction among themselves and the internal community. Institutions deal not only with the natural resource management but with the whole aspect of the community. Socio-economic, cultural, political, religious, etc, affairs of the community are reflected in customary/informal institutions. Therefore, in order to deal with the role of informal institutions in coffee forest management, it is essential to analyze how it functions and how it can contribute to sustainable coffee forest or natural resource management.

Informal institutions are mostly established to regulate, support and govern the different aspects of the community's life, i.e., they are not designed to govern coffee forest or other natural resources. However, they can still govern the behavior of the community living in and adjacent to the coffee forest. This means that informal institutions can help in crafting the institutions of coffee forest management and guiding the behaviors of the community in coffee forest use and conservation. Pankhurst in this regard asserts that NRM is not a separate or discrete field. His research shows that NRM is part of the rest of social organization and "...resource management institutions would often deal not with a single resource, but several" (Pankhurst A., 2001:6). In some localities, however, a few indigenous institutions work for a particular purpose, duty or specific natural resource management like the *abba ulee* institution of Yayo¹⁷ area that specialized only in cattle herding (Zewdie J, 2005). In many areas, however, customary/indigenous institutions deal with whole aspects of the local community's lives which is typical of those predominantly found in Yayo area, i.e., indigenous institutions in the area do not operate only on forest coffee and natural forest as they are directly or indirectly involved in all the natural resource conservation duties and other aspects of life. There are no specific forest institutions, which have rules regarding harvesting, processing, and selling level or use of products (Ibid).

Hence, the nature and structure of indigenous or informal institutions, the roles they play in forest coffee conservation and use, and other natural resource management vary from place to place and time to time. Nevertheless, institutions have a common role of

¹⁷ In some literatures used the name Yayu instead of Yayo, for which I used Yayo as the natives pronounce it.

reducing uncertainty by establishing a stable structure to human interaction (Daftary A., 2004:15). Manchur also states that institutions form a fundamental link between local communities and their environments, and it is through these rules that the collective action associated with controlling access to local resources is organized (Manchur, 2002, cited in Zewdie J, 2005).

Based on the study conducted (Zewdie J, 2005) in Yayo area, indigenous or informal institutions are clustered into four major categories. The basis for their classification is the role they play in the community and their mode of function. The four categories of informal institutions are territorial-based administrative informal institutions, informal self-help organizations, religious institutions and indigenous knowledge. However, this study focuses mainly on the first category of institutions or territorial-based administrative institutions that include *tuullaa*, and different forms of elders' council and self-help work organizations and religious institutions as they have more relevance to the resource management.

4.1.2.1. Territorial-based, Administrative Customary¹⁸ institutions

Territorial-based administrative informal institutions, as the title indicates, are based on territoriality and have holistic administrative functions. Some of the institutions clustered under this title are established to serve people living on specific territory of land.

There are two groups of territory based informal administrative institutions. The first category comprises *tuulla*, *xuxee* and *shane* institutions playing various roles in Yayo area. The other category consists of different types of elders' councils principally *mucho*, *salgii* and *jaarsa biyya* that mainly operate both on genealogical/kinship and territorial basis with the above-mentioned institutions and a range of self-help work organizations.

4.1.2.1.1. Tuulla, Xuxee and Shane

Tuulla is territory-based administrative institution that has been performing multidimensional (socio-economic, cultural and political) activities and still existing. *Tuulla* is an *Oromiffaa* word that originated from the word *tuulla*, which refers to heap or stack. This concept is also derived from the way the head of the *tuulla* institution (*tuulla*) is elected in a very democratic manner, with the recommendation of people essentially. All the households under the particular territory give a vote for the proposed person. The vote will be given by placing a moist grass (*irreessaa*) on the proposed candidate. All people in a given territory interested in electing the proposed person place the moist grass on the individual, or cast a ritual "election card" on him. As the majority of the people place the *irreessaa* on him, it becomes a heap or *tuulla* as it covers almost the whole part of his cloth or body.

¹⁸ Customary institution is used interchangeably with indigenous institutions throughout the dissertation

The word *tuulla* carries three different meanings used under different contexts: firstly, it refers to the institution as a whole that has three structures, i.e., *tuulla*, *xuxee*, and *Shane* in descending order. Secondly, it refers to a person elected as a head of the *tuulla* institution. Thirdly, it signifies a specified territory equivalent to the earlier (before 1998) one peasant association (PA), currently named as a *gox*¹⁹ in some places. In this thesis, the term *tuulla* is used as an institution.

Tuulla is elected by the community living in his locality (*tuulla*) based on his popular acceptance credited to him because of his capability and participation in various socio-economic affairs. These include his talent to organize people for various purposes such as self-help organizations, skill to handle societal conflict and ability to persuade people. This is based on his earlier participation in various communal affairs. Wealth status is not a criterion to be elected as a *tuullaa*. People from medium wealth category are usually elected to the position. In *Wixete Kebele*, for instance, there are three *tuullas* as there are three *goxs* that include *Deebisa*, *Jiito* and *Haro*.

The *tuulla* delegates authority as well as responsibility to his two descending structures. These are *Xuxee* and *Shane*. Territoriality is the major criteria for the establishment of the *tuulla* institution. There is always one *tuulla* under the former Peasant Association (PA). After two to four PA's have been merged into a single *Kebele*, there are two to four *tuullas* in a single *kebele*. There is no territorial overlap among the *tuullas* found in the same *kebele*. Within the territory of a single *tuulla*, there is always a single *Xuxee* with the same territorial coverage. In the case of *Shane*, however, there are one to five *shanes* within a single *tuulla* or *xuxee*, which also do not territorially overlap.

It is difficult to confine the role of the *tuulla* institution to a few activities for it, directly or indirectly, deals with many aspects of the lives of the local community. It has a social, political, economic and cultural importance for the society. The *tuulla* institution either controls or works with almost all the other indigenous self-help work organizations such as *jiga*, *lafee*, *dabo*, *sijaallee*, *abba ulee* and some times *iddir*. *Tuulla* is everything for the society under his territory particularly in earlier days. He organizes economic support among the local people through labour, in cash and kind for the poor, the sick, victims of various disasters such as those who lost their cattle through disease or theft and their home by fire, etc. *Tuulla* has also the right to punish people who deviate from the rules and regulations of various indigenous self-help or voluntary work institutions such as, *jiga*, *lafee*, *dabo*, *abba-ulee*, etc with a group of elders *mucho* or *jaarsa biyya*. That is *Tuulla* thus clearly plays an executive role in conflict prevention and resolution mechanisms together with the indigenous horizontal (*mucho*) and vertical (*jaarsa biyya*) structures. *Tuullas* conflict resolution role is mainly implicit in the activities of self-help work organizations mentioned above. See Figure 4.1 for organizational structure of indigenous institutions in the post 1991 in which many are either changed or abolished once and for all

¹⁹ Under the *kebele* the current formal structure constitutes *gox* and *garee misoomaa*, the lowest administrative structure under the current government.

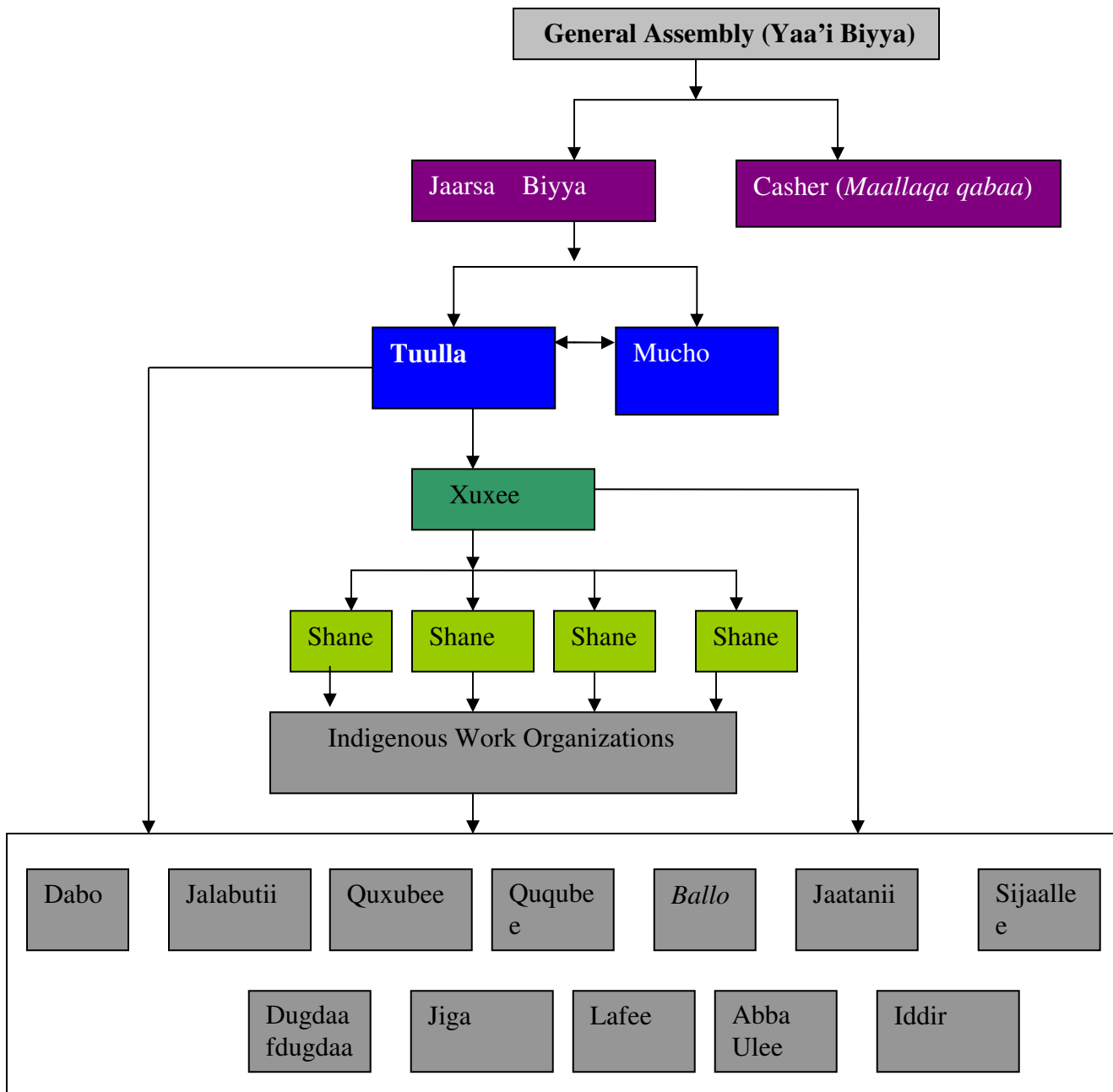


Figure 4.1: Organizational Structure of Contemporary (Post1991) Indigenous Institutions in Yayo Area

Source: Developed by the Author

In-depth investigation of the *tuulla* institution shows that it is a multifunctional institution. *Tuulla* organize and controls the activities of various indigenous institutions through different mechanisms. In other words, *tuulla* is behind many institutions though

the emphasis varies across an area and different institutions (See Zewdie J., 2005 for detail)

Xuxee, on the other hand, performs activities delegated to him by the *tuulla*. *Xuxee* passes down some of the responsibilities delegated to him by *tuulla* head to *Shane* (the lowest structure) who gets most of the activities performed by the local community. *Shane* literary means five in *Oromiffa*, which signifies that only a small number of people is needed in this structure.

The main question is how these institutions (*tuulla*, *xuxee* and *Shane*) contribute in resource management in general and coffee forest in particular.

More specifically, this institution (*tuulla*) contribute to the coffee forest management in two senses: Firstly, as already stated above, *tuulla* organize, leads, controls and enforces the activities, rules and regulations of diverse local customary institutions indicated in the above diagram. And these institutions are involved in a wide range of activities that include coffee forest management, harvesting coffee forest, and controlling violations of rules in coffee forest management. It also controls and enforces traditional rules of coffee forest management or the coffee forest plot system, mainly with the control of access and withdrawal as well as entitlements until it was formally relegated by government led formal institutions after 1974 though it still informally work in very few places. Secondly, as *tuulla* is behind the overall life of the community in the coffee forest area i.e. socially, culturally and economically, it can also control the activities and behavior of the local community specially in promoting collective action such as designing, crafting, and enforcing rules and alternative institutions that can sustainably manage the coffee forest through the active participation of the local community. In short, it is a live artifact of the community that can practically govern, organize and lead the community and their behaviour in any direction through their own initiatives and interest without top-down impositions including in resource management such as coffee forest. It can also serve as the best tool and strategy to win the heart of the community and their real commitment in sustainable coffee forest conservation and use.

4.1.2.1.2. Role of Jaarsa Biyya, Mucho and Salgi in Resource Management

Some people use *jaarsa biyya*, *mucho*, and *salgi* interchangeably. However, the three institutions are quite different in their previous duties and responsibility. These are groups of elders who are involved in decision-making of some kind pertaining to the affairs of individuals, community and indigenous institutions.

Salgi is a group of elders which literally means nine in *Oromiffa*. It consists of nine individuals considered knowledgeable among the local community. *Salgi* existed or functioned approximately a century ago while others confirmed that it existed until the end of the imperial regime (1974). Its main duty was to provide traditional court/justice services in their respective locality. Some indicated that it was a component of the structure in the earlier *Gadaa* system. They settle disputes or conflicts that arise in every aspect of the local people's life including over natural resources. Currently, though the *salgis* hardly exist, many people still confuse it

with *mucho* that performs similar functions. The majority respondents indicated that *Salgi* is different from *mucho* in that the former provided justice or court services, chaired by a *qoro*. It was operational up until the coming of the *Derg* regime into power in 1974. The *mucho*, however, is chaired by a person elected from among the elders. There are times when the *mucho* is chaired by the *tuulla*. It appears that *mucho* is an elders' institution that replaced *salgi* which ceased to exist due to the gradual empowerment of formal institutions in areas of justice administration.

Jaarsa biyya which in Oromiffa means 'elders of the land' consists of people who are entitled to be involved in various societal activities such as conflict resolution and decision making in critical societal issues. A person is entitled to become a member of *Jarsa biyya* only if he is recognized as one possessing full knowledge about the culture of the people. Nevertheless, clan origin (usually from senior clan) also enables them to perform certain rituals such as leading the *abdarii* and other ceremonies. Ayittey stated that the authority held by elders is derived from their position in society. They control resources, marital relations, and networks that go beyond clan boundaries, ethnic identity and generations (Ayittey G., 2003). In almost all the studied *kebeles*, *jaarsa biyya* have a higher status than *mucho* as they can operate beyond the territory of the *tuulla*.

Mucho is the most commonly used group of four to five elders who make decisions on issues presented to them via the *tuulla*. *Muchos* are persons who are believed to have skills and acceptance among the society within the territory of *tuulla* and have skills to make decisions on issues submitted by various indigenous institutions.

When the *tuulla* sends a case to *mucho*, he also participates in discussions but cannot give ideas. If the *mucho* are not in agreement with the *tuulla* on some issues, conflict naturally arises. Under this circumstance, the *tuulla* creates a forum with *Jaarsa biyya* to settle the conflict created with *mucho*. The highest indigenous structure beyond the known elders' council (*jaarsa biyya*) is the general assembly (*Yaa'i biyya*). Hence, when disagreement occurs between elders' council (*jaarsa biyya*) and *tuulla* on making some decisions, the case is presented to the general assembly (*Yaa'i biyya*) that is assembled through the initiation of *xuxee* and *shane*. When the general assembly is called to resolve the disagreement between *tuulla* and elders' council, the assembly is chaired by the *xuxee* rather than *tuulla* to avoid the bias that might be created by *tuulla* that is now a plaintiff or an applicant. Then the general assembly can make a decision on the conflict, ruling either in favor or against one of the parties. The parties are obliged to accept the decision made by the general assembly; otherwise they will be totally alienated or outcasted from the general society.

The penalty usually imposed is in terms of cash and in kind. The fines imposed on the offender were gradually changed into cash from in kind, such as sheep, bull, other animals or honey. Animals brought through fine such as a sheep or bull used to be sold or slaughtered, based on the decision of the general assembly. Currently, fines are imposed in terms of cash that varies based on the rule of the respective indigenous institution that the *tuulla* enforces. Fines imposed in *jiga* institution on a person absent from burial ceremony, for instance, ranges from three to five Birr. This cash generated from fines is finally utilized for public service such as purchase of common tools like spade, axes and other material used in *jiga* institution or other communal development activities such as road construction.

The elders' council decides on the activities of indigenous institutions such as *jiga* (*Kudha'arfee*), *dabo*, *dugdaaf dugda*, *lafee*, *ququbee*, *abba ulee* etc. Based on the rules of the respective institution, they regulate the activities these institutions perform. These institutions engage in agricultural activities of which coffee production is the major one. Coffee production activities in turn influence conservation and use behaviour of coffee forest either through enhancing the productivity of managed coffee that reduces further expansion into forest coffee or through managing the forest coffee itself. In addition, the role of these customary/informal institutions in other agricultural activities can reduce the local people's deforestation impact on forest coffee through increasing their income. Hence, the decision of elders' council that enhances the efficient and effective performance of these work organizations greatly contributes to forest coffee conservation and use.

From the above discussion, it is possible to argue that the two elders' institutions (*jaarsa biyya*, and *mucho*) are customary/indigenous institutions involved in decision-making processes without any limitation. They make decisions on the activities in line with the rules and regulations of all customary/indigenous institutions with the exception of *iddir*. They also deal with all activities carried out in the life of the local people. The major similarities between the three forms of elders' council are that all participate in decision-making activities at different levels on issues of indigenous institutions and/or individuals. The main difference between *jaarsa biyya* and *mucho* is one of territorial coverage, ability and authority. *Mucho* works only within a single *tuulla* and their experience and age is usually lower than *jaarsa biyya*. *Jaarsa biyya* on the other hand, as their name indicates, (*biyya* in *Oromiffaa* literary means large territory or country) work on the vast territory as they are well known for their decision making experience on different issues. They also have an authority to see and decide including the cases of *muchos*. Therefore, they have contributed in natural resource management as part of the livelihood of the community. Principally, they deal with resource conflict resolution and the activities of other indigenous institutions that are directly or indirectly involved in natural resource conservation and use including coffee forest.

Therefore, *Jaarsa biyya* and *mucho* can contribute in coffee forest or other natural resource conservation and use principally in two contexts: Firstly, they can enforce the rules and regulations of existing customary institutions through serving as customary judge in natural resource management or conflict cases. They can also enforce any customary rules for which the local community gives due attention and respect. Secondly, these institutions have a potential to judge the local community and enforce any other rules in coffee forest and other resource management. As they have acceptance among the community, the institutions of *jaarsa biyya* and *mucho* can participate in the design and enforcement of rules governing the coffee forest. Previous experiences reported in the area show that in a country like Ethiopia where political instability is high, customary institutions could effectively conserve resources than formal institutions in times of government or change in the political situation. When resources owned by the government are looted or deforested in times of government change, those owned by the community and governed and controlled by customary institutions are safely secured and protected. This entails the need to involve customary institutions like *jaarsa biyya* and *mucho* to take a part in the design and enforcement of rules governing natural resources including coffee forests.

4.1.2.2. Self-Help Work Organizations

Self-help work organization is also divided into two main groups that comprise adversity-based self-help organizations and voluntary self-help work organizations. *Jiga*, *lafe* and *iddir* are adversity-based organizations that focus on provision of labour, financial and other support to the people exposed to different forms of hardship. This may be death of relatives and other man-made and natural disasters. Compliance to the rules and regulations of *jiga* and *lafe* are enforced by *tuullaa*, *shane* and *xuxee*.

***Dabo* and other self-help organizations:** Voluntary self-help work institutions on the other hand include *dabo* and other self-help organizations. *Dabo* is a voluntary self-help organization in which members participate in various duties mainly agricultural including forest coffee production.

The role of *tuulla* in *dabo* (voluntary work organization) is very crucial in the sense that it is responsible for organizing the occasion and maintaining the necessary rules and regulation. As a result, it has an impact in the use and conservation of natural resources in general and forest coffee in particular. This is mainly through participating directly in forest coffee production activities such as clearing the undergrowth, digging, pruning, planting seedlings, transporting and collecting coffee. Tesema asserts that the existence of a variety of neighborhood voluntary self-help associations helped Oromo to generate surplus production, food security and self-sufficiency (Tesema T. 1990:204). That has an impact in forest and forest coffee conservation and use principally in transitory and buffer II zones of the conservation project as it lessens people's dependency on selling forest products. There are various forms of self-help organization similar with *dabo* that include *jalabutii*, *jaatanii*, *sijaallee*, *dugdaafdugdaa* (reciprocal labour exchange), *ququbee*, *quxubee* and *Abba Ulee*. They can be differentiated only by the working hours and the conditions for which they are organized. They participate in a range of agricultural duties that include sowing, ploughing, clearing forest, pruning coffee, transporting crops, etc. Ostrom in this regard stated that stronger norms demonstrated by reciprocity may be needed to protect the commons (Daftary, 2004:9).

Abba Ulee: *Abba ulee* is the name of the cattle herding institution as well as the name of the head of the institution. It is one of the voluntary self-help customary institutions.

The role of the *abba ulee* institution in forest coffee conservation is both direct and indirect. It directly contributes to forest and managed coffee conservation through keeping forest from damages resulting from cattle. The way cattle are herded in a common grazing land also indirectly contributes to sustaining cattle in a single plot. This also helps to reduce the expansion of grazing land at the expense of forest coffee. More specifically, if cattle were not kept through the *abba ulee* institution, at least each household needs a separate and a number of fragmented grazing areas. Increasing agricultural productivity also has a great importance in the transitory zone of forest coffee conservation. This can be achieved through strengthening the indigenous agriculture-oriented institutions such as *abba ulee*, and improving their production techniques and the quality of their farm products by providing external support. Gole in this regard states that it is essential to provide special public or government support to the development in transitory zone of forest coffee conservation project so that the people can

get compensation for limited use right in the protected areas of the forest and the threat on the forest areas important for conservation will be minimal (Gole T.W., 2003:11).

4.1.2.3. Religious Institutions

Their role in natural resource management is mainly indirect (Pankhurst A., 2003:72). However, they can contribute positively or negatively to different societal activities. They are very powerful in shaping human action, but in keeping with recent conceptualizations of power, they are both constraining and enabling structures (Lukes, 1986 cited in Watson, E., Black R. and Harrison E., 1999). More specifically, curse (*abaaree*) and swear (*Kaka*) are very common mainly in traditional belief systems that have their own procedures and rituals, which vary from place to place.

The role of religious beliefs or institutions in enforcing compliance to the rules of indigenous institutions or in contributing to natural resource management may be grouped into two, i.e., through the activities of traditional/customary religious institutions and belief systems. The religious institutions include *qalluu*²⁰ and *Abdari*²¹ with which many people have attachments. In fact, the role of these institutions in resource management is relatively minimal as compared to the other belief systems and institutions. Hence, *abdari* is one of the indigenous institutions that inherently promote forest protection and mobilize a society for natural forest conservation, habitat of wild *Coffea arabica*, through the common religious (belief) identity and common understandings it develops among the society. Traditional belief systems on the other hand include swearing and cursing that are widely practiced in the study area and greatly contribute in the rules of informal/customary institutions. Both have importance in obeying the rules and regulations of various indigenous institutions in various mechanisms that substantially contribute to natural resource management. Terefe pointed out that pre-conquest Oromia's traditional religious beliefs and culture had important functions in protecting the environment (Terefe D., 2001.125). Hence, the role of traditional beliefs in natural resource management has been significant for the past many years. Both swearing and cursing forums are organized through the institution of *tuulla* and it works in many aspect of societal life that shows its potential for natural resource conservation. Moreover, cursing and swearing, are followed by social ostracism if the public directly or indirectly knows an offender. Therefore, both cursing and swearing practices can play a significant role in forest coffee conservation. They are believed to discourage illegal deforestation and theft, while enforcing compliance with the rules of other indigenous institutions that contribute to forest coffee conservation and use (Zewdie J., 2005)

²⁰ The *qallu* institution in some of the localities in the study area is mainly recognized as individuals who are endowed with the spirit, *ayyaana*.

²¹ From the very beginning, the *abdari (qolloo)* institution is practiced under the trees of some species. Mostly *Prunus africanus (homi)*, *Ficus varta (Hogda)*, *Ekebergin capensis (sombo)*, etc are trees selected for *abdari (qolloo)* institution. The *abdari* institution is a place where the people pray for rain, children, healthy life and prosperity for the country and themselves.

4.1.3. Collective Action and Informal Institutions

The management of natural resource is not only based on the knowledge and skill of a single individual; it rather depends on the collective action of the group. Collective action is very essential for the sustainable management of natural resources. It is defined as a voluntary action taken by a group to achieve common interests (Meinzen-Dick and Di Gregorio, 2004) or an action taken by a group of individuals to achieve common interests (Marshall, 1998 quoted in Di Gregorio, Hagedorn, Kirk, Korf, McCarthy, Meinzen-Dick and Swallow, 2004)). Collective action can be achieved through voluntary or obligatory ways. Broadly seen, collective action is a mechanism to achieve objectives of natural resource management that cannot be achieved by individuals due to capacity limitations without the cooperation of the group. Collective action in natural resource management can be reflected through deciding on or observing the rules of use or non use.

Informal institutions play a fundamental role in promoting collective action that greatly enhances sustainable natural resource management. In many developing countries, voluntary organizations at the local level which provide a source of collective resource management are receiving particular attention, as an alternative to state management on one side, or private management on the other (Rasmussen and Meinzen-Dick, 1995). Many informal institutions in Yayo area that comprise informal institutions are classified into four categories as discussed above. These include territorial-based institutions (such as *Tuullaa*, *jaarsa biyya*, *mucho* etc.); self-help work organizations (such as *Daboo*, *dugdaafdugdaa*, *abbaa ulee*); Religious institutions (for example, *curse*, *swear*, *qalluu*, *Abdari* etc.) and indigenous knowledge, all promoting collective action. They are potential sources of collective action for community-designed institutions for coffee forest management. Research findings indicate that institutions for collective action are important for natural resource management (NRM) as they help solve the problem of commitment and free-riders (Esmail, 1997). An analysis of long-enduring institutions for collective action found that they are characterized by having considerable local authority and control over design of governance rules, decision-making and financial matters (Ibid).

The above indigenous institutions have a paramount significance in coffee forest management in particular and other NRM in general. They are the bases for enhancing collective action and overcoming free-riders problem. In the collective action sector, cooperation is based on normative voluntary-incentives and in the public sector or state property, cooperation is enforced (Rasmussen and Meinzen-Dick, 1995). In attempt to provide coordinated and multiple responses to the problem of natural resource degradation, it is essential to analyze how informal institutions of collective action can be combined with formal institutions and other stakeholders.

Traditional or informal institutions are traditional leaders, taboos, rituals, repetitive cultures, sacred species and sites, norms, customs and regulations (Demetrius K., 2004) that shape people's action having a significant role in NRM including coffee forest

conservation. These institutions have a strong and a long-lasting capacity in mobilizing the society for collective action. That is how local institutions can modify the effect of factors thought to be driving force of deforestation (Ibid). Informal institutions have high reputation from the local community than state-forced formal institutions. This reveals their great importance in coffee forest and other natural resource management.

Survey conducted by the researcher on the participation, membership and beneficiary of informal institutions among the community in the study area confirmed the profound importance of informal institutions in community livelihood for which forest management is a part.

As stated above, *Tuulla* is one of the indigenous/customary institutions involved in the livelihood of the local community. The figure below shows the number of respondents who are beneficiaries, members or participants of the institution.

Table 4.1: Respondants who are beneficiaries, members and participants of the *Tuulla* institution

Link With Institution		Frequency	Valid Percent
Tuulla beneficiary ²²	Yes	156	87.6
	No	22	12.4
	Total	178	100.0
Tuulla member ²³	Yes	146	82.5
	No	31	17.5
	Total	177	100.0
Tuulla Participant ²⁴	Yes	146	82
	No	32	18
	Total	178	100.0

As can be seen from the table above, 88% of respondents are beneficiaries from the *tuullaa* institution. This indicates that the majority of the populations in the study area are much involved in the activities of the *Tuulla* institution that promote collective action contributing to the sustainable natural resource management. The table also shows that more than 82% of respondents are participants and members of the *tuulla* institution. This also indicates the strong attachment of the people in the coffee forest area with the activities of the *tuullaa* institution. The question is: how can *Tuullaa* and other informal institutions contribute to NRM or how can they be combined with formal institutions and other stakeholders to establish or craft an institution that effectively manage the coffee forest.

Table 4.2 shows that elders' council (*jaarsa biyya*) is one of the informal institutions in which people take active participation in decision-making processes as well as directly or

²² 'Beneficiary' is to mean that they are getting or have got benefit from the *tuulla* institution

²³ 'Member' means they are involving or have involved in running (organizing) the activities of the *tuullaa* institution. The three (beneficiary, member and participant) are not exclusive of each other.

²⁴ Participant means they have involved or are involving in the activities of the *tuullaa* institution.

indirectly receives its benefits. The table shows that 82% of respondents participated in the activities of *jaarsa biyya* while 90.4% of respondents get benefits from the elders' council (*jaarsa biyya*). The figure below also shows that 94.4% of respondents are members, participants and beneficiaries of the *dabo* institutions. This indicates that the majority of the people in coffee forest area have great commitment for collective actions that is very essential for common-pool-resource management. Other voluntary self-help organizations have a significant number of participants and beneficiaries that range from 58.4 % to 77 % for *jiga*, *abba ule*, *dugdaf dugda* and *quxube* in ascending order.

The importance of traditional institutions that used to enforce traditional rules of resource management is declining over time due to the marginalization by formal institutions and impact of western belief system. The participants and beneficiaries of these institutions are very minimal that ranges from 1.0 % to 6 % for traditional beliefs (curse and swear), *qallu* and *abdari* in ascending order. However, the figure for the participation of people in these institutions may not show the exact figure; because people do not go to these institutions unless they have conflict with someone or have things to resolve by these institutions.

Table 4.2: Participants, Membership and beneficiaries of some informal institutions

Type of Institution	Response	Frequency	Valid Percent
Jaarsa biyya Participant	Yes	146	82
	No	32	18
	Total	178	100.0
Jaarsa Biyya Beneficiary	Yes	161	90.
	No	17	10
	Total	178	100.0
Dabo Member	Yes	168	94.
	No	10	6
	Total	178	100.0
Dabo Participant	Yes	166	93.
	No	12	7
	Total	178	100.0
Dabo Beneficiary	Yes	167	94
	No	11	6.2
	Total	178	100.0
Quxubee Participant	Yes	137	77
	No	41	23
	Total	178	100.0
Quxube Beneficiary	Yes	137	77
	No	41	23
	Total	178	100.0

4.1.4. Property Right and Coffee Forest Management

Property right is understood differently among different scholars. The most commonly used and well-accepted definition is the one proposed by (Commons, 1968, cited in Ostrom, 2000; 2003; and Schlager and Ostrom, 1992). They understood property right as an enforceable authority to undertake particular actions in a specific domain. Others (Di Gregorio, Hagedorn, Kirk, Korf, McCarthy, Meinzen-Dick, and Swallow¹, 2004; Meinzen-Dick and Di Gregorio, 2004) adopted the definition proposed by (Broomly, 1999). He defined property right as “the capacity to call upon the collective to stand behind one’s claim to a benefit stream”. Property right determines how people interact with and manage natural resources. It also determines the incentives individuals get or it provides incentives to invest in the future (Schlager and Ostrom, 1992; Di Gregorio, Hagedorn, Kirk, Korf, McCarthy, Meinzen-Dick and Swallow, 2004); others stated that property right shapes how people use natural resources (Meinzen-Dick and Di Gregorio, 2004).

Different types of property right regimes are identified by different scholars. There are “a bundles of right” identified that include access, withdrawal, management, exclusion and alienation rights (Schlager and Ostrom, 1992; Ostrom, 2000; Di Gregorio, Hagedorn, Kirk, Korf, McCarthy, Meinzen-Dick and Swallow, 2004). Access right is the right to enter the defined physical property; withdrawal: the right to obtain the products of resources; management: the right to regulate internal use patterns and transform the resource by making improvement; exclusion: the right to determine who will have an access right, and how that right may be transferred; and alienation: the right to sell or lease either or both of the above collective choice rights (Schlager and Ostrom, 1992; Ostrom, 2000).

Property right may be de facto or de jure based on the source or the nature of the right. If the rights of access, withdrawal, management, exclusion and alienation is enforced by government authorities in a lawful manner and they grant to resource users, it can be identified as de jure right. On the other hand, if the source of the property right originated from among resource users in which they cooperate in defining and enforcing rights among themselves, it is de facto type of property right (Schlager and Ostrom, 1992).

Based on the notion of property rights so far stated, it is essential to analyze the concept of property right in the context of coffee forest management. From the very beginning, the owner of coffee forest can be observed from two grounds: de facto and de jure property rights. The property right situation can also be viewed before and after the demarcation of the coffee forest as protected area *Coffea arabica* gene pool conservation.

4.1.4.1. Property Right (Use Right) before Demarcation

Closely observing property right situations in the past few decades, the coffee forest property right regime is very complex and unstable in nature. To make it more simplistic, it is essential to see property rights before and after demarcation of the coffee forest. Before demarcation of

the coffee forest, property right situations were changing from time to time following changes in the government policies and declarations. In line with this formal structure, the property right situation before demarcation was also influenced by the de facto or customary rights and land holding systems. Various sorts of property right regimes are observed that engross private, communal, state and combinations of these regimes existed on coffee forest.

Most forest areas enclosed under the Gabba-Dogi forest coffee conservation underwent different institutional setups since the imperial period. During the imperial period, it was under different private land lords who used to lease the forest to their respective tenants. The tenants used to provide the portion of their harvests to the landlord. There is a system known as *Merit* in which two-third of the harvest will be given to the landlord. *Hudad* is also the coffee forest owned by the landlords on which tenants used to work on weekly basis without any payment. Mr B [name withheld] from Henna *Kebele* had the following to say on the overall property right system before demarcation:

When the Derg government came to power, land was given to the tiller. Then coffee forests under the landlord become the property of different associations. In 1988, the land held by associations²⁵ (that originally held by the landlord during imperial regime) was redistributed to farmers based on the interest of the community. When the tenants became owners of the land they hold as a Gabbar, they started to use it as their own property with full use right. The Gabba Coffee forest is, therefore, owned in these ways both by the association and the individual farmers. Every forest starting from the bank of the Gaba River was in the hands of farmers. However, there was also a portion of forest reserved as a protected state forest around the Gaba River even during the imperial regime. 17/03/2007, Henna kebele Dorenni District.

After the coming of the Derg regime to power, all peasants became owners of land they already held through the proclamation “land to the tiller”. Most individual farmers privately owned coffee forest for a couple of years. After a while, the Derg socialist regime nationalized the land covered by forest coffee for about eleven years (1980-1990). In 1990, on the eve of the downfall of the regime, the government changed its centrally commanded socialist economic policy into mixed economy. This brought change in the ownership of the forest land in the area that led to the redistribution of the nationalized coffee forest land to the individual farmers. After the abolition of the landlord system, most coffee forests became the property of associations. There were different associations established during the *Derg* regime. These include All Ethiopian Youth Association, All Ethiopian Farmers’ Association, All Ethiopian Women’s Association and the *kebele* service center as an organization. In 1990, following the shift of socialist command economy into mixed economy, the government asked farmers to choose between distributing the associations’ coffee forest to private individual farmers or keeping it as it is, and the farmers chose the former. As a result, the coffee forest was distributed to individual farmers. Farmers used to protect their own individual holdings. No one can

²⁵ All Ethiopian Women’s Association, All Ethiopian Farmers’ Associations, All Ethiopian Youth Association and *Kebele* service.

harvest timber, wild coffee and fuel wood from others' forest coffee land. Some informants indicated that some portions of the core zone are also held by individuals. They indicate the existence of some artifacts such as stone mill and fences that confirm the existence of settlements in the core zone before the demarcation.

There is government-owned forest at the side of *Geba River* from the beginning. There had also been protected forest since the imperial regime, which was not occupied by the land lord and the tenants. Others state that there is a portion of coffee forest that was not occupied by anybody. Some informants indicated that this type of coffee forest, forest without holder, was accessible to everybody in the area. Before demarcation, this kind of coffee forest was like an open access to all as there was no individual in charge. In 1991, the EPRDF came to power and reaffirmed private ownership of forest coffee land. However, forest policy and proclamations indirectly confirm the state's de jure ownership of forest lands as the whole.

As can be understood from the ideas of different informants in the coffee forest area, all sorts of ownership rights existed before demarcation. Different portions of the coffee forests were owned by private individuals, public (state), associations, community and the combination of these.

4.1.4.2. Property Right after Demarcation: “Guards are Protecting Our Property”

The forest was demarcated in 2000. Before demarcation, the majority of the coffee forest was owned by private owners or individual farmers. Currently, the legal right to manage the forest is in the hands of the government though the community living in this area is claiming traditional ownership right to this coffee forest. However, they are not using this forest just like before the demarcation. One informant stated that the portion of the coffee forest demarcated as a core zone was planted by the CIP project and the community. And the portion of this coffee forest is either inherited from their parents or planted by them. “It is our forefathers' property that we inherited”. Therefore “the guards are only protecting our property”. This is to indicate that after demarcation, Gabba-Dogi wild coffee conservation project (the government body) hired the guards to protect the coffee forest. And this coffee forest is the property of the farmers in the area until demarcation, i.e. they have customary right to use and manage coffee forest. That is why farmers are saying that “government guards are keeping our property”.

People (farmers) who own the land can enter the coffee forest (core zone) without holding agricultural tools to appropriate forest products. Nothing is allowed from the core zone except collecting wild coffee without making any management intervention. They have minimal access to forest products except from the buffer zone such as wood for house construction based on the *kebele* and forest committee decision. Users strongly claim the use of forest products from the core zone indicating that it is their inheritance from their fore fathers.

4.1.4.3. Forms of Property Right

As Gabba-Dogi wild coffee conservation area is more than 10,000 ha wide, information gathered from informants through focus group discussion is very diverse and sometimes seems conflicting. This is mainly due to the fact that the coffee forest is very big, and different property rights (both de jure and de facto) regimes were practiced at different times. These help us to summarize the types of property right regimes existing in the coffee forest in the following way:

Private Ownership: Large portion of coffee forest is owned by farmers living in and adjacent to coffee forest before demarcation. They use and conserve the coffee forest based on their own knowledge and long experience gained from their forefathers. Traditional ecological knowledge is the backbone of coffee forest use and conservation for the past many generations. A household-granted coffee forest through inheritance or some arrangements like land redistribution has both operational-level (access and withdrawal rights) and limited collective-choice level (management, exclusion and alienation) rights. Households who have coffee forest land through inheritance or land redistribution can exercise limited collective-choice level rights (management, exclusion and alienation). They have the right to enter and withdraw forest products like wild coffee, honey, spices and some forest products on selective bases. Transferring the resource through making some improvements is also within the domain of their management right. This will contribute to sustainable conservation and use of coffee forest as the above mentioned property rights will serve as an incentive for users. However, this is based on their customary right. After demarcation, they have little or no rights (access, withdrawal, management, exclusion, and alienation) in conservation and use of coffee forest as shown in the Table 4.3 below.

Communal: There are two grounds for communal ownership of coffee forest. On the one hand coffee forest nationalized during the *Derg* regime became the communal property of the people living in coffee forest area. There is also the portion of coffee forest that was given to different associations. When the associations were closed down towards the end of the *Derg* regime, though the majority of the associations' coffee forest was redistributed to individual farmers, there is a part of the coffee forest that was not given to anybody; but communally used by the people in the area until demarcation. This portion of coffee forest is a typical common-pool resource. Its exclusion is very costly and it is subject to subtractability. There is also small part of the coffee forest which was not occupied by anybody from the very beginning. It was accessible to all people living in that area. An informant states about this type of coffee as follows:

There are portions of the coffee forest that were not owned by anyone. Anybody can use forest products from these forests. However, larger portions of these unoccupied coffee forests were not accessible for use. [Name withheld] 20/03/2007, Werebo kebele, Dorenni district

People in the area used to collect wild coffee, spices and some other forest products from this forest. This type of coffee forest is governed by known rules and regulations such as withdrawal of products which does not big trees for timber use.

Government: There are also portions of coffee forest that were reserved as a government protected area from the earlier years beginning during the imperial regime. Many informants also indicated that coffee forests around *Gaba River* is owned by the government. Though the community living around the coffee forest also mentions that there is a small part of coffee forest reserved as a government forest, the demarcated wild coffee conservation project in particular and Yayo forest in general is legally known to be the government national forest priority area. In other words, the government has de jure right on the coffee forest.

Information gathered by household survey shows property rights under the current situation (after demarcation) as shown in the table below.

Table 4.3: Compliance to coffee forest property rights after demarcation

Responses	Entered the Coffee forest /Access		Harvested the Forest Product /withdrawal		Contributed to Managing Coffee Forest/ Management		Made Decisions About Managing the Coffee Forest /Management		Decided who Can and Can't Enter the Forest /Exclusion		Leased or Sold Coffee Forest Land /Alienation	
	resp onse	%	resp onse	%	resp onse	%	resp onse	%	resp onse	%	respon se	%
Yes	35	19.6	35	19.6	31	17.3	17	9.5	22	12.4	8	4.5
No	144	80.4	144	80.4	148	82.7	162	90.5	156	87.6	171	95.5
Total	179	100.0	179	100.0	179	100.0	179	100.0	178	100.0	179	100.0

Source: Household Survey

The above table clearly indicates that 144 (80.4%) of respondents have no operational-level (access and withdrawal) right. The proportion of respondents that do not have management, exclusion and alienation right is 162 (90.0%), 156 (87.6%) and 171 (95.5%), respectively. The rest of the respondents who reported having operational-level and collective choice-level rights are talking about their de facto right in which the community is still conflicting with the government. The figure shows that the majority of the community, if not all, has neither operational-level (access and withdrawal) nor collective-choice level (management, exclusion and alienation) rights. The figure helps us to argue that after demarcation of the coffee forest for wild coffee gene-pool conservation, the government is the de jure owner of the coffee forest. This has its own multi-dimensional implication for conservation and use of coffee forest itself. This will be discussed in detail in the next chapter. The absence of clear (sometimes overlapping and conflicting) property rights is the cause for the need of viable institution of coffee forest management.

4.1.5. Interaction of Formal and Informal Institutions

The interaction between government formal institutions and indigenous/informal institutions at local level has a profound implication on the conservation and use of natural resources. Informal or customary institutions have been managing natural resources for the past many years that contributed to keeping the environment stable. With the introduction of market economy and the establishment of modern states, indigenous institutions were relegated and sometimes scheduled from their natural resource management role. Pankhurst in this regard states that changing relations between local, regional and national policy and practice raise particular challenges (Pankhurst, 2001b:3). Information gathered (Zewdie J., 2005) confirms the gradual marginalization of local indigenous institutions with the increasing control of state that enforced formal institutions under different regimes during the past.

Until the late 19th century, as few informants indicate from oral history, the issue of natural resource management was primarily the responsibility of indigenous institutions. Different indigenous institutions operate on the basis of rules and regulations devised by the *Gadaa* institution. It was devised particularly in *bakkee abba-alangaa* where representatives of all Oromo clans (*qomo*) assemble twice a year. The rules enacted and revised in this regard were known as *tumaa Oromo*, meaning Oromo legislation. During the period, there were no state-enforced local institutions apart from customary/indigenous institutions that include *qoro*, *abba lagaa*, *tuulla*, *xuxee*, *Shane* etc, which evolved from local peoples' indigenous knowledge in their attempt to adapt with the existing ecological situations. In other words, the competition to hold formal political position during the late nineteenth century was limited to the interests prevailing among regional governors and a few administrative members. This was based on kinship and lineage structures, and contributed to longer persistence of indigenous/local structures in resource management for the past many generations.

The introduction of state-enforced formal institutions at a local level was mainly effected at the late nineteenth century during the conquest of Menelik that was not fully realized in the area. During this period, existing indigenous administrative structures at local level were adopted as they were. Oral history from the informants indicate that the major change Menelik brought was the allocation of land and its resources for his followers and a few Oromo landlords based on different property right regimes. That was the greatest phase in the change of natural resource management in bringing influential state involvement. That led to increasing environmental degradation due to escalating insecure resource tenure. Nevertheless, indigenous/customary institutions were smoothly working with formal state-introduced institutions at a higher level with their full control at local level, except changes and resource degradations linked with property right, i.e. *Qoro*, *abba lagaa*, *tuulla*, *xuxee*, and *Shane*, were the only responsible local institutions that govern other local work organization like *jiga*, *lafee*, *abba-ulee* and *dabo*. The expansion of trade and the construction of various access roads at different levels were the other factors that contributed to deforestation. The development of cash economy and market for surplus production in the area (Wood, n.d: 14) and the broadened access to this area due to administrative convenience, a large populations began to concentrate there, and all this contributed to deforestation (Ibid: 13).

With the expansion of the feudal system when land and its endowments were the property of few landlords, individuals and state favored institutions, the above mentioned indigenous

institutions continued even under the impact of higher-level state forced formal institutions. *Qoro, abba-lagaa, tuulla, xuxee and shane* continued to be the chief indigenous as well as government institutions at local level. They continued to exist based on the imperial government's rules and regulations that favour the few privileged classes rather than the majority lower classes. Very surprisingly, i.e. without siding for government, the *tuulla* institution that is supported by its two descending structures (*xuxee and shane*) continued to stand and advocate for the rights of local people based on traditional rules and regulations hand in hand with realizing state-forced rules and regulations. The *tuulla* used to negotiate with state higher officials when the amount of tax imposed on the local dwellers in his territory went beyond the local peoples' capacity. *Tuulla* was also highly accepted and strengthened by Italian invaders due to its higher acceptance among the society.

The *Derg* period (1974-1991) was a unique period in the history of natural resource degradation and the role of indigenous institutions in natural resource management as well as their relationship with formal institutions. The *Derg's* political and economic policy was totally against the role of customary/indigenous institutions in natural resource management and other aspects of societal livelihood. All the indigenous/informal institutions handed down by the local people were abolished by the *Derg* principle of different forms of farmers' co-operatives, associations (farmers, women and youth), and villagization and resettlement programs. All these programs introduced within a very brief period were handicapped customary/indigenous institutions that dramatically changed resource tenure management in relation to co-operatives, associations and residential instability related with villagisation and resettlement. These groups highly dislocated the society and broke the long-standing social bonds among the indigenous community that represent a cornerstone of indigenous institutions.

As many informants indicated, the major change in the life of the society in *Yayo* area was the expansion of state-established local formal institutions to the least possible local area, i.e., the establishment of peasant associations with appointed government officials including chairperson and other *kebele* secretaries and vicinity (*ketena*) representatives that profoundly devastated the role of indigenous institutions previously responsible for the socio-economic and cultural life of the local people. Therefore, it is possible to argue that the *Derg* government overshadowed indigenous institutions. This is indirectly through its socio-economic policies that incorporated socialist co-operatives, associations, villagization and resettlement. It also directly replaced the former *tuulla, xuxee and shane* structures with formal PA chairperson and officials. This in turn very much contributed to direct and indirect deforestation that was the severest in the history of the surrounding people. A substantial portion of forest and wild coffee was abolished in the name of villagisation and resettlement. Large amounts of managed coffee and natural forest along both sides of *Gabba* River were left without owners that also led to deforestation as people gathered in other places for villagization and resettlement. All these resulted from rejection of indigenous/customary institutions' rules and regulations reflected in the community's socio-economic and political life. More specifically, the alarming resource degradation was brought about due to the heightened isolation of indigenous/customary institutions responsible for the NRM for the past many centuries. This, however, does not mean that the marginalization and domination of indigenous institutions by state-forced local institutions is the only cause for deforestation. Pankhurst in this regard states the view that "market and state forces have necessarily destroyed traditional institutions this may not always be correct. External influence may also lead to formalization and even

invention of NRM institutions” (Pankhurst, 2001:6). Hence, there might be other factors such as expansion of trade, road the need for food that may aggravate deforestation. Wood, for instance, described the increasing deforestation around *Gabba* River with the existence of main road from Addis Ababa to Gore before the Italian invasion and the development of cash economy and market for surplus production in the area. (Wood, n.d:13- 14).

To sum up, the *Derg* regime was characterized by rejection of indigenous institutions that were responsible for resource management for centuries and dramatic deforestation and environmental degradation. Towards the last period of the *Derg* regime and the earlier years of EPRDF, there were major crises in degradation of forest and wild coffee. When the *Derg* government made policy revisions, some forest coffee owned by cooperatives and associations were left without owner and become open access (without ownership right). This also led to the great loss of natural forest and wild coffee. This continued until 2003 (some say 2000) in few places when the *Gabba-Dogi* forest coffee project is legally “demarcated” (announced) to the local people.

After EPRDF came to power, there was an informal welcoming of the earlier weakened indigenous institutions. However, it was only *tuulla*, *xuxee*, and *shane* that could be reinvigorated while the rest are abolished once and for all. At this particular period, it has to be accredited that EPRDF peace and stability committee strengthened the *tuulla* institution during its early years. The existing local government structures were still providing informal acceptance through various local, state or formal institutions such as *kebele* social court and development agents. Decisions passed by many local work organizations such as *abba ulee*, *dabo*, *jiga*, *lafee*, etc are mostly confirmed by these formal government institutions. However, the role of indigenous institutions in direct resource management was continually isolated since the *Derg period*. There is no direct role of indigenous/customary institutions in forest and coffee management particularly in operational level rights (access and withdrawal) and collective-choice rights (management, exclusion and alienation). These rights are in fact isolated even from local formal state institutions since forest management mainly became a concern of district and above level formal institutions. In general, there is a continued formal isolation of customary/indigenous institutions while the government’s management right was concentrated at district and higher levels. Of course, there remained some informal relationship between state and indigenous institutions at local level.

4.1.6. Conclusion

Institutional Arrangement for Conservation and Use of Coffee Forest

A range of institutions, both formal and informal, are discussed specially focusing on their structure, links, objectives and mandates pertinent to the forest in general and coffee forest biodiversity conservation in particular. These institutions are selected from federal, regional and local level along with their link (inter-relationship) and the resource (coffee forest). The study includes two institutions under federal MoARD (IBC, and CIP IV), two institutions from Regional or Oromia Level (Agriculture and Rural Development Office (ARDO) and Oromia State Forest Supervising Agency/Enterprise) and three influential institutions from local level (*Gabba-Dogi* wild coffee conservation project, *wereda* ARDO and district administration). These institutions are studied in terms of their

past link, present objectives or current attachment to the coffee forest and in relation to their contribution to the coffee forest management.

At federal level, the institutions, mainly the MoARD, have no strong link to the coffee forest except provision of informal technical support through the Institute of Biodiversity Conservation (IBC) and the release of fund to Gabba-Dogi forest coffee conservation project through the CIP IV project. This shows the absence of strong accountability and formal responsibility from concerned federal offices to the conservation of coffee forest. However, the regional (Oromia) bureau of agriculture and rural development provides/passes report from the site office (Gabba-Dogi) to the federal MoARD.

Changes in institutional structure in Ministry of Agriculture (MoA) since the early 1990s did not address the need for separate body or government structure that deal with coffee forest management or conservation and use. This gave rise to increasing deforestation in Southwest Ethiopia (Wakjira D, 2007). It also entails the necessity of institutions designed on the basis of practical situation of the two resources (natural forest and wild coffee) to ensure sustainable conservation and use of coffee forest.

At regional level, there are two institutions affiliated with coffee and forests: these are coffee development team of Oromia agriculture and rural development bureau/ARDB and state forest enterprises supervising agency. Coffee development team of ARDB has no direct technical and objective link with biodiversity conservation of wild coffee at Gabba-Dogi except some administrative support like staffing and vehicle management. There is also no expert assigned for wild coffee biodiversity conservation at regional office. In addition, the works assigned to Oromia bureau of agriculture and rural development/OBARD are without budget and technically pertinent personnel at regional level. Similarly, state forest supervising agency has no direct objective similarity with forest coffee biodiversity conservation. Even if the organizational structure of the agency is established at regional level and has branches at enterprise and forest area level, it lacks the real decentralization of budget and community participation in planning and implementation. It operates with decisions made at higher (agency and enterprise level) and guards at lower level than community participation. There are no actions reserved for decisions at community level. The authorities and responsibilities laid out in enterprise document hardly show the devolution and decentralization of forest management power and responsibilities. The organizational structure designed by the agency especially manpower allocation and its objectives lack direct and practical focus on biodiversity conservation and use of coffee forest²⁶. The other crucial gap observed in state forest enterprise is the absence of a mechanism that would encourage the community to protect specific forest conservation. Though the forest is “government forest”, interaction of the local community cannot be ruled out since peoples’ livelihood is based on it.

²⁶ Ilu Aba Bora state forest enterprise has two major objectives: conservation by strong community participation and biodiversity conservation and secondly improving the livelihood of the people living in the forest conservation area. However, these objectives are not seen to be implemented at least in the research site.

It is possible to deduce that the activities set out as the main responsibilities of the departments under the enterprises hardly address the conservation and use objectives of biological diversity of the wild coffee in Gabba-Dogi forest coffee conservation site. This is because the objectives of biosphere reserve or the demarcation of the forest into different management zones for gene pool conservation do not match the enterprise's objective to earn income from the sale of forest products like timber. It needs a special design that will suit with the biological diversity conservation and use as well as the coexistence of the the natural forest and wild coffee.

At local (district and below) level, there is lack of coordination and clear accountability and responsibility among offices. In Gabba-Dogi forest coffee conservation, there is lack of participation by local bodies or stakeholders and poor staffing of the coffee forest project resulting in poor performance and implementation of planned activities. *Kebeles* and development teams²⁷ are also working on coffee forest though they lack coordination with ARDO. Gabba-Dogi forest coffee conservation project has no formal relationship with district offices which indicates the absence of responsible institution (coordinating body) with clear structure along the ladders (both vertically and horizontally) from local to regional level. Even if Gabba-Dogi could have run and effectively managed wild coffee conservation issue, it is a project that phases out after sometime. Otherwise, Gabba-Dogi is the only institution that has structures and objectives related with conservation and use of wild coffee biodiversity as it was designed for that purpose.

The activities planned are expected to be implemented by the Gabba-Dogi Forest coffee conservation project. There are no clearly indicated inter-organizational support and relationships in the implementation of the coffee forest project. Like any other project, the document should have specified the responsibilities and accountabilities of different institutions at local level. This is simply to show that there are no shared responsibilities among concerned local institutions that could have solved or reduced prevailing problems in institutional structure. Most of the duties planned for implementation in the *Gabba-Dogi* forest coffee conservation have no relevant experts both at regional and local level.

This fragmented and multifarious relationship of the Gabba-Dogi forest coffee conservation project with different offices and bureaus at different levels has made responsibility and accountability very loose paving the way for future deforestation of the protected area.

The fundamental problem among formal institutions may be the absence of articulate (sometimes overlapping and conflicting) property rights. This is the cause for the absence of viable institutions governing coffee forest. Lack of coordination and clearly specified area of responsibility and the absence of direct focus by many institutions for wild coffee biodiversity conservation are factors that contributed to the absence of viable and sustainable institutions that paves the way for future coffee forest degradation. The absence of appropriate policy supporting real community participation, and acknowledging of customary rights, lack of real implementation and lack of real decentralization of rights and responsibilities are also obstacles in promoting sustainable

²⁷ *Kebeles* and development teams are formal institutions under district administration in descending order.

conservation and use. In addition to the scattered responsibilities among different offices and bureaus at federal, regional and district levels, there is no common understanding and awareness on forest coffee gene pool/ biodiversity conservation among some of these stakeholders and the community at large.

Informal institutions are mostly established to regulate, support and govern the different aspects of the community's life, i.e., they are not designed to govern coffee forest or other natural resources²⁸. Mostly there is no direct role of informal institutions currently in forest and wild coffee management particularly in terms of operational level rights (access and withdrawal) and collective-choice rights (management, exclusion and alienation). However, they can still govern the behavior of the community living in and adjacent to the coffee forest. This entails that informal institutions can contribute to how to craft institutions of coffee forest management and help guide the behavior of the community in coffee forest use and conservation.

Property Right: As can be understood from the ideas of different informants in the coffee forest area, all types of ownership rights existed before demarcation. Different portion of the coffee forests were owned by private individuals, public (state), associations, community and the combination of these.

After demarcation, however, survey results indicate that 144 (80.%) of respondents have no operational-level (access and withdrawal) right. The proportion of respondents that do not have management, exclusion and alienation right is 162 (90.0%), 156 (88.%) and 171 (96.%), respectively. Other respondents who reported having operational-level and collective choice-level rights are talking about their de facto right in which the community is still conflicting with the government. The figure shows that the majority of the communities do not have both operational-level (access and withdrawal) and collective-choice level (management, exclusion and alienation) rights. This makes the use and conservation of the coffee forest very difficult.

The figure indicates that after demarcation, government is the de jure owner of coffee forest. The local community is the de facto owner of most of the coffee forest in the demarcated area. The absence of clear (sometimes overlapping and conflicting) property right is the cause for the creation of conflict and can lead to the future degradation of the coffee forest in the protected area.

Policy Constraints: Analysis of Oromia Rural Land Use and Administration Proclamation (Proclamation 56/2002); Forest Proclamation of Oromia, Proclamation 72/2003 and Federal Forest Development, Conservation, and Utilization Proclamation no. 542/2007, have sure implication to future resource management.

In general, the policies and the proclamations are not based on the ideas of the people living in and adjacent to the forest area. It is rather based on the centralized approaches where much of the management activities are decided at federal and regional level. These kinds of policies and proclamations may be the reason for the creation of conflict with the

²⁸ Before the marginalization and the weakening of informal institutions by state led formal institutions they used to play a primary and direct role in the management of coffee forest and other natural resources.

local community and the degradation of the resource. The policies are not practically implemented. In a country where traditional resource management persisted for the past many generations, the designation of forests as protected and productive forest of the state without the active involvement of the local community might have multi-dimensional consequences on the livelihood of the local community and the sustainable management of forest.

Analysis of formal and informal institutions shows that there is a need to establish new institution or modify existing institutions through mechanisms that incorporate different property right systems for the sustainable conservation and use of coffee forest. There is also a need for the revision of forest policies and proclamations in the context that it can compromise the livelihoods, interests and customary uses of the local community and thereby ensure sustainable conservation of coffee forest. When existing institutions have constraints, there would be a need to create new institutions for strategic actors (Agrawal A. and Gibson C.C., 1999). The most feasible way to modify existing institutional set up is the modification or the integration of institutional set-up in Agriculture and Rural Development/ARDO or state forest supervising agency. On the other hand, establishing an independent and new institution with clear objective and links with other institutions, both vertically and horizontally, may help to avoid recurrent changes in institutional set-up and the exclusionary approach, and the lack of devolution of power and responsibility that is rooted its tradition in the current institutions.

Chapter Five

5. Rules Acting as Incentive or Disincentive

This chapter mainly focuses on the interaction of people with coffee forest, identification of rules at operational-level, collective choice-level and constitutional-level and incentives and disincentives related with these rules at different levels. This chapter also aimed at designing guidelines for coffee forest conservation and use based on the findings of this chapter and insights gained in other chapters. It also finally identifies rules that need to be changed or need amendment.

5.1. Interaction of People with Coffee Forest

This chapter gives focus mainly to rules of the protected area that either act as incentive or disincentives. It analyses rules at different levels, mainly operational and collective choice, and reaches at conclusions about rules creating negative or positive motivation towards coffee forest conservation and use.

Informants indicated that planting of coffee started during the imperial regime (1941-1974) in Iluu Abba Bora area. Before the monarchy, people mainly depended on the forest (wildly grown) coffee. Coffee ceremonies are mainly held on occasions like marriage, funerals or when cow calving. It is also a consumption and income-generating good. Subsequent changes of government and the introduction of various programs like villagization and resettlement as well as growing populations and the expansion of farmlands created compelling conditions for encroaching on coffee forest areas. This forced the government and concerned stakeholders to think on how to save the threatened species in the montane rainforests of southwest Ethiopia.

Before demarcation, the greater portion of the present coffee forest land was customarily divided into forest coffee, managed coffee, agricultural areas and settlement sites. During the imperial regime, the majority of the people in the area were the *gabars* or peasants working for the landlords. The chain of authority during the imperial regime consisted of Qoro, *baalabat*, *Tulla*, *xuxe* and *shane* in descending order, all of which exercised some authority in managing the coffee forest. During the military “Derg” regime (1974-1991) and at the beginning of the EPRDF regimes, the coffee forests passed through different ownership systems. Before demarcation of the protected area, the community had some roles in the conservation of coffee forest. People used to clear the undergrowth and protect their own forest from illegal extraction. If a person was discovered cutting down trees from somebody’s forest coffee plot, the owner appeals to court. However, there were problems of illegal appropriation and some of the forest areas were not given clear ownership right. After demarcation, the role of the community was reduced mainly in the core zone and illegal extraction was minimized as guards were placed to watch over the forest. Nonetheless, this brought multi-dimensional impacts on

the local community. This forces to question the sustainability of the conservation of coffee forest.

5.1.1. Establishment of Demarcated Area

The wild coffee conservation area of Gabba-Dogi is divided into four management zones (Gole, 2003:121). These include core zone, 23%, buffer zone-I, 5%, buffer zone-II, 26%, and transition zone, 46%. Core zone and buffer zone-I together constitute 28% of the total area. Buffer zone-II and transition zone, on the other hand, constitute 72% of the total area of which 46% is a transition zone where people settled and carried out agricultural activities. Out of the total area, buffer zone constitutes 26% which is equivalent to the managed forest (Ibid). Gole further stated that the multi-criteria decision analysis carried out using the OWA (order-weighted average) model is found to be suitable for identifying potential reserve areas (Ibid, 2003:122).

On the importance of different management zones, (Gole, 2003b) stated that core zone is reserved for conservation of wild populations of *Coffea arabica*. Human intervention in this zone is strictly forbidden except for research, education, monitoring and public visits. There are two types of buffer zone. Buffer zone-I is similar to the core zone except that in buffer zone it is possible to engage in non-destructive use such as collecting ripe coffee, fruits and honey production. In buffer zone-II, farmers can practice traditional semi-forest coffee production activities except cutting big trees. They can clear the understory of forest which is competing with coffee. The effectiveness of conservation in the core zone depends on the management and monitoring activities being undertaken in the buffer zone. Transition zone is an area where farmers practice traditional agricultural activities including crop production, animal husbandry and garden coffee production. It is an area where improved agricultural activities are practiced in support of community livelihood.

The scientific rules of the biosphere reserve discussed above are under implementation in the *Gabba-Dogi* wild coffee conservation area. However, the implementation process has multi-dimensional impact on the community as is evident from the data collected from the field.

The community living in and adjacent to the coffee forest is aware of the demarcation of the coffee forest into different management zones, but not in its scientific sense. The forest coffee conservation and use project has three management zones known to the farmers. Most informants say they know of only three management zones that include core zone, buffer zone and transition zone. Transition zone (*Daangaa zero*), buffer zone (*daangaa tokkoffaa*) and core zone (*daangaa lammaffaa*). Transition zone is where people live and practice agricultural activities. In the buffer zone, farmers are allowed to practice coffee production activities without expanding their farm to the adjacent land and conducting any deforestation activities. They are not allowed to use forest products in the buffer zone for fear of not entering into conflict with the Government's District Agricultural Office and *Gabba-Dogi* forest coffee conservation project. In the core zone, farmers are allowed only to collect forest coffee beans but are not allowed to clear the

undergrowth and thin the canopy layers above the forest coffee as they used to do for years.

The demarcation of the coffee forest into the three zones (known to farmers) or the four management zones indicated on the document is not even or constant among all the communities living adjacent to the coffee forest. In some places, all three management zones exist. In other places, only one or two of the management zones exist and this is bound to create problems on the community living in the area. In some places, like Henna area, there is no buffer zone except the core zone that forced some farmers to leave their home in search of coffee forest in other far-off areas outside the demarcation to sustain their family. In areas like Werebo (North east of the demarcated coffee forest), there is no core zone. In Werebo area, there was no equal demarcation as the two main management zones do not equally exist. The *kebele* has four *gots* namely Werebo, Kusi, Sego and Shenkora. Shenkora and Sego have buffer zones, but they do not have core zones. Kusi has both buffer and core zones. The absence of core zone in some villages adjoining the coffee forest created suspicion among dwellers. This is because they are expecting that one day in the future the coffee forest may be demarcated as a core zone including their managed semi forest coffee like other areas in their neighbors. As a result, they refrain from managing, conserving and harvesting coffee on their own field. This became a typical problem in Shenkora and Sego *gots*, thus posing disincentive for the expansion of semi-forest coffee on their own fields due to unclear and unpredicted rules of demarcation.

The coffee forest demarcation was legally conducted in June 2003 for *in-situ* conservation of biodiversity in the area though some informants indicated that the demarcation was conducted in 2000. The demarcation of the coffee forest is one of the major steps in coffee forest management that caused problems among the community living in and adjacent to the coffee forest. Informants in the demarcated coffee forest area indicated that neither the community nor their representatives participated in the demarcation process. Community representatives did not participate in the demarcation. Mr T [name withheld] states the issue as follows:

During demarcation, no community member or representatives participated except the kebele administrators. The kebele administrators themselves refused to sign on the demarcation document giving their consent to the demarcation on behalf of the community. This is just what has been done by force. It is an issue came to hurt our life. We even do not know exactly where the boundary of the demarcation is in some places without the help of the guards who warn us not to bypass the boundary (15/03/2007, Waangeenye, Hurumu District)

Community representatives do not have any role in making rules pertaining to forest coffee management. The same informant stated the following in this regard:

The rules governing coffee forest was exclusively prepared by those that demarcated the area. We have not participated in making the rules governing the coffee forest (15/03/2007, Waangeenye, Hurumu District).

Informants living in different corners of the coffee forest described the demarcation process using different words. Those in Wutete area stated that people with the mission of demarcation requested few people from the government office and few farmers from their fields (“*Nama muraasa bakkeedha fudhatanii adagaa milikitii itti dibanii deman*”) to participate in the demarcation process. There was no discussion made with the community on such a big issue. The advantage and the disadvantages of demarcation were not discussed with the community. People used to use different types of climbers for different purposes; they harvest agricultural tools, fuel wood, and forest products for house construction. This tells us the need to discuss with the local people as their livelihood is based on that.

Mr. G put the demarcation in his word as follows:

“When the coffee forests were demarcated, the first thing they did was to paint the boundary of the demarcated area. At first, we were totally shocked. It seemed as if the old imperial regime was making a sneaky come-back. It certainly appeared that the old system which had ruined our resource and labour before decades had come back” (March, 2007, Waangegne kebele, Hurumu District).

Other informants in Waangegne area indicated that people who demarcated Gabba-Dogi forest coffee conservation simply painted big trees to distinguish the boundaries of different management zones without the knowledge of the wider community. Some informants said the demarcation procedure is very similar with that of the imperial landlord system when the coffee land used to be sold to the landlords including the peasants who are working on that land. Others indicated that when people were painting inks in their forest, some of them thought that the government was going to construct feeder roads in their area. During demarcation, even some corn fields or even homes were included as no one from the community participated in the demarcation processes. In some places, *kebele* administrators were requested to sign on behalf of the community to accept the demarcation of forest coffee land. *Kebele* chairman, for instance in Waangegne area, was represented in the demarcation process but refused to sign on the document on behalf of the people as coffee is the hub of the livelihood for the people in Yayo (Gabba-Dogi) area. Community representatives did not participate in the demarcation process. As a result, peoples’ homes, farmland and grazing areas were included in the demarcated area. In addition, the community in the area (Gabba-Dogi) was locked in conflicts on the demarcation process.

The absence of community participation in the demarcation process is a major stumbling block to the sustainable conservation and use of the coffee forest. Coffee forest is the core of their livelihood and it is dangerous to tamper with it without grass root community

participation. Marginalizing the local people on issues affecting their livelihood will create multi-dimensional problems leading to conflict with the government body that is in charge of forest management.

Previously, farmers used to harvest some forest products for use as agricultural tools like *Wanjo (kenber)*, *gindo (mofer)*²⁹, different woods for house construction and climbers from the core zone. Climber and agricultural tools are not available in the buffer zone as they are already left with few types of species. Some people harvest from the core zone through theft. In the buffer zone, they protect and keep trees for selective and few personal use with permission from local officials.

5.1.2. Property Right in Protected Area

Property right in the Ethiopian forest coffee is one of the most complicated issues. All sorts of the property right systems exist in the forest coffee ecosystem. Different portion of the forest coffee was under the ownership of individuals, government and community before demarcation. Together with the coexistence of the Ethiopian wild coffee and the natural forest, the existence of different modes of ownership before demarcation made the management of forest coffee reserve very difficult. The bulk of forest coffee was claimed by individuals before the demarcation. There is also the portion of the coffee forest that was under the government ownership along the side of the Gaba River since the imperial regime. Informants still claim that the portion of the coffee forest was communally owned and they used to collect wild coffee from the forest instantly before the demarcation. All these sorts of property rights came under government ownership during the demarcation. However, the Yayo national forest priority area was under the *de jure* ownership of the government even long before demarcation.

Property right from the protected area perspective seems different. There are different rights to different property in all the three management zones. In the core zone, access is very strict and limited withdrawal right is permitted to the farmers in and adjacent to the coffee forest. They can collect the bean of wild coffee and spices from the core zone without conducting any management activity in that area. As a result of the absence of the management activity i.e like clearing the undergrowth, the yield from the forest coffee is dramatically decreased. The decrease of forest coffee yield after demarcation due to the prohibition of clearing the undergrowth contributed to the change of ownership system in the coffee forest in the core zone. That is why (Poteete A. R., 2001) stated that “strategies of exclusion alter the definition of property rights”. Farmers are saying that many of them do not enter the coffee forest as there is no yield. As a result, it becomes accessible to all the people in the area. From this it is possible to see either the existence of poor yield or their disinterest with the rules governing the core zone that forbids clearing the undergrowth. The legal right to administer the coffee forest is in the hand of the government. It is not the property of farmers. However, users strongly claim the use of forest products from the core zone indicating that it is an inheritance from their forefathers.

²⁹ Agricultural tools made of wood used for ploughing.

In the buffer zone, they are allowed to conduct traditional and semi-forest coffee production. They are not sufficiently allowed to involve in selective timber harvesting and use for household consumption though the local users need it, as they indicated. Although the two resources in the buffer zone (wild coffee and natural forest) are co-existing, the property rights assigned to both of them are quite different as semi forest coffee is owned by farmers while the forest is owned by the government. This indirectly encourages favoring the resources they own (semi-forest coffee) in the conservation activities and deforesting of the resources that they do not own or not allowed to use. The separation of the ownership rights of the two coexisting resources leads to the thinning of the forest canopies and the expansion of the semi-forest coffee to improve their livelihood through increased yield of coffee production. Property right in the transition zone is not guided by these rules. Farmers have an ownership right to their crop and settlement land. The farmers can freely harvest garden coffee and they can expand their agricultural productions that include crop production and animal husbandry. The existence of severe animal diseases in the area forces farmers to focus on the production of garden and semi-forest coffee production. This jeopardizes conservation of wild coffee in the adjacent core zone by encouraging expansion of semi-forest coffee and garden coffee production.

However, the existing situation in Gabba-Dogi forest coffee conservation areas is quite different. An imposed property right is created after demarcation by government agents. The kind of property rights that the adjacent community would like to have is not similar with what they have. They would like to practice their customary rights both in core and buffer zones. However, the government has the fear that the increasing population and socio-economic pressure may endanger the few remaining coffee forest which led to make demarcation. Nevertheless, there must be a way to reconcile the interests of both sides.

Currently, the government is giving certificate to ensure land ownership in the area. However, the farmers in this coffee growing area are not given land certificate except for their non-coffee agricultural lands. "It is difficult to consider it as our property as it is not certified for us" said the farmers in the area. This had created a big threat to the farmers forcing them to resettle elsewhere in order to make the buffer zone of the wild coffee project free from human impacts like the core zone. This clearly indicates that the community in the coffee forest conservation area has no reliable right of ownership on the semi-forest coffee production in buffer zone. This will create disincentives for the conservation of forest and coffee forest as well as the biological diversity in the area.

5.1.3. Rules Governing Coffee Forest

Rules governing the coffee forest have two sources: formal and informal sources or traditional and modern sources of rules. The rules of the majority of the informal institutions have emanated from the traditional source of rules that operated in *Bakke Abba Alanga* of Ilu Abba Bora area. Most of the rules and regulations of the traditional/informal institutions are revised in an assembly conducted twice a year for this

purpose. These include marriage law, servants' law, rules related with death, land law, etc. This legislation or rule making started during the time of Lafto Guyye (Ilu Abba Bora). The power of rule making and other administrative affairs was passed from Lafto to Qilxu, from Qilxu to Shonno, from Shonno to Chaali, from Chaali to Dhimma, from Dhimma to Garissa and then to Sirna. It was at the time of Garisa that the Amaharas took the upper hand through conquest. This small kingdom originated from the northern part of the country. Mr ST [name withheld] a key informant from Witete *Kebele* Yayo District narrates rule making in Bake Abba Alanga as follows:

It is a place for Oromo Governors since the time of Lafto Guyye. Rules legislated at Bake Abba Alanga govern people living between Baro and Gabba River. The rules promulgated in this area include marriage law, labour/servant law, land administration law, criminal or death related law, etc. It [the assembly] is conducted twice a year. It started at the time of Lafto Guyye and ended at the time of Garrisa when the Amaharas occupied the area through conquest. Known influential figures from the society at different corners such as people who have many cattle will participate in the assembly of rule making and revision of previous rules.... The rules made in this area used to govern the coffee forest as well (14/03/2007, Wuxete kebele Yayo District).

Rule making was interrupted after the conquest and later with the development of state forced formal institutions. General meetings were conducted twice a year that make or revise existing rules in Bakke Abba Alanga. Known personalities like *qoro*, *balabats*, *tullaa* and distinguished people participated in the meeting which used to be conducted twice a year in Bake Abba Alanga. Rules that used to be made in Bakke Abba Alanga works not only for people in Ilu Abba Bora but also for people who live between Dhidhessa and Gaba rivers. Bake Abba Alanga had stopped to be the source of the traditional rules, some say, at the end of the imperial regime. This had resulted in the fragmentation of rules of informal institutions governing the society.

The source of the rules currently governing the coffee forest is adoption from the biosphere reserve. Each management zones (core, buffer and transition) has its own rules and regulations designed for the conservation of biological diversity, in this case *Coffea arabica* gene pool conservation. In a biosphere reserve, people are entitled to use biological resources according to the reserved zones (Stoll-Kleemann S., 2005). Core zone is a strict protection zone where consumptive use of the resource is strictly prohibited. It is surrounded by one or more buffer zone that allows limited use of resources and ensures protection of the core zones (Ibid).

The management rules devised for buffer and core zone is the major regulation currently governing the use and conservation of demarcated forest coffee area. The local people know three forest coffee management zones as indicated below:

Daangaa Zewro (0): is a transition zone where farmers are allowed to live and practice agricultural activities

Daangaa Iffaa: is a portion of a demarcated forest identified as buffer zone where coffee production activities are allowed with minimal use of forest products from the buffer zone. People are allowed to use few trees for timber with permission of *kebele* administrators and forest committee. A single tree will be allowed for six to seven people to fulfill their need for house furniture or minor parts of construction activities like door or window for their houses. The district agricultural office permits the trees for users as far as they agreed to replace the tree they are going to cut through planting another. Sometimes officials and the committee are giving permission for the tree they grew up around their homestead, but this is not acceptable to the farmers. One of the farmers stated, “We are not wild animals to hide ourselves under shrubs”, i.e. we should have a right to own our tree. The way farmers are allowed to use the forest products in the buffer zone is not fair according to the farmer, i.e. they could not own the trees except the controlled production of semi-forest coffee.

Daanga 2ffaa: It is the portion of the forest identified as core zone where strict protection is conducted. Users are allowed only to collect coffee beans. Entering the forest holding sharp tools like sickle, as many informants indicated, is illegal or against the law and is subjected to prison sentences of many years. From the forest products in the core zone, they have access to wild coffee without any conservation activity. On the other hand, without management (clearing the undergrowth), it is impossible to get good yield from the forest coffee which the farmers saw as an indirect prohibition of access to the coffee forest. People can enter the coffee forest without holding any agricultural tools for cutting forest products, and can collect wild coffee. They do not have access to many forest products. An informant from Wangeegne area had the following to say regarding their limited access to resources in core zone:

We cannot even enter ‘daangaa lammaffaa’ [core zone]. As the coffee forest was already protected in customary way, we do not cut trees in a [core zone] except for personal consumption. After demarcation, however, we are prohibited to use forest products in any form. In short we are permitted to use “haadha Garbboo” [which idiomatically means nothing] (March, 2007, Wangeegnye kebele Hurumu District).

The farmers do not know the source of rules currently governing coffee forest. The users do not know who is responsible in making rules governing access and conservation of coffee forest except the guards. They (people participated in FGD) heard from other sources that the forest is being managed by foreigners, especially the European Union who has been funding the coffee forest conservation project. They did not participate in making rule for the conservation and use of coffee forest. Though the source of the rule currently governing the coffee forest conservation is the biosphere reserve rules, the government Proclamation 94/1994 (recently replaced by Proclamation No.542/2007) can impose fines and imprisonment as part of enforcing the biosphere reserve rules. Some informants indicated that there are no rules currently governing the use and conservation of coffee forest as there is no use and conservation by the community. This shows the exclusionary policy of the Ethiopian Government on protected areas. Research findings

on the protected areas showed that adherence to an exclusionary protection were among the key factors limiting successful conservation in Ethiopia (Michael J. Jacobs and Catherine A. Schloeder, 2001).

Government rules and regulations (the project law) are contradicting with the rules that the district agricultural office follows. The district agricultural office recommends grafting any coffee in the district where as the *Gabba-Dogi* forest coffee conservation and use project is prohibiting any form of human intervention except collecting wild coffee. The local community is in confusion with the two contradicting rules.

There are incentive structures, fines, and penalties related to coffee forest. If they break harvesting rule related to this product for the first time warning will be given. Twenty-one individuals have been given the last warning in one of the *kebeles* adjoining the coffee forest, Henna. There are illegal loggings in the areas of the coffee forest. *Gabba-Dogi* forest coffee conservation project is responsible to monitor the conservation and use of coffee forest.

5.1.4. Impacts of Demarcation on Local Community

Coffee is a very important cash crop among the communities of Southwest Ethiopia in general and the farmers living adjacent to Gabba-Dogi coffee forest conservation project in particular. Coffee, whether wild, garden or semi-forest coffee is the mainstay and the major means of subsistence. Coffee is everything for the farmers in Yayo area. It is more than the bank account for the farmers in the study area. One of the informants [name withheld] in Waangegne area, states³⁰ the importance of coffee in connection with the current demarcation of coffee forest as follows:

The impact of demarcation on our life is immense and immeasurable. If we do not have a plan to work on coffee, our livelihood is totally spoiled as we don't have sheep, hens, and other animals to sell. We are even paying government tax from the income we are earning from the coffee forest. After demarcation, we are becoming unemployed. Unless we get back our coffee forest, we cannot properly live in this world and the people of this kebele cannot show any progress in their life. That indirectly means our children cannot grow properly. We are generally asking the government to protect our right to live and own the property and earn income from our resource to ensure the continuity of our life. Losing our coffee means losing our life on this world. (March, 2007, Wangeegne kebele, Hurumu district)

Many participants of focus group discussion indicated that coffee is their major source of income. One of the discussants stated that “If we had no coffee, we would not have come to this meeting as we could not have cloth and we are not like baboons to have grown hair”. That is to strongly stress the importance of coffee as a source of income to cloth their family.

³⁰ Jeman Mehammed, Pseudonym of the informant is used.

Another informant states the impact of demarcation on wild coffee productivity as follows: “When the coffee in the natural forest is not conserved, it will dry. Similarly, our children are affected by the loss of income we used to get from the coffee forest”³¹. The productivity of wild coffee was dramatically decreased after demarcation. The other key informant said he used to get 4-5 quintals from forest and managed coffee; now his coffee yield is reduced to 1-2 quintals³².

The impact of coffee forest demarcation on the livelihood of the local community is very huge and multi-dimensional. There is no advantage of demarcation to the adjacent community; all it can bring poverty resulting from the prohibition of forest products mainly wild coffee. Informants in Gaabaa area indicated that farmers lost the benefit they used to get from the forest coffee. In earlier days, they used to collect forest coffee using quintals; now they use *Zenbil* (relatively very small material) to collect forest coffee. They could not provide food, cloth, medication and also could not send their kids to school. At the moment, some farmers stated that they could not cover the cost of schooling for their children.

A few forest users cultivate cereal crops. Others are daily labourers. Those who lost their coffee from core zone work on coffee farms of those who have plots from the buffer zone through share cropping. Others left their place in search of alternative means of subsistence. An informant put this as follows:

Those who have energy and patience go to other districts and areas (Yayo, Hurumu, battali, etc areas) for crop sharing mechanism to get access to forest coffee. We can give you the list of people who left their home in search of alternative means of subsistence. They are more than thirty from our single small ‘got’ “kussaye” alone, to say nothing of the bigger kebeles. They could effectively cloth and feed their wife and family unlike us who have no access and opportunity for such chances. They are still doing there once they have lost what they have from here [coffee forest]. They are those who have energy and access to coffee forest in other areas with support of their close relatives and other mechanisms (March, 2007 Henna Kebele, Dorenni District)

They do not widely practice animal rearing due to the prevalence of animal disease in the area. The area is not convenient to the rearing of goat, sheep and hen. The fact that the area is a coffee forest inhabiting many wild animals also exposed small animals to a danger of being eaten by these wild animals, specially baboon. There is no direct advantage that the forest people get from the demarcation of coffee forest. However, they believe that the demarcation saved the coffee forest from deforestation especially through illegal logging in some places.

Though some of the people affected by demarcation of the coffee forest indicated that the demarcated forest was not in the hands of farmers during demarcation, the majority of the demarcated forest was owned by the farmers at the moment of the demarcation.

³¹ Asefa Wakjira

³² Seleshi Deneke.

Informants in Henna area indicated that there is no buffer zone in boundaries of the demarcated forest in their area. The absence of the buffer zone in their area is the other unfortunate event that made them helpless to depend on semi forest coffee production in buffer zone like other areas. In Henna, there are no different management zones. There is only one zone which is a core zone. The coffee forest that they used to harvest as a private plot was demarcated as a core zone. One of the informants, for instance, stated that: “I left (resettled) from this demarcated area in 1986 through the *Derg* Villagization programme. I had had over 3000 heads (5 hectares) of coffee from this area. Our property was confiscated. We do not go to our coffee fields in the core zone. If some one saw us being in the core zone holding sharp tools she/he might tell to the guards and we would land in prison.³³” The demarcation of the coffee forest exposed many farmers living in and around the coffee forest to meager living conditions that question the sustainability of the coffee forest management project.

5.2. Identifying Operational Rules

Rules may create incentives and disincentive structures or conflict among resource users (CLARM and NSC, 1996). Hence, in order to clearly understand the incentives and disincentives related with rules at different levels of decision making, it is essential to know the levels of rule making identified by Ostrom and other scholars at the workshop in political theory and policy analysis--Operational rules, collective choice rules, and constitutional choice rules (Kenney and William, 1999; Ostrom E Gardner R., and Walker J. 1994). Operational rules deal with the day-to-day activities or decisions made by users of the resource mainly rules related with harvesting, monitoring, sanctions, etc. Collective choice rules, on the other hand, deals with how rules at operational level are made. These are the rules that are used by appropriators, their officials, or external authorities in making policies about how resources should be managed. Constitutional rules determine who are eligible in determining rules at collective choice rules that in turn affect operational rules (Kenney and William, 1999).

There are two sources of operational rules governing the coffee forest. First, the indigenous forms of rules governing coffee forest were started long ago. On the other hand, formal coffee forest management operational rules were issued at the time of the demarcation of many forest areas as national forest priority areas (NFPA) in 1988 (Kidane M., 2002) and more recently during the redemarcation of Gabba-Dogi forest coffee conservation as a protected area/biosphere reserve. The main rules working for the local conservation and use of coffee forest is that each individual household has its own coffee forest plot on which their livelihood depends. An individual household and their family members have full right to harvest forest products and also to conserve on their own plots mostly acquired through inheritance from their forefathers. Holders of traditional forest coffee plot have a full right to claim even in the court if someone violates and harvest wild coffee or other forest products such as timber and woods for house construction from his plot. This traditional rule allows holders to harvest coffee forest, timbers, climbers, spices, keeping beehives, etc., on their own plot. These are traditional but working rules. Holders of traditional coffee forest plot have the right to

³³ Dheressa Firissa.

manage the coffee forest according to their interest. Most of the holders clear coffee forest undergrowth and thin canopy layers above the coffee forest in order to get good yield from the coffee forest that enable them to subsist their family. Violation of this rule that includes harvesting timber, wild coffee, fuel wood, woods for agricultural tools, etc has a serious consequence that include fine and imprisonment through the decision of formal courts. This entails the indirect acceptance of traditional rules by the formal legal institutions until demarcation of the coffee forest as a protected area.

Secondly, the other rule governing the coffee forest at operational level is the one issued by the formal institution that clearly identifies the interaction of the farmers with the coffee forest. After demarcation, two distinct rules are established at operational level that governs the use and conservation of the coffee forest. These are the rules separately established for buffer and core zones. In the core zone, human involvement is strictly prohibited and it is seriously protected (Gole T., 2003b). The farmers in the area, on the contrary, want to harvest some forest products such as wild coffee, timber and wood for house construction, agricultural tools (*gindo, babate, horda, Kambari*), climbers (*liqixi*), etc, which are not sufficiently or totally available in buffer zone. Respondents from *Gaabaa* area, for instance, indicate that many of the forest products are not allowed to harvest from the core zone. The only criteria set for the farmers to harvest forest product is that they can use forest products from their own plot in the buffer zone only through the permission of *kebele* administrators and agricultural offices. Prohibition of some activities in the core zone such as expansion of coffee farm, keeping beehives in the core zone, hunting and grazing their cattle are some of the rules included in the current forest conservation mechanism that discourages peoples' interest in sustainable conservation and use. The following two tables (Table 5.1 and Table 5.2) show forest products the farmers harvested and want to harvest from the coffee forest.

Table 5.1: Forest products farmers (households members) harvested in the past one year.

Forest Product		Yes Respondents	%	No Respondents	%	Total	Percent
Valid	Trees	125	69	55	31	180	100
	Bushes	28	16	152	84	180	100
	Grasses	48	27	132	73	180	100
	Leaves on Ground	5	3	175	97	180	100
	Climbing Leaves	79	44	101	56	180	100
	Soils	3	2	177	98	180	100
	Stones	18	10	162	90	180	100
	Water	65	36	115	64	180	100
	Animals	14	8	166	92	180	100
	Areas for sacred worship	7	4	173	96	180	100
	Recreation	33	18	147	82	180	100
	NTFP (inc. Wild Coffee)	110	61	70	39	180	100
	Others	5	3	175	97	180	100
	Total Respondents	180	100	180	100	180	100

Source: Household Survey

As can be observed from the table above, households harvested trees, non-timber forest products (NTFP) including wild coffee, and climbing leaves which account for 69%, 61% and 44 % of the respondents, respectively. About 36 percent of the respondents also indicated that the source of water for their subsistence is from the coffee forest. This shows the strict rule imposed in the conservation of the coffee forest in the core zone and previous substantial dependence of the dwellers on the forest products under the strict protection. The dependence of large number of people living in and adjacent to the coffee forest can entail the need to consider the benefit they can earn from the coffee forest in making rules. The crucial importance of coffee forest products for the livelihoods of farmers and the strict rule of protection of the core zone without human

involvement generated disincentives among the households living around the coffee forest to participate in the sustainable conservation.

Table 5.2: Products households want to harvest from the core zone

Forest Products		Yes respondents	%	No respondents	%	Total	%
	Trees ³⁴	55	31	121	69	176	100
	Animal Fodder	10	6	166	94	176	100
	Wild Coffee	155	88	21	12	176	100
	Grasses	5	3	171	97	176	100
	Fuel Wood	87	48.86	89	51.14	176	100
	Missing System	4	2.78				

The table shows that the percentage of household respondents who want to harvest wild coffee, trees and fuel wood are 88, 31 and 49, respectively. From this it is possible to argue that the livelihood of the majority of the people in the area is mainly based on the income they earn from the wild coffee in the forest and significantly depend on the natural forest to get trees for house constructions and fuel wood for home consumption. This can also indicate the strong link that farmers have with the coffee forest in the core zone in order to sustain their life. As already stated, the existence of strong need among the farmers to depend on coffee forest against the strict rule, like prohibition of management, of the coffee forest in the core zone can pose disincentive among users. Prohibition of conducting some management activities in the core zone is one of the disincentives that the existing rule imposed on the users of the coffee forest. The following table shows percentage of the households who have participated in wild coffee management or conservation activities.

Table 5.3: Participation in conservation activities in the past five years

Responses		No.	%
	No	113	62.8
	Yes	67	37.2
	Total	180	100.0

³⁴ Trees stand for big trees that can be used mainly for timber and other constructions

The table shows that 113 (63 percent) of respondents said they did not participate in any wild coffee management activities such as clearing the shrubs competing with wild coffee and thinning the canopy of the coffee forest. Most informants on the other hand indicated that without conducting management activities on wild coffee it will not give a good yield. Hence, prohibition of conservation activities in the core zone is one of the disincentives related with the rules governing the coffee forest. As a result, many of the informants indicated that the demarcation of coffee forest into different management zones has decreased wild coffee productivity. The table below shows the impact of demarcation on wild coffee productivity.

Table 5.4: Perception of the respondents on the impact of forest coffee demarcation into different management zones on the wild coffee productivity

Impact on Wild Coffee	No.	%
Increased Productivity	11	6.1
Decreased Productivity	150	83.3
Has no Impact	19	10.6
Total	180	100

The majority of the respondents, 150 (83) indicated that demarcation of the coffee forest into different management zones decreased wild coffee productivity. This is mainly due to the fact that the prohibition of any conservation activity or management in the core zone dramatically reduced the productivity of wild coffee. It shows that strict protection of the wild coffee in the core zone is one of the disincentives among the users of the wild coffee in the area. This is to mean that the farmers want to get some sort of permission to manage the wild coffee in the core zone which might not be acceptable based on the principle of protected area or biosphere reserve in the future. This is because the traditional management of the coffee forest reduces the biodiversity of the coffee forest (Senbeta F., Kassahun T and Tadesse. W, 2007).

The participation of the local community in different regeneration activities is also among the rules that impose incentives and disincentives to the sustainable conservation and use of coffee forest.

Table 5.5: Management or Regeneration Activities Undertaken in the Past 12 Months (From March 2006 to March 2007).

S / N	Activities Conducted	Yes Respondents	%	No Respondents	%	Total	%
	Planted seedling	87	48	93	52	180	100
	Planted trees	75	42	105	58	180	100
	Planted Bushes	2	1	178	99	180	100
	Built fences or other barriers to	5	3	175	97	180	100
	Cleared over and undergrowth	76	42	104	58	180	100
	Planted coffee in the forest	67	37	113	63	180	100
	Pruned Coffee	21	12	159	88	180	100
	Digging	19	11	161	89	180	100
	Conducted Nothing	37	21	143	79	180	100

The table indicates that the percentage of households interviewed who have participated in different regeneration activities is 79. From the total respondents, 48 percent planted seedling, 42 cleared over and/or undergrowth and 37 percent planted coffee in the forest. Households participating in some regeneration activities such as building fences and pruning coffee range from 3 percent to 12 percent respectively. It is possible to argue from the figure that the majority of the populations in the coffee forest area are not participating in the conservation activities for the mere reason that the coffee forest is already demarcated as a government protected area. The prohibition of households to conduct some regeneration or conservation activities due to the serious protection in the core zone is one of the operational rules posing disincentives to the local community.

On the other hand, the operational rule working in the buffer zone indicates that household can conduct semi-forest coffee production activities. They can practice traditional semi-forest coffee production together with harvesting spices and keeping beehives (Gole T., 2003b). They can also clear the understory shrubs that compete with

the coffee plant which helps to increase coffee yield. Each household has its own semi forest coffee plot on which to conduct coffee production. In this buffer zone, they cannot cut bigger trees without the permission of government officials and the forest committee. In many cases, farmers claim that they have to pass a long process of getting permission not only to get one or two stems of naturally grown trees for two to four households for house construction but also for the tree they themselves planted and had grown in their homestead. This creates disincentives on the expansion of tree planting in the area that could reduce the tension on the deforestation of the core zone. Violation of all the rules designed for buffer and core zone will result in the application of forest Proclamation (94/1994)³⁵ (currently replaced by 542/2007) that can impose fines and imprisonment through the formal court.

There are both working and non-working rules in the regulations designed to govern the coffee forest at operational level. Most of the rules stated above in the conservation and use of coffee forest are working rules that can be categorized under formal rules. The rule that governs state forest or national forest priority area (NFPA) confirms that farmers or peoples living in and adjacent to the coffee forest area cannot use the forest in the form of keeping beehives, collecting spices, hunting, using as grazing land, etc without the permission of concerned government officials. However, the farmers are using these forest products without requesting permission from concerned government offices, the forestry department, as they used to do for years based on their customary right. Customary laws are still working mainly in the buffer zone except the rule that forbids cutting timber forest products for household infrastructures, house construction, etc, without the permission of government officials at local level.

Violation of the rules set for the conservation of coffee forests both in the core and buffer zones will result in serious fines and punishments. In the past five years, different people at different corners or *kebeles* of the coffee forest received diverse punishments as a consequence for their violation or illegal harvesting of forest products. In the past five years, for instance in Gaabaa area, a fine is imposed on two people in the form of imprisonment for two years and the other four people have cases submitted to the court. This is for the harvesting of forest products mainly timber from the core zone. In the last five years, another 20 individuals encroached into the coffee forest in the buffer zone despite warning to refrain from their “illegal” acts. Similarly, five people are fined 300 birr each for the infraction of the use right related to the coffee forest. Project employed guards are responsible for monitoring of coffee forest. There are many cases not reported to the court where people are illegally encroached into the core zone. The picture below, for instance, shows how some of the areas in the core zone are being encroached upon by the people in the area.

³⁵ After September 2007 it is replaced by Proclamation 542/2007.

Figure/Picture 5.1: Encroachments to the core zone or conversion of forest coffee to semi-forest coffee



This is a picture taken from a core zone around a place called Muchucho/Mucuco area while going for data collection that shows how people cut trees to prepare the forest for coffee plant. This reveals that there are disincentives in the rules governing the core zone for it could not effectively control the behavior of the people in the area. Compliance to the formal rule is sometimes based on the historical fact or customary rights of the people and the past historical dependence of the people on the resource which is one of the disincentives for sustainable conservation and use of coffee forest. This can also show the absence of “graduated sanction” which is one of the eight design principles designed by Ostrom that ensure sustainable conservation of common-pool-resources (Anderies, Janssen and Ostrom, 2003 and Koontz, 2003). This is to mean that enforcement of sanctions is based on the seriousness and context of the offense.

5.2.1.1. Perception of the Community as Incentives

The perception of the local people towards the rules currently governing the forest is also another incentive that can influence their use and conservation (Anh T. and Pretzsch J.,

2004). Their perception towards the rules governing the coffee forest has a profound importance in their compliance to the rules and ensuring sustainable conservation. The table below shows their perception regarding the rule.

Table 5.6: Rules regarding coffee forest use

Perception towards the Rule		No.	%
Valid	Completely fair	38	21
	More or less fair	108	60
	Not fair	32	17
	There are no forest use rules	2	1
Total		180	100

The majority of respondents, 108 (60 %) and 38 (21 %) indicated that the rules regarding the coffee forest management is more or less fair and completely fair respectively while the rest 31 (17%) responding that it is not fair. From the figure above it is possible to argue that 146 (81%) of the respondents perceived the rules governing the coffee forest as fair or completely fair which can be seen as one of the incentives for the compliance to the rule. On the contrary, it is clear from the household survey that the attitude of the majority of the local people towards the demarcation is negative. See the table below on the perception of the local community towards the demarcation of the coffee forest.

Table 5.7. Attitude of the Community towards Demarcation.

Items		No.	%
Valid	Strongly Positive	3	2
	Positive	8	5
	Neutral	63	35
	Negative	53	29
	Strongly Negative	53	29
Total		180	100.0

Information gathered through the survey shows that the majority of the respondents, 106 (more than 60 %), indicated that they have either negative or strongly negative attitude towards the demarcation. The remaining 63 (35 %) of respondents have a neutral attitude towards the demarcation, i.e. the rules applied after the demarcation does not have significant impact on their livelihood in comparison to the importance it has for the biodiversity conservation in the area. Only about 11 (6 %) of respondents showed their positive and strongly positive attitudes towards demarcation. These are people who do not have strong contact with the coffee forest from the very beginning or who do not have traditional coffee plots from the core and buffer zone of the protected area. Negative and strongly negative attitudes created towards the demarcation of the coffee forest as a protected area suggests that the majority of the local people are strongly dependent on the

forest products mainly on wild and semi-forest coffee, the use of forest product as a fuel wood and different woods for constructions purposes. Strict protection of forest products in the core zone and inability to get enough access to forest products in the buffer zone are the major disincentives in the existing rules that forced the local people to develop negative and strongly negative attitudes towards the protection of coffee forests as a protected area in their area. In principle, the majority of respondents that participated in the focus group discussion indicated that they don't hate or have no any objection to the conservation of the coffee forest. They even explained by saying that "we need forest as we need clothe". It is the fundamental source of our livelihood both in getting good climatic condition and acquiring our means of subsistence. The major problem is with the disincentives related with the coffee forest rules that impose strict rules and partially isolated and/or ceased their interaction with their coffee forest. The support gained from the local community and their positive attitude in protection will be obtained as long as they continued to get benefit from the protected area (Jeffery A.M., 2008) in terms of products such as construction materials, firewood, fodder, honey, and timber.

Similar research in Kenya shows that the local communities had negative attitude towards conservation strategies by the government at Mt. Elgon forest, (Ongugo P., Njuguna J., Obonyo E. and Sigu G. (n.d). This is because the resources have been essential for their local livelihood survival, while the management of these resources by external institutions without their involvement will affect their lives, (Meroka P, 2006). This kind of situation or the establishment of formal institutions to manage natural resources on behalf of local communities is regarded as being imposed on local populations, regardless of being appropriate to circumstances (Rosendo S., n.d).

5.2.1.2. Property Right as Incentives

Different forms of property rights fundamentally pose incentives and/or disincentives on the users of coffee forest or other natural resources. Tenure security enables to lengthen planning period and provides an incentive to invest in the productive capacity of the land and to manage natural forest (Castrén T., 2005). The availability of secure land tenure ensures predictability and stability among the economy of the rural community and promotes economic efficiency and information flow (Ibid, 2005). This is to assess the existing property right among farmers of coffee forest and the related incentives and disincentives. In attempt to do this type of assessment, it is fundamental to identify a "bundles of right" (Schlager and Ostrom E, 1992; Ostrom E., 2000; and Gregorio M, Hagedorn K, Kirk M, Korf B, McCarthy N., Meinzen-Dick R., and Swallow B, 2004) that incorporate, access, withdrawal, management, exclusion and alienation rights.

Property rights can also be measures which allocate rights to own, use or manage natural resources (Emerton L, 1999). Emerton states that property rights are based on the fact that the primary beneficiaries of natural resources are usually the individuals or groups who have recognized rights to own, manage, use and trade in them. However, the majority of the farmers living around the coffee forest own few of the rights on some of the forest products. It is essential to identify which rights farmers own and over which forest products. The rights can be access, withdrawal, management, exclusion and

alienation. The main forest products which are available to them are wild coffee, timber, fuel wood, grasses, spices, animal (hunting), honey, etc. Property right to these forest products differ based on the availability of the product in core or buffer zones. In the core zone access, withdrawal, management, exclusion and alienation rights to all products is strictly prohibited except access and withdrawal right to wild coffee. This by itself is becoming under strict protection. Access to forest products, wild animal hunting, keeping beehives, extracting forage requires special permission from the concerned government office. Extracting timber and fuel wood is strictly forbidden. Therefore, it has been stated that allocating secure rights to own, manage and use nature can be used as an incentive to set in place the conditions under which communities can benefit economically from and have a stake in conservation (Ibid). In this context, property rights to forest products in core zone can no more serve as incentives for sustainable conservation. This is because they have only access and withdrawal rights to wild coffee, spices and honey; i.e., they do not have management, exclusion and alienation rights which would have been a good incentive for sustainable conservation.

In the buffer zone, farmers or users of coffee forest have a relatively good access, withdrawal, management and exclusion right to forest products mainly their semi-forest coffee, fuel wood extraction, timber, keeping beehives, and using grasses for grazing. They have limited right to access, withdraw, manage and exclude others which are important incentives for sustainable conservation and use. However, it has remained as major disincentive among many of the coffee forest users as they could not get certificate for the land they hold as a semi-forest coffee and de facto ownership of forest coffee in the core zone. This shows that they could not get sufficient right to access, withdraw, manage and exclude others both in the core and buffer zone.

Table 5.8: Bundles of rights for different forest products

Property rights	Forest Products					
	Wild and/or semi Forest coffee	Timber	Fodder	Honey	Fuel wood	Spices
Core zone						
Access	X	-	-	-	-	X
Withdrawal	X	-	-	-	-	X
Management	-	-	-	-	-	-
Exclusion	-	-	-	-	-	-
Alienation	-	-	-	-	-	-
Buffer Zone						
Access	X	Limited	Limited	X	Limited	X
Withdrawal	X	Limited	Limited	X	Limited	X
Management	X	Limited	-	X	-	X
Exclusion	X	X	-	X	-	X
Alienation	-	-	-	X	-	X

In general, it reveals that the bundles of rights to the products in the core zone are creating disincentives on coffee forest users while the rights to semi-forest coffee, keeping beehives and spices can serve as incentives for sustainable conservation and use of coffee forests in buffer zone. Inability to harvest trees some of which are grown by themselves in the buffer zone without the permission of local official is also another disincentive to the local people. It has been indicated by some scholars that various forms of property rights can be used as incentives for conservation. This can be achieved through the transfer of entire ownership of resources or land to communities or by giving through the lease or concessions; providing management or use right to a particular resource or community participation in natural resource management and decision makings. There are some forms of property rights that are usually used as incentives in natural resource conservation. Joint forest management and co-management are special forms of property rights used as incentives in many countries (Emerton L., 1999).

Property rights can also be serving as disincentives to resource or forest conservation. In some situations, governments may monopolize and exercise total control over the management, appropriation and marketing of the resources especially in the areas delineated as protected forests for the purpose of saving endangered species thereby rendering community utilization illegal. Although the application of such property right is useful in discouraging degradation, it is worth noting that it has rarely been effective in practice due to enforcement costs and questions of their equity and ethical basis (Ibid, 1999). The case of the Yayo protected coffee forest is very similar to this situation. Demarcation of coffee forest for wild coffee gene pool conservation is a major disincentive for the local community that has been depending on the coffee forest and now at least partially isolated from use and conservation.

5.3. Rules at Collective Decision Making and Constitutional Levels and their Impact: Related Incentives and Disincentives.

Rules at various levels create incentives and disincentives to users of the coffee forest and pertinent stakeholders. The sources of the majority of rules governing the coffee forest are collective and constitutional level decision makers. Rules working at operational levels are designed at the collective decision making and constitutional levels. Once individuals, groups, organizations, committees, etc. making rules are identified the next step to explore what are the 'rules for making rules' (Thomson T. and Freudemberger K. 1997). In other words, it is necessary to identify who, how and where the rules at collective choice are made. It is also essential to respond how the decision making on collective choice level rules are made. Is it made by consensus, vote, guided by individual impositions, or participation of the community (Ibid, 1997) that can create incentives and disincentives. This research particularly identifies how the rules at collective decision making are made and what are their consequences on the operational level that involve farmers day to day activities that engross harvesting, pruning, planting seedlings and conducting other regeneration activities. The way rules are made and applied or mediate the interaction of coffee forest users with coffee forest has a fundamental incentives and disincentives. The rules governing the coffee forest are made

(or adopted by) at the Institute of Biodiversity Conservation at federal level that originally comes from the scientific knowledge of biosphere reserve management. These rules are passed down to govern the behavior of people living in the coffee forest area. The source of rules that impose strict protection at core zone and semi-forest coffee production in buffer zone is scientific which adopted from UNESCO Man and Biosphere (MAB). Each biosphere reserve ideally consists of one or more core areas, a buffer zone and a transition zone³⁶.

Having understood the three levels of rules identified above, it is essential to explore the incentives and disincentives related with this three level of rule making. As already identified, the incentives and disincentives associated with operational rule is on how to access, withdraw and manage coffee forests by the local community. At collective level, decision making can focus on who made or is involved in the rule making at operational level. Household survey conducted reveals that the rules working at operational level are not devised by the users or people working at *wereda* or project level. It is a rule adopted at national level (at Institute of Biodiversity Conservation). The following table shows the participation of the local community in rule making:

Table 5.9: Involvements in any discussions regarding rules for coffee forest Use and Management.

		No.	%
Valid	No	174	96.6
	Yes	6	3.4
Total		180	100

Source: Household survey

The table shows that 174 (97 %) of the households did not participate in discussion or in making rules governing the coffee forest. The remaining 3 percent by themselves did not participate but might be assisted when the rule is passed down and become applicable to the people. As indicated above, as the rule is devised at the federal level, it did not incorporate the local population or their representatives for whom the rule is crafted to control their interaction with the coffee forest. Hence, the absence of participation of the people on whose behaviors the rule applied is one of the major disincentives in the use and conservation of coffee forest. Power sharing approach is the major incentive for the conservation and use of resources. Power sharing approach in this sense signifies the empowerment and the participation of the local community in rule making (Castren T. 2005).

³⁶ http://www.countrysideinfo.co.uk/biospher_reserves/biospher_reserves.htm

5.3.1. Incentives and Disincentives Related with National Legislations

Rules, policies, proclamations or legislations at different levels with different origin consisting of national laws, indigenous laws and project laws at local level can impose incentives and disincentives on resource users (Hesseling G., 1996). There are many policies and proclamations issued mainly since the time of the imperial regime for the conservation of forests and wildlife. The past three consecutive proclamations (that include Proclamation No.192 of 1980, Proclamation No. 94 of 1994 and Proclamation No. 542 of 2007) have a fundamental impact on the Ethiopian Forest Conservation and Use. Ethiopian Forestry Conservation, Development and Utilization Proclamation No. 94/1994 repeals many of the proclamations issued during the imperial regime that include Forest and Wildlife Conservation and Development Proclamation No. 192/1980 with respect to provision of forestry; Protection of State Forest Regulations No. 344/1968; Exploitation of State Forest Regulations No. 345/1968; Management of Protective Forests Regulations No. 347/1968; Power of Rangers Regulations No. 349/1968; and Power of Forest Guards Regulations No. 350/1968. Proclamation 94/1994 by itself is repealed by the Forest Development, Conservation and Utilization Proclamation No. 542 of 2007. Both Proclamations (94/1994 and 542/2007) of Forest Development, Conservation and Utilization share some common features in content. Proclamation No. 94/1994 consists of four major parts that include: I) General ii) Conservation and Development of Forest iii) Utilization of Forest and IV) Miscellaneous Provisions. Similarly Proclamation 542/2007 also consists of four parts that incorporates: I) General ii) Promotion of the utilization of private forest iii) conservation, development and administration of state forest and IV) Miscellaneous Provisions. Generally speaking, Proclamation in use (542/2007) is more elaborate and covers a wide range of issues in the development, conservation and utilization of forest.

According to the Forestry Conservation, Development and Utilization Proclamation No. 94/1994, there are three types of forest ownerships that include state forest, regional forest and private forest. These are grouped into two (state and private) types of ownerships in Proclamation of 542/2007. The major difference is in the definition given to “state forest”. In the previous proclamation “state forest” referred to “a forest designated so as to protect genetic resources or conserved to keep the [eco-system] with a program that covers more than one region” While “state forest” in the context of Proclamation 542/2007 identified as “any protected or productive forest, which is under the ownership of the Federal Government or a Regional State”. However, in the previous (94/1994) Proclamation, “regional forest” signifies “a forest designated as regional forest by the official gazette of the region. That means it is not either a state or private forest. But it is found within a specific region or developed by the said region”. This is indicated as the third type of forest ownership. Summarizing “state” and “regional forest” into “state forest” without identifying whether it is federal or regional may create doubts on the real and practical benefits that “the local community³⁷” obtains from the “state

³⁷ “Local community” includes the community residing inside and adjacent to a state Forest; Art 2(17) of Proclamation 542/2007.

Forest³⁸. In both Proclamations (94/1994 and 542/2007), there is no type of forest ownership identified as community forest in spite of the fact that there are many forests in Southwest Ethiopia that is managed through customary tenure systems by community members who get some spiritual, recreational and cultural benefits in common (See Zewdie J, 2007; Wakjira D. and Gole T. Forthcoming). The designation of all forested areas as state forest indicates the government's lack of trust among the community and the marginalization of customary land tenure system. In most African countries, tenure system originated from complete ignorance of the local level process and external imposition of policy. From this, it is possible to observe the fact that customary tenure system with which the local community is familiar is ignored and forest lands are designated as state forests (Wakjira D. and Gole T., forthcoming). It was also stated that since the beginning of the last century, forestland is by default state property (Bekele, 2003). The type of ownerships indicated in the proclamations or the designation of the majority of forest land as state forest and the absence of clarity on the role of the local community in the use and conservation is the major disincentive for sustainable management of forest.

On the contrary, Proclamation No. 192 of 1980, an earlier proclamation to provide for the conservation and development of forest and wildlife resources, identifies two types of forest ownerships that comprise state and communal forests. Proclamation 192/1980 clearly stipulates different forms of state forests Art.5 (1) a-c; forests owned by peasant associations Art 5 (2) a and b and *kebele* forests Art 6 (1 and 2). It identifies diverse forms of ownership that consider the nature and origin of forest whether planted by the community, naturally grown or protected by the state. With the growth of socio-economic, demographic, political and ecological problems and the diminishing of customary tenure and institutions, the trust that the government place in the local community to manage forests is dramatically eroded. The government is trusting NGOs and expatriates working on natural resource management more than the local community that can be observed from the mandates given to some international NGOs to manage some forest through designing projects. This has remained as the major disincentive for the local community's effective resource conservation and use. This forces us to raise the question of who is managing forests for whom? Government officials and policymakers are seen as candid cadres of the government and the community as agents of forest degradation. That is why many of the proclamations ignored the customary resource management practices of the local community that also isolated them from the use and conservation of forests.

The designation of state forest is conducted by Proclamation 94/1994 Article 4 (1) and it says "with the participation of the local community". This is specified in the new Proclamation of 542/2007. The consideration of community participation in designation

³⁸ "state forest" means any protected or productive forest, which is under the ownership of the Federal Government or a Regional State; (Art 2(6) of Proclamation 542/2007)

of state forest in the new proclamation is an essential step that serves as incentives³⁹ for its sustainable conservation. However, the designation of almost all or most forest lands as state forest and the absence of communal forest in the recent proclamation remain a big challenge and as disincentives for the local people's conservation and use of forests. How do the local community benefit from protected natural forests? The fact that some of the Ethiopian forests principally exhibit the property of common-pool-resources⁴⁰ sometimes may necessitate the existence of collective ownership. How could the properties or natural resources in the protected areas be used by the locals or adjacent community in the country where there is no communal ownership? Common-pool-resources may be owned by national, regional or local governments, by communal groups or by private individuals or corporations (Ostrom E., 2003). However, in her seminal work, *Governing the commons: the evolution of collective action*, (Ostrom E., 1990) indicated the need to consider a particular situation before arguing that "common-pool resources will be destroyed through the "tragedy of commons" to avoid a rush to either privatize resources or grant central government control over resources so that we can "solve" the common-pool-resource "problem" (Koontz T., 2003). She rather identified "design principles" that are essential for the successful management of common-pool-resources (Koontz T., 2003). In other words, (Ostrom E, 1990) also countered the usual understanding that either privatization or government control are the best arrangement for governing common-pool-resources. Her research rather has shown that principles such as maintaining clearly defined boundaries, rules congruent with local conditions, graduated sanctions against violators and collective efforts to monitor inappropriate behavior could result in successful management of common-pool-resources, such as watersheds, irrigation systems, and fishing grounds⁴¹ (Koontz T., 2003).

In many of the past and the present proclamations, there are incentives structure, fines and penalties related to forest management. In all the three consecutive proclamations (192/1980; 94/1994 and 542/2007), hunting wild animal, settlement in the forest, cutting trees, and graze cattle in the state forest without written permission are strictly prohibited subjected to fines and imprisonments based on the type of offence. In addition to these prohibitions, Proclamation 94/1994 and 542/2007 prohibits keeping beehives while the present 542/2007 proclamation strictly prohibits carrying cutting saws and any other tools used for cutting trees in the state forest. The fines and imprisonments proclaimed for all offenses is relatively higher and more elaborate for all types of offences in the present 542/2007 proclamation that can serve as a disincentives⁴² for forest conservation and use.

³⁹ Incentives can be defined as specific inducements designed and implemented to influence or motivate people to act in a certain way (Emerton, L., 1999).

⁴⁰ The term common-pool resource refers to "the type of economic good with high exclusion costs and where one person's consumption subtracts from the total-or a 'common-pool resource" (Ostrom, Gardner & Walker, 1994; Ostrom E., 2003).

⁴¹ http://www.aapss.org/uploads/Elinor_Ostrom.pdf

⁴² **Disincentives:** mechanisms which discourage people from degrading natural resources (Emerton L, 1999).

Table 5.10: Proclamations and their respective penalties

S/N	Type of Offense	Penalty					
		Proclamation 192/1980		Proclamation 94/1994		Proclamation 542/2007	
		Imprisonment	Fines	Imprisonment	Fines	Imprisonment	Fines
1	Cut trees or use forest products	Not exceeding 2 years	5, 000	Not exceeding 2 years	5, 000	1-5 years	10,000
2	Destroy, damages or falsify forest boundary marks	Not identified	Not Identified	Not exceeding 2 years	5, 000	1-5 years	No
3	Setting Fire	Not identified	Not Identified	Not exceeding 2 years	5, 000	10-15 years	No
4	Settles or expands farmland in a forest area	not exceeding one year	not exceeding Birr 2000	Not exceeding 2 years	5, 000	Not less than 2 years	20,000
5	Assist illegal extractors	Not identified	Not Identified	Not exceeding 2 years	5, 000	5 years	5,000
6	Commits a fault that are not mentioned from above	Not identified	Not Identified	Not exceeding 2 years	5, 000	6 month to 5 years	30,000
7	Keep bee-hives or extract honey.	Not identified	Not Identified	Not exceeding 2 years	5, 000	Not identified	Not identified
8	Hunt wild Animals	Not exceeding 2 years	not exceeding Birr5,000	Not Identified	Not Identified	Not Identified	Not Identified
9	Graze Animals	not exceeding one year	Not exceeding Birr 2000	Not Identified	Not Identified	Not Identified	Not Identified

Source: From respective proclamation

The forest condition currently prevailing in the country is mainly the result of the past three proclamations. From the table above, it is possible to observe that fines and

punishments for some types of offenses are not identified. Fines and imprisonments identified for all types of offenses in Proclamation 94/1994 is uniform which does not go with the principle of “graduated sanction” or cannot be equivalent to all types of offences. The application of uniform fines and imprisonments for offenses committed under different socio-economic and cultural context cannot be an effective incentive or disincentive to compliance with the rule promulgated. Imposition of 2,000 Birr as a fine for an individual in coffee forest area may not be a good disincentive as the one imposed on an individual who commits similar offense in non-coffee forest area. Because 2, 000 birr might be easy to pay for an individual who wants to convert coffee forest into managed coffee farm as he can get triplicates from the coffee products unlike the one who extracts non-coffee forest. In general the fines and imprisonments labeled for coffee forest has to be detail for each type of offenses and has to address the socio-economic and cultural context of a given local community. It also has to consider the rules already available among the community. Many of the rules stated above are non-working rules⁴³ (Thomson T. and Freudenberger K. 1997) as stated in the proclamation while the community practically uses customary rules in the use of forests. Except in the case of cutting trees, setting fires and expanding farm lands, many of the offenses are handled through customary rights. All the rules stated cannot be considered as working or non-working and cannot serve as effective incentives for compliance to the rules. In the case of the Yayo coffee forest, the rules already identified mainly proclamations control its use and conservation. However, it is a big challenge to respond how much the policy in use can serve as incentive in compliance with the rules. The proclamation did not focus on the rationality of the rules designed for conservation and use; it rather focuses on the protection of forest through guards. That is why Yehenew stated that the proclamation puts great faith in the role of ‘forest guards’, who protect forest from hazards and illegal use (Yehenew Z., 2004).

The major question that seems challenging is how the forests designated as “state forest” including both “protected forest”⁴⁴ and “productive forests” in the context of the new Proclamation 542/2007 can be utilized by the local community. The best example is how the coffee forest or wild coffee in seriously protected core zone is utilized. Farmers in adjacent areas have customary rights to harvest wild coffee from the core zone based on their traditional tenure system that grants exclusive right on one’s plot. After demarcation, however, farmers do not have exclusive right to harvest wild coffee only from their previous plot or coffee forest nearer or adjacent to his home. This shows that unless the coffee forest in the core zone is shared among farmers together with the responsibility to conserve and use, like the PFM mechanisms, it will either be depleted in a short time or the community will lose the chance to use the forest to avoid the tragedy that might be created. This is because if the farmers are allowed to use the coffee forest in

⁴³ **Non-working rules** are “Those which are not applied and enforced, so that they do not create incentives for behaviors. Such rules may be either formal in origin, e.g. laws produced by governments that end up as dead letters’, or non-formal rules that have fallen into disuse and are no longer applied and enforced” (Thomson T. and Freudenberger, 1997).

⁴⁴ **"Protected forest"** means a forest designated as such in accordance with this Proclamation to be conserved and developed free from human or animal interference for the purpose of water shade management and the conservation of genetic resources, biodiversity and the environment in general, as well as for the purpose of training and research. Art. 2 (8) of Proclamation 542/2007;

the core zone in some arrangements (most likely co management or PFM) there must be some mechanism that would ensure the sustainable conservation and use of coffee forest. Under the current mechanisms, the coffee forest in the core zone exhibits the characteristics of common-pool-resource. The traditional or customary ownership that ensures owner for most of the plots in the core zone is already replaced by de jure strict prohibition and de facto communal access⁴⁵ to all in the area after the demarcation as a protected area. This in its turn brought unlimited extraction of wild coffee (reduction of the amount available to others) and difficulty to exclude the potential users. Hence, it requires, some form of arrangements that will get a solid foundation from the assessment of the incentives and disincentives with in the rules now practically operating.

The major disincentive currently observed in the conservation of the coffee forest at collective choice and constitutional level is the legislation of rules at higher official level without the participation of the local community. This can be summarized as follows:

- Absence of community participation in the demarcation process
- Incorporation of settlement, grazing and other land use system into the demarcated area as buffer and core zone. This is a problem for many of the *kebeles* adjoining the coffee forest. It is a major problem in Shenkora and Sego *gots* of Werebo *kebele*.
- Exclusion of the dense forests that should have been included in the core zone. This is a typical problem in Werebo area. In this area, there is large undisturbed natural forest from which the community refrained from using thinking that it will be demarcated like other similar dense forests in the area.
- Demarcation of all coffee forests as a core zone without leaving any forest towards the settlement as buffer or transition zone. This brought severe economic problems as the local community living adjacent to such areas has no reliable means of subsistence apart from forest and semi-forest coffee. This is a typical problem in Henna areas adjoining the coffee forest.
- Trying to enforce rules devised at federal and international level without the consent, knowledge and willingness of the local community.
- Provision of special emphasis to the government ownership of coffee forest and negligence to the power and importance of customary tenure and management approaches of the local community.
- Dissolution of customary right without making any agreement and providing tangible alternative arrangements to the local community.
- Prohibition of land certificate to individual farmer's coffee found both in buffer and core zone. All the farmers that settled around the forested area did not get land certificates for their wild and semi-forest coffee whether it is in a buffer or core zone, except for lands used for other crops in transition zone.
- Inability to convince or the need for further work to convince the local people about the aim and the procedures of the biosphere conservation.

⁴⁵ Access to all means all the adjacent community can collect wild coffee without any form of management which the local people understood as indirect total prohibition. Because they will not go to the wild coffee in a core zone as they cannot get a good yield from the coffee forest unless some form of, at least minor, managements have been made which is totally prohibited. As a result any one can go for wild coffee collection as it has very little or no yield.

- Inability to pay compensation for farmers whose coffee plot is incorporated into the core zone of the coffee forest during the demarcation. There are about 384 farmers whose coffee forest is incorporated into the core zone (this is the figure registered by the project workers). In any form, individual plot or communal, farmers have been using the coffee forest before demarcation at least through harvesting timber and non-timber products. The enforcement of strict prohibition especially in the core zone is one of the major disincentives.

Table 5.11: Summary of rules, their source, level of enactment and related sanctions by formal institutions.

Rule	Source of Rule		Rule Enforcement		Sanction ⁴⁶	Remark
	Type of rule	Level of enactment	Working rule	non-working rule		
Cut trees for timber and construction	Formal	Operational	Yes	-	1-5 years & up to 10, 000 Birr fine	Enforced by the formal court
Cut non timber woods for agricultural tools	Informal	Operational	Yes	-	6 month to 5 year imprisonment & up to 30,000 Birr fine	Enforced by the formal court
Collect fuel wood	Both (formal and Informal)	Operational	Yes (in core zone)	-	1-5 years imprisonment & up to 10, 000 Birr fine	Enforced by District (wereda) court
Carry cutting saws and any other tools used for cutting trees	Formal	Operational	Yes (In core zone)	-	6 month to 5 year imprisonment & up to 30,000 Birr fine	Enforced by District court
Collect wild coffee	Both	Local and constitutional	Yes	-	1-5 years & up to 10, 000 Birr fine	
Managing wild coffee	Both	Operational and constitutional choice	Yes	partially Yes in core zone	1-5 years & up to 10, 000 Birr fine	Prohibited in the core zone
Graze animals	both	Local and constitutional ⁴⁷	Yes	Formal rule is not working	6 month to 5 year imprisonment & up to 30,000 Birr fine	

⁴⁶ The sanctions stated on the table do not incorporate its legal interpretation. It is according to proclamation 542/2007.

⁴⁷ Constitutional level rules are “the rules that define who must, may, or must not participate in making collective choices” (Ostrom E. and Hess C., 2005)

Hunt wild animals	both	Local and constitutional	Only informal rule is working	formal rule is not working	6 month to 5 year imprisonment & up to 30,000 Birr fine	
Keep beehives or extract honey	both	Local and constitutional	Yes	Formal rule is not working in core zone	1-5 years & up to 10, 000 Birr fine	
Harvest Spice	informal	local	Yes	-	1-5 years & up to 10, 000 Birr fine	
Settle and expand farm Land	formal	Constitutional	Yes	-	not less than 2 years imprisonment and with fine Birr 20,000	
Devise rule	formal	Collective and constitutional	Yes	-	Not identified	
Decide on resource users	formal	Collective and constitutional	Yes	-	Not identified	

The incentives and disincentives related with the coffee forest rules and regulations stated above can be summarized in the following two categories:

5.3.1.1. Disincentives

It has been stated that inadequately articulated and enforced property rights arrangements provide disincentive to people to conserve resources (Agrawal A. and Gibson C. C., 1999). Disincentives are understood, in the context of this study, as defined by (Emerton L., 1999) as “mechanisms which discourage people from degrading natural resources.” However, what has to be clear is that the term disincentive stands not only for mechanisms discouraging coffee forest degradation but also for rules discouraging people from the conservation and use of coffee forest. Emerton further states that the need to place positive incentives or inducements for nature conservation is to discourage nature degradation through the use of penalties and disincentives (Ibid). As a result, disincentives related with the rules of coffee forest conservation can be seen in two ways that comprise: a) those rules that discourage the participation of the local community in the conservation and use of coffee forest and b) those rules that discourage coffee forest degradation through imposing strong or effective penalties and sanctions.

A) Disincentives in the context of rules that discourage local people to participate in the conservation and use of coffee forests:

- 1) Prohibition of entering into the core zone carrying axe and other tools. Many of the farmers need some form of sharp tools like (*gajara*)⁴⁸ that enables them to protect themselves from the attacks of wild animals while they go for collecting wild coffee, spice, etc

⁴⁸ Sickle like traditional tool with long woody handling for clearing forest and branches to get pass way as they go for different purposes in the forest and to clear shrubs competing with wild coffee.

- 2) Prohibition of selective use of trees for timber for their own household consumption.
- 3) Prohibition of harvesting non-timber woods for agricultural tools from core zone which are not available in buffer and transition zones.
- 4) Prohibition of collecting fuel wood from both core and buffer zones. Most of the trees felled down on the ground decompose in the forest at the core zone where many of the local people have a problem of getting fire wood. There is a need to recognize some mechanism that ensures local people's access to fuel wood without exposing the undisturbed forest in the core zone for deforestation.
- 5) Prohibition of conducting some minor management on the wild coffee in the core zone. It is difficult to decide whether to allow or forbid traditional management in the core zone. It rather requires reconciling the farmers' knowledge on wild coffee management with that of biodiversity conservation through discussion.
- 6) Absence of chances to participate in rule making. The local communities are following rules which they did not know and accepted as their guiding rule in the conservation and use of the coffee forest.
- 7) Application or imposition of formal rules without integrating with the customary laws. The local people have customary right to conserve and harvest timber and non-timber forest products from their own forest plot. After demarcation, however, the government (the project) imposed new and strict rules that ensure ownership in the core zone only for government.

B) Disincentives that discourage coffee forest degradations through imposing penalties: There are different penalties set for different types of offences on state forest both in Proclamations 94/1994 and 542/2007. For the major part, including during data collection, the previous proclamation was in use until it was replaced by the new one in September 2007. Hence, the major disincentive that discourages forest degradation until September, 2007 was fines and imprisonment imposed as penalty uniformly applied for all offences. That means the enforcement of imprisonment not exceeding two years or a fine not exceeding Birr 5,000 or with both. This penalty was the only available legal disincentive discouraging forest degradation. However, it was uniformly applied to all types of offenses in the range stated on this penalty. This could not serve as effective penalty for all sorts of offences as it was not based on the principle of "graduated sanction". The recent Proclamation of 542/2007 imposes more severe disincentives that can discourage forest degradation. It imposes imprisonment from 6 month to 15 years and fines up to 30,000 Birr based on the type of offence. This is large enough to serve as disincentives that discourage coffee forest degradation. Nonetheless, it has to be based on the local context of the people through their participation.

5.3.1.1. Incentives

There are no many rules as such that can serve as positive incentives⁴⁹ to the users for coffee forest conservation. There are two opposing views with regard to the rules governing the coffee forest. On the one hand, the local communities are not happy with many of the rules. On the other hand, they are happy with the way the coffee forest is improving from time to time. This shows that at least some of the rules currently governing the coffee forest are effective in improving the forest condition. However, it highly affects the customary right and the subsistence mechanisms of the local community. That is why many of the local people are opposing the rules in use by the project that fundamentally bases the principles of biosphere reserve and federal and regional proclamations.

When going to detailed rules and regulations currently governing coffee forest, the local community takes none of them as incentives for sustainable conservation. Contrary to this fact, the survey result proved from the responses of the informants, as indicated above, that 146 (81.1 percent) of the respondents perceived the rules governing the coffee forest as fair or completely fair which should have been seen as one of the incentives for the compliance to the rule. However, there are no many rules identified as positive incentives to sustainable coffee forest conservation despite the fact that the communities see the overall impact of the rules as completely fair. This can be viewed from the reality that the coffee forest condition is improving⁵⁰ (at least by informants observation) from time to time since demarcation; because the rules currently operating are effective in reducing the impacts of illegal appropriators who usually come from far areas. The reason behind contradicting results of the data collected from the field is the issue of farmers' willingness to reduce their consumption of forest products for the sake of coffee forest genetic diversity conservation. The rules serving as incentives or disincentive do not indicate the sustainability of coffee forest conservation. It rather shows the farmers' (local community's) perception, willingness and agreement to the conservation which of course indirectly ensures sustainability. This forces us to conduct further analysis on the attitude, agreement and willingness of the local community to reduce their consumption. The following tables show the farmers willingness, attitude and agreements in the conservation of coffee forest.

⁴⁹ Incentive is defined by (Thomson James T. and Freudenberger K Schoonmaker, 1997) as any source of positive or negative motivation that influences someone's behaviour. Economic incentives tend to be calculated in terms of prices or time; legal incentives are incorporated in rules that authorize, compel or prohibit certain kinds of behaviour.

⁵⁰ Results of the household survey show that 126 (70.8) percent of respondents indicated that the forest condition is improving while the rest 52 (29.2 percent) responding that the condition of the coffee forest is worsened in the past ten years.

Table 5.12: Households and family members' willingness to reduce consumption of benefits from coffee forest

Responses		No	%
	Disagree	113	63
	Neither agree nor disagree ⁵¹	8	4
	Agree	59	33
	Total	180	100.0

The table shows that 113 (63%) of the respondents are not willing to reduce their consumption of benefits from the coffee forest while only 59 (33%) willing to reduce their consumption. Therefore, the reason that most of the rules currently serving are not seen as incentive might be due to the reality that most of the local people are not willing to reduce their consumption. They need coffee forest for economic⁵² reasons for which they do not want to consider the existing rules that limit their consumption both in core and buffer zone as incentives. However, many of the workers do not disagree with the principle of forest conservation as shown in the table below.

Table 5.13: Agreements of households to coffee forest protection

Responses		No.	%
	Disagree	69	38
	Neither agree nor disagree	18	10
	Agree	93	52
	Total	180	100.0

More than half or 93 (52%) of respondents indicated their agreement to the principle of forest coffee conservation. On the contrary, 69 (38%) responded their disagreement with the need to conserve coffee forest while 18 (10 %) indicated their neutral stand towards coffee forest conservation. From this, it is feasible to argue that the local community needs a change or the amendment of the rules currently governing coffee forest in a way it can address their customary right and do not substantially affect their means of subsistence.

The lists of rules mentioned above as disincentives will create a challenge to organize collective action for sustainable conservation of the coffee forest. The next steps have to be what has to be changed or modified to bring about sustainable conservation and use of

⁵¹ Neither agree nor disagree means the respondents are neutral about the issue i.e, neither support nor object the issue of reducing consumption of coffee forest and contribution to its protection

⁵² Results of the household survey show that 138 (76.7) percent of the respondents indicated that the improvement of the coffee forest condition is essential for economic reason. The remaining 42 (23.3) Percent responded that improvement in the condition of coffee forest is necessary for non-economic benefits such as cleaner air, soil conservation, and water retention.

the coffee forest. What has to be underlined is that the list of rules considered as disincentives or as a challenge for conservation does not mean that they are not necessary to ensure sustainable conservation. It rather mainly indicates the interest of the local community and the impacts of the rule on their means of subsistence. Hence it is highly essential to find a middle ground that helps to reconcile the interest and the livelihood of the local community and the continuity of wild coffee genetic diversity in its natural habitat. Hence, what has to be changed from the above rules considered as disincentives?

5.4. Guidelines for Coffee Forest Conservation and Use: Rules Need to be Changed or Modified

5.4.1. Guidelines for Coffee Forest Conservation and Use

Before making any decisions on rules that need to be changed, it is necessary to consider the general principles or guidelines governing the interaction of the local community with the coffee forest. It also requires linking the principle of biosphere reserve or protected area to the interest and subsistence need of the local community. The guidelines stated are mainly drawn from issues mentioned as a problem in the body of the research. The following are some of the general guidelines that I suggest need to be followed in realizing sustainable conservation of the coffee forest:

- 1) Recognize the need to involve local community that are benefiting from the coffee forest in making the rules that affect their life and their crucial resource that enables them to subsist in their current environment.
- 2) Demarcation of the boundaries of the coffee forest has to be made with the active participation of the local community. This can be realized either through their nominated representatives.
- 3) Making consultation with all appropriate bodies including traditional leaders, religious leaders and community representatives in the discussion about the coffee forest management.
- 4) Identify past tenure and arrangements of the coffee forest management before imposing new forms of tenure and management approaches so as to seek an appropriate ruling mechanism.
- 5) Zoning: Involve the local community in the demarcation of the coffee forest in different zones. This helps to reduce the inclusion of non-forest areas and the exclusion of undisturbed forest areas mentioned as a major problem in the coffee forest demarcation.
- 6) Prior Consent: Ensure free, prior and informed consent of the local communities when developing management policies, rules and regulations affecting their livelihood or in the demarcation of the coffee forest.
- 7) Inclusion: Make sure that all relevant stakeholders at all levels are included in decision making regarding management of the coffee forest. This comprises all segments of the local community, officials at local, national and international levels, coffee traders, conservationists, researchers, etc.
- 8) Creating a Forum: Creating an integrated and holistic approach involving religious leaders, local leaders, elders, project managers, social and natural

- scientists, non-governmental organizations and local communities in the management of coffee forest. This helps to devise new management approach to the coffee forest.
- 9) Legitimacy: Recognize that different sections of the society such as elders, traditional leaders, prominent individuals, etc. have different levels of legitimacy in decision making regarding coffee forest.
 - 10) Conflict Management mechanism: Recognize that different opinions of different stakeholders including indigenous people, resettlers, other coffee forest users and managers promote mutual understanding on coffee forest management through conflict resolution, mediation and management mechanisms.
 - 11) Indigenous knowledge: Respect and support indigenous knowledge of the local community mainly regarding the management of coffee forest such as traditional coffee management mechanisms like clearing the undergrowth etc. and creating a way that suits the principle of biosphere reserve.
 - 12) Networking: Hold meetings involving local community, coffee forest managers and other stakeholders so as to build common understanding on the use and conservation of the coffee forest.
 - 13) Creating Awareness: Promote public awareness, through education regarding the management having local, national and international significance. Access and Use: Develop appropriate policies and implementation program that considers and respect the traditional use, and management right of the local community.
 - 14) Access and Use: Develop appropriate policies and implementation programs that consider and respect the traditional use, and management right of the local community.
 - 15) Right-based approach: Respect the right of the local community for their self determination, management of their resources, and freedom for self government.
 - 16) Understand the available traditional institutions and acknowledge, support and strengthen their continued involvement in coffee forest management. Consider the importance of *Tullaa*, *jaarsa biyyaa*, *muchoo*, and self-help organizations in coffee forest management primarily in promoting collective action.
 - 17) Tenure: Explore options for the real transference of the right of coffee forest management to the local people so that they can get long-term tenure security enhancing the sustainable conservation and use of coffee forest. Consider property right systems that can serve as incentives for coffee forest management.

5.4.2. Rules that Need to be Changed or Need Amendments

The need to ensure sustainable conservation or ecologically sound and socially acceptable resource management is ethical among all activists dealing with natural resource like the threatened wild coffee of Ethiopia. In attempts to bring sustainable change, it is essential to build on what exists rather than trying to bring complete or radical change in local context. The following are rules that need to be changed or modified:

- 1) Considering local community's interest against the strict protection of wild coffee in the core zone. This involves the need to consider minor management of wild

- coffee in the core zone or convincing the locals about the necessity to save the biodiversity of the endangered species.
- 2) Property right: Clearly identifying where, when, how and who can get access, withdrawal, or other rights available for the local community mainly in the core zone. Recognize the way customary right can be combined with the modern management of the protected area. Clearly stating how the local people can utilize wild coffee and other NTFPs in the core zone without making damage to the resource. Most likely it would be giving plots to farmers based on the concession, PFM mechanisms or forest user groups. Consider other management approach that can effectively utilize the customary resource management mechanisms.
 - 3) Consider reducing unnecessary and bureaucratic procedures in the use of trees the local people planted themselves around their home. Such bureaucracy will discourage peoples' participation in tree planting and other conservation activities.
 - 4) Recognize the need to revise the rules that forbid local community to use timber products for their own household consumption through some mechanisms such as replacing the tree through planting another or other rules to be devised with local community and forestry expert.
 - 5) Revise rules that forbid local people's selective use of non-timber woods for agricultural tools from the core zone.
 - 6) Ensure the participation of the local community in the demarcation and making of rules governing the coffee forest. Espousing rules with the local context rather than trying to implement rules and sanctions issued at national level so that it can serve as appropriate incentive for sustainable conservation.
 - 7) Creating an opportunity whereby the role of customary institutions can be integrated with formal institutions in the conservation/management of coffee forest mainly through promoting collective action. This will actually be required in case the coffee forest is managed through common ownership in some parts of the core zone.
 - 8) Revise the rules that forbid use of fuel wood from the core zone or consider the use of dried trees that will decompose in the forest by the local community on some mechanisms.
 - 9) Seek advice from the local community and concerned stakeholders about the need to promote some institutional arrangements that can serve as incentives for sustainable management of the coffee forest.
 - 10) Recognize the need to provide feedback from the local context so as to promote policy change regarding the right of the local community and their tenure rights to the coffee forest.

Chapter Six

6) Natural Resources Conflict and its Management

Natural resource conflict is paramount mainly in developing countries. Conflicts usually arise during use, conservation and management of resources. Forest conflict is one of the major resource conflicts in developing countries where the livelihood of millions of people is linked with forest resources. Conflict over forest is defined by some scholars (e.g., Engel A, and Korf B, 2005; FAO, 2000) as disagreement between or among individuals, different parties on access to, control over and use and conservation of forest resources. Others also defined conflict as 'all kinds of opposition or antagonistic interaction usually based on scarcity of resources, power or social opposition and differing value systems (e.g., Fisher *et al.* 2000; Mushauri 2002 Cited in Mutimukuru T., nd). There are different underlying causes for conflict based on the nature of the resource and the conflicting parties or stakeholders. Some classified the causes of conflict as political, socio-cultural and economic reasons (e.g., Odhiambo, O, M, 1996) while others explain the causes of forest conflict as originating from tenure right, need to save the endangered species and other reasons related to economic importance. Conflict is also observed to have both negative and positive sides. The negative side is that it can be developed into violence thus contributing to degradation of resources including deforestation of endemic species. Conflicts can also play a positive role in the sense that it brings all relevant stakeholders to negotiation for effective conservation and use of forest management.

As long as conflict is a disagreement between or among different individuals or parties on the use, control over and management of forest resources, attempts should be made to resolve or manage this conflict based on common understanding of the underlying causes. There are different causes and management approaches to conflicts. Hence, it is essential to analyze the stakeholders' power and the possible management mechanisms in the context of the conflicting parties and the resource under consideration, Gabba-Dogi coffee forest.

This chapter mainly focuses on the causes of conflict, conflict areas and its severity, identification and analysis of stakeholders mainly in terms of rights, responsibility, return and relationship (4Rs) and different conflict management mechanisms. The chapter gives detail knowledge on the causes of conflict; stakeholders involved in conflict, affected by conflict or can influence the dynamics of the conflict. The analysis of the 4Rs also showed different stakeholders' domination of the rights, responsibilities and returns (3Rs) and different relationships among stakeholders involving in coffee forest management that enables to identify mainly stakeholders in conflict and stakeholders that can play an intermediary role. The chapter finally identifies two conflict management approaches and the need to adopt co-management as alternative conflict management (ACM) in managing the coffee forest conflict.

6.1. Causes of the Conflict

Literature confirms that conflict commonly arises over disagreement of tenure, access, control and distribution of forest lands or products (Mean K. and Josayma C., 2002). Informants and group discussions reveal different root causes of conflict in coffee forest. The need to expand coffee farm, disagreement on ownership right and community's dependence on forest are the principal or root causes leading to various forms of conflicts identified in that order by participants of the group discussions.

Need to expand coffee farm: The fact that the government through the MoARD and Regional ARDB identified and set aside coffee and annual crop priority areas has become one of the contributing factors to the conflict. Western Oromia, specifically the districts adjoining the coffee forest, are identified as coffee growing priority areas for which every effort is being made towards expansion of intensive coffee production. This only served to encourage deforestation or the replacement of coffee forests with few shade trees. A quota is given for districts, *kebeles* and households to meet higher rates of coffee production so as to promote higher coffee export at national level. Specialization in coffee production in Western Oromia, the absence of proclamations focusing on coffee forest, farmers' inability to grow garden coffee through planting shade trees, lack of ample land set aside for coffee farm as high percentage (some say up to 69) of the district's land covered by forest, the need to prevent crop and animals from wild animals attack, etc are some of the factors encouraging coffee farm expansion through replacing forest coffee thereby creating conflict. These are the causes for conflict between the government that tries to conserve coffee forest biodiversity and the community that is eager to use coffee forest. It can also show the conflict between the government initiative to expand coffee farms/production and the need to conserve coffee forest biodiversity in the same area.

Conflict on ownership right: The conflict of ownership right is also central to the coffee forest conflict that can lead to deforestation in the long term. As shown in Figure 6.1, various problems arise from the absence of clear ownership right or conflicting ownership rights, which serve as sources of coffee forest conflicts. These include absence of clear ownership right, lack of awareness on legal ownership, de facto ownership of forest by the community and de jure ownership of the government, inability to get land certification⁵³ for coffee forests, and paying tax for the coffee forest legally owned by the government.

Local community's dependence on coffee forest for livelihood: Local community's dependence on forest for livelihood and other uses mainly for construction materials is another source of conflict. Due to the absence of alternative energy source in the area, people depend on sale of fuel wood. Sale of timber is also a source of income, and people need forest products for agricultural tools. Poverty or absence of alternative means of subsistence also forces people to depend on coffee forest. This breeds conflict when government authorities attempt to restrict access to the forest. Other sources of conflict in

⁵³ According to (Mamo H, 2006) land certification may not reduce conflict over land due to complexities in the process of land measurement and allocation.

coffee forest management include the absence of community participation during demarcation, prohibition of access to forest and non-timber forest products (NTFP), how to manage coffee forest, increasing coffee price, increasing population pressure, lack of grazing area, and confiscation of peoples' land during demarcation.

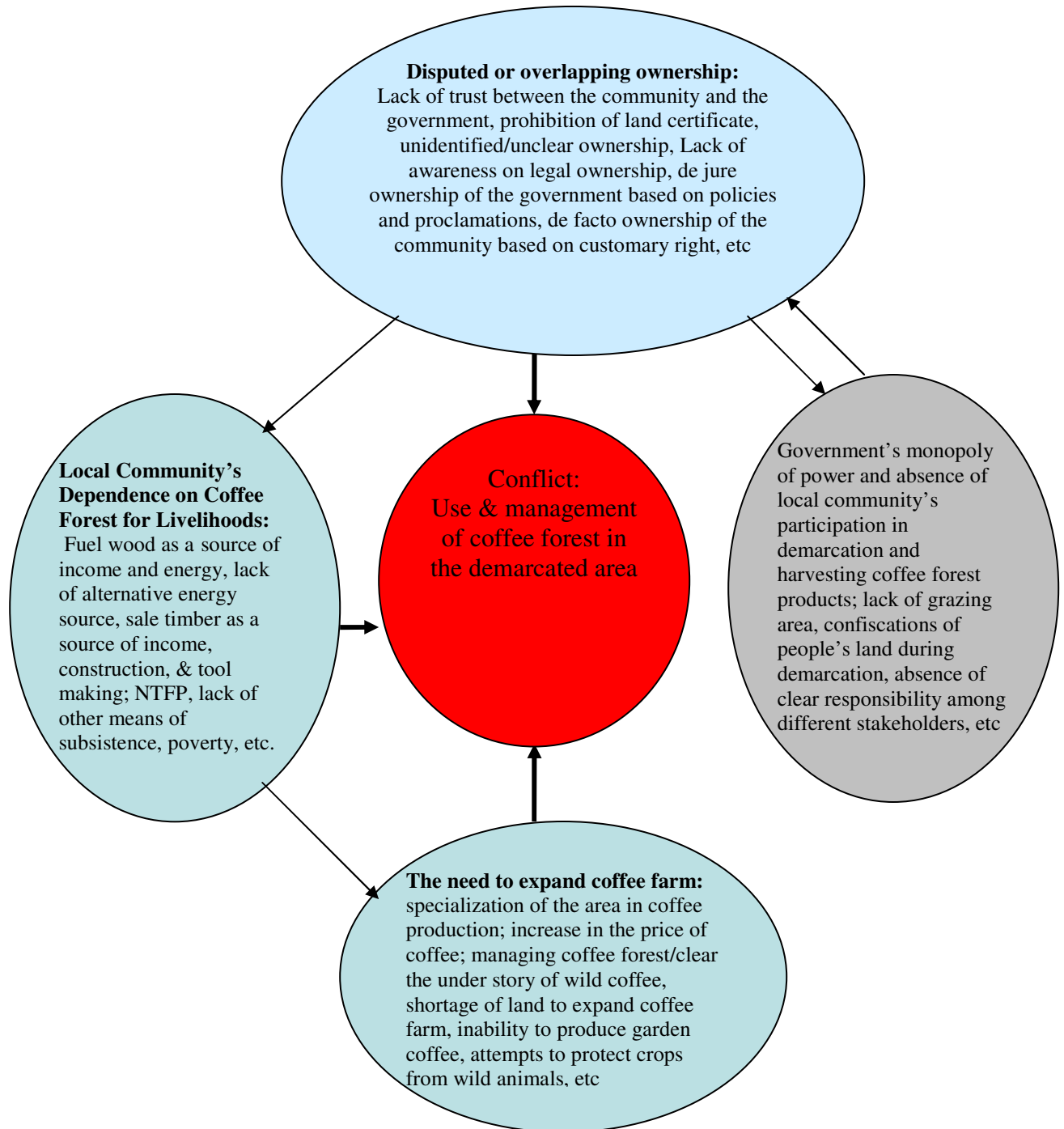
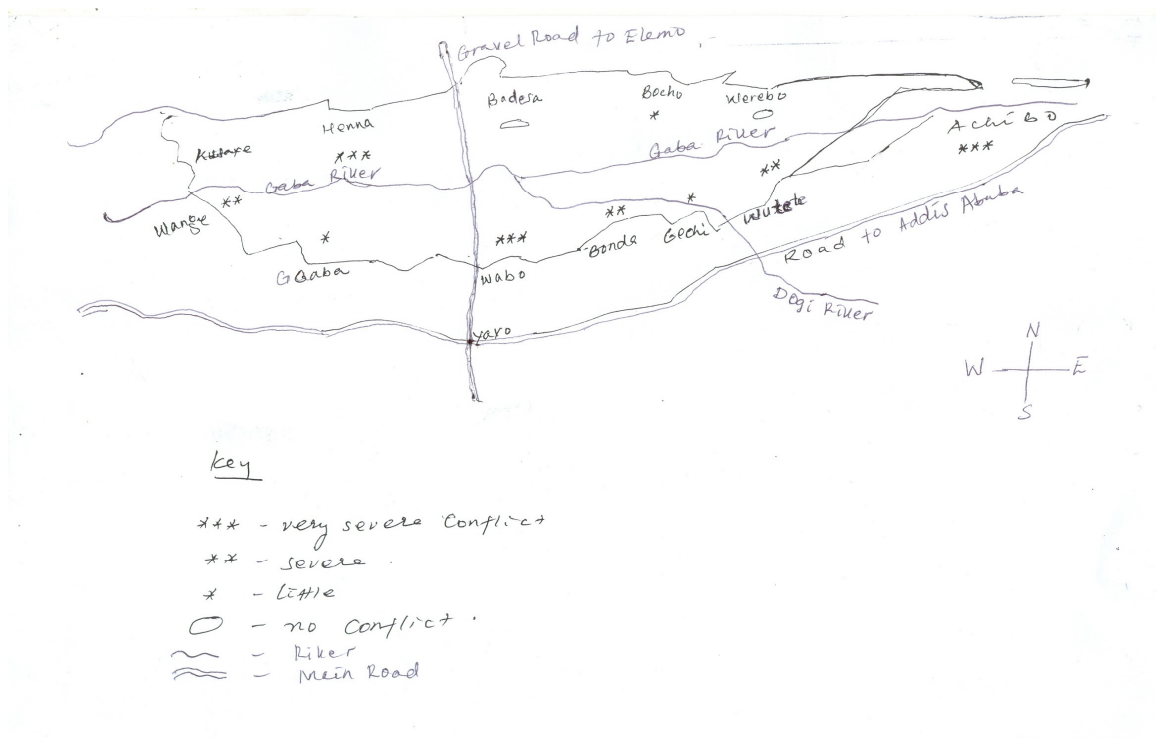


Figure 6.1. Analysis of Cause of coffee forest conflicts in Yayo Area

The absence of clear lines of responsibility among different stakeholders mainly among Ilu Abba Bora forest enterprise, Gaba Dogi wild coffee conservation project and *Wereda* ARDO, and lack of trust between the community and the government are the other causes for the conflict. The absence of clear boundary and map on the demarcated forest is also contributing to the conflicts. Conflicting laws, demarcation of grazing and farm land and the absence of forest utilization plan are yet other causes of conflict.

Conflicts occur mostly in areas adjacent to the coffee forest. Figure 6.2 shows the areas of conflict and the severity/extent of the conflict as drawn by representatives of the stakeholders.



Source: Stakeholders drawing after discussion

Figure 6.2. Conflict areas and the degree of conflict

After discussing different causes of the conflict, it is feasible to discuss how these conflicts are manifested at different time in coffee forest area in the following section.

6.2. How Does Conflict Manifest Itself?

Conflict manifests itself through different actions and grievances related to the use and management of coffee forest. It is always expressed in the forums in which the communities interact with government officials, researchers and development agents. The extent of the conflict can be understood from local communities' great interest to communicate with government officials, development agents and researchers on coffee forest in the area. In February, 2007, I was conducting FGD in one of the *kebeles* concerning my research agenda which was a bit different from the analysis of conflict on coffee forest. Two days later, I was requested by the *kebele* development agent to convene a meeting to discuss the conflict between the community and the government (offices) on the management of the coffee forest. But I could not venture to do that thinking it might develop into violence.

Conflict on coffee forest management is manifested through the following major indicators:

- Immediately after demarcation, the community uprooted the stones erected as a sign for the boundary of the management zones in some areas. In some *kebeles*, people uprooted the stone planted as a mark of the boundary line. Then the police detained suspects for 48 hours in Haro area. This signifies the people's disagreement with the state structures on the demarcation of coffee forest;
- The conflict also manifests itself through appeals submitted to government offices at different levels. Local people frequently express their grievances, either individually or in groups through their representatives, by presenting formal appeals to the different levels of government offices or administrative councils. In this way, farmers have been appealing to the *zonal* and *wereda* administrations through their representatives. Some informants stressed the severity of the problem saying the forest problem is raised virtually at all meetings but a solution is not in sight. Instead, people are being placed in custody for the mere offence of expressing their grievances and claiming their customary right. For instance, three representatives of the community appeared before the zonal administration in 2004 and appealed against the demarcation of forest coffee without their consent and involvement. They argued that the demarcation came to the people and people did not go to the demarcated area. They said that the coffee forest is owned by the community but the government, in violation of this right, forced the community to leave the coffee forest. The zonal administration threatened community representatives with imprisonment instead of engaging them in genuine consultation to solve the problem. This attitude on the part of the government created a sense of helplessness among the local community. Informants expressed this situation saying that "we are mentally imprisoned", as they were denied their freedom of expression to voice their interests and rights

about the coffee forest to the government authorities. The following three people⁵⁴ have gone to the zonal administration to seek justice.

- 1) Aliyi Jibril
- 2) Sharafuu Mahammad
- 3) Yasin Mahammad

- Farmers also express their grievances by refusing to receive land certificate. Many farmers in different *kebeles* refused to collect certificates over their land as these certificates did not include part of their land located in the buffer zone of coffee forest and demarcated into core zones of the coffee forest. In this regard, the majority of farmers in Achibo *kebele* and more than fifteen households in Bedessaa *kebele* refused to collect land certificate. For this group of farmers, the certificate they were offered was incomplete as it didn't show the complete picture of their total landholding. Receiving a certificate which does not include part of their land lying in the demarcated forest coffee area is tantamount to forfeiting ownership over that part of their land.
- **Coffee forest as the major political agenda during the 2005 national election:** During the 2005 national election, the issue of coffee forest utilization was one of the major agenda raised during the campaign. On a number of meetings, government cadres at different levels promised free utilization of coffee forest by the holders of the land. Indeed, representatives of the ruling party went far beyond their promises and allowed farmers to freely use the coffee forest during the election campaign. The *wereda* administrators also informally (verbally) instructed *kebele* chairmen to distribute land in the demarcated area to the needy farmers. Accordingly, land was distributed, in one *kebele*, Achibo; land distribution covered as many as 310 farmers. However, immediately after the national election, *kebele* chairmen were instructed to prohibit the farmers from using the land they received through distribution. This time the instruction from the district administration, that won the elections came not informally or verbally, but formally through written instruction. Although local community members used the only power they have at their disposal- their vote- and temporarily gained the land, they lost it again after the election when their vice is no more needed. That is the work of politicians “who shake your hand before elections and your confidence later.”

In 2007, when field work was conducted for this research, it was reported that more than nine people from a single *kebele* (Achibo *Kebele*) were under custody due to cases related to the use of coffee forest. In many cases, people were involved in “illegal extraction”⁵⁵ of coffee forest due to the absence of alternative means of livelihood.

⁵⁴ Pseudonyms of the informants are used to keep their confidentiality.

⁵⁵ The illegality of the extraction is seen from formal legal system, not the customary legal system.

- **Cases submitted to court:** In the past two years, more than forty two cases on coffee forest conflict were submitted to court from the three districts in which the coffee forest is found. Out of these cases, 25 got decisions while the rest are either dropped or pending decision. Decisions passed on the cases range from 2- 5 years of imprisonment and fines of up to 1000 birr. This shows the growing rate of violation of rules governing the coffee forest.

6.3. Analysis of Conflict: Conflicting Issues and Type of Conflicts

Conflict can be classified based on type of conflict, nature of conflicting parties, and level at which conflict occurs. Conflicts may also be classified into those that erupt among community; between communities and government as well as among community-based organizations, NGOs, commercial interests and other external players (Means K. and C. Josayma, E. N. Vitoon Viriyasakultorn, 2002). Though there are different types of conflict (Teklu T., 2006; Zewdie J., 2005), the conflict situation occurring in Yayo area mainly falls under the type of conflict arising between communities and the government. Conflict between the community and external groups may be justified as follows, as indicated by (Means K and C. Josayma with E. Nielsen and V. Viriyasakultorn, 2002:44). External groups usually feel justified by legal and policy procedures that enable them to control over coffee forest resources. The external groups or the government that initiated formal institutions have political power behind their interests, which result in the marginalization of the local community. This is the predominant feature of many of the forest-dependent communities “that have had their traditional livelihoods prohibited or restricted intop-down decisions by agencies for economic development or conservation purposes” (Ibid). This is also the type of coffee forest conflict existing in Yayo area.

Conflicting Issues

Issues identified can be categorized into different forms of conflict based on the nature of the conflict raised. Coffee forest conflicts in Yayo forest can be categorized into four different types as shown below:

A) Conflicting Interest

Protection of coffee forest genetic diversity, on one hand, and the specialization of western Ethiopia in coffee production, on the other hand, represents a conflict of interest as identified by the participants of the discussion sessions. Attempts by the government to protect *Coffea arabica* diversity in its place of origin is conflicting with the other principal agenda of the government focusing on promotion of coffee productivity and expansion of coffee farms. The government’s objective to expand coffee forest is born of the desire to ensure increased coffee production, both in quality and quantity, in the interest of domestic consumption and export. But this constitutes a clash of interest.

The government’s efforts to promote *in-situ* conservation of coffee forest and the local community’s need to utilize coffee forest for their livelihood are the other issues leading to clash of interests. At local level, the local community needs coffee as a means of

subsistence while other stakeholders at national and international levels need it for genetic diversity or for its breeding purposes.

Hence, the two major contradicting interests and values are the local community's interest to use the core and buffer zone for livelihood through different mechanisms and the government's and other stakeholders' need to protect wild coffee genetic diversity at its place of origin. Community's livelihood interests include the need of forest for furniture and tools, managing the core zone to increase productivity, the use for fuel, harvesting honey, hunting, making charcoal, etc.

B) Conflicts Resulting From Information Issues

Provision of conflicting information by different stakeholders and government bodies on the use and conservation of coffee forest creates conflict at different levels. During election campaign when conflict is about to grow into violence, government politicians, allow the community to use coffee forest based on their long-standing customary right. On the contrary, other officials from different sectors give different types of information on the management and conservation of coffee forest mainly strict protection of coffee forest for biodiversity conservation. There are also poor understanding and communication of policies and proclamations to the local community that contribute to poor implementation and reduced awareness on policies and proclamations by the local community.

Different pieces of information provided to the local community on how to use and conserve transition, buffer and core zones of the coffee forest protected areas also create conflicts. The information given on how to manage core and buffer zones by one body is different from those given by other different officials of district ARDO, district administration, and Gabba-Dogi Project due to difference in awareness and understanding of the officials or stakeholders. District administration and District ARDO, for instance, sometimes give some order informally on management/managing of coffee forest, while the Gabba-Dogi wild coffee conservation project announces prohibition of management in the core zone.

There is also suspicion and lack of trust by the community on ownership right of the coffee forest. Rumours are widely circulating among many of the local community (respondents) that the government protected the coffee forest for the benefit of other or foreign governments and international community through some arrangements at the cost of their livelihood subsistence. Hence, the lack of awareness among many of the management bodies on the importance or the use and conservation approaches of the protected coffee forest are among issues related with information leading to conflict

C) Difficult Relationships and Expectations

Different stakeholders or people have different expectations regarding coffee forest management in the core and buffer zone. This can be grouped into two, i.e. difference in

expectation between government institutions and the local community; and difference in expectation among government institutions.

In the **former case**, the local community desires to manage coffee forest in the core zone so as to get good coffee yield. Similarly, district ARDO also promotes increasing coffee productivity like the community. On the contrary, the project responsible for coffee forest genetic diversity conservation implements the strict rules of core zone to avoid losses of *Coffea arabica* genetic diversity.

There are also different expectations and attitudes concerning the amount of trees that has to be kept as a shade on the managed coffee in the buffer zone. Some farmers try to reduce shade trees as much as possible in attempts to increase the coffee yield. On the contrary, the district office of agriculture and rural development encourages leaving 60-65% percent of the canopy as a shade for coffee production. These conflicting interests and expectations result in negative consequences to conservation and management of trees. As conflicting interests occur between groups with different powers, farmers resort to use the 'weapons of the weak' in order to promote their interest without risking conformation with a more powerful district administration. Some of the concealed actions that farmers employ to reduce shade trees range from setting fire to the tree from the bottom (tree root) and applying chemicals such as salt to tree roots to let it dry and die slowly, to uprooting the tree altogether.

The introduction of monoculture tree is also a problem: Farmers tend to use one tree species especially acacia as a shade by replacing the naturally growing forest, which is becoming a major problem. They do this or prefer acacia as it allows enough light to the coffee than naturally growing trees. On the other hand, the project responsible for conservation of coffee genetic diversity in the protected area promotes the use of naturally grown indigenous trees as shade tree so as to promote species diversity in the ecosystem. More specifically, the management of coffee and trees in the buffer zone has serious problems due to application of contrasting approaches. On the one hand, NGOs and the community are introducing exotic trees to the area mainly by using as a shade tree and, on the other hand, Gabba-Dogi forest coffee conservation project seeks to protect species diversity in the ecosystem by promoting indigenous tree plantation.

In the **latter case**, the introduction and expansion of coffee berry disease (CBD) resistant varieties, on one hand, and the protection of *in-situ* conservation to protect coffee genetic diversity, on the other, represent two contrasting approaches especially in the buffer zone practiced among government institutions. The introduction of the new varieties to the protected area starts from the former CIP projects. This is the contrasting activity carried out by different government institutions while what were discussed above are the contrasting approaches employed between the activities of the community and the government.

D) Structural Causes of Conflict

There are differing ideas regarding the management process of the coffee forest. Different stakeholders have different ideas about the rules, roles, and institutions governing the coffee forest and powers of stakeholders involved in the coffee forest management. There is no common understanding on the power, rule and role of the institutions governing the coffee forest. In other words, there is lack of common understanding on the institutions governing access to and control over the natural resource. The institutions currently involved in the management of coffee forest includes: Ilu Abba Bora state forest enterprise, ARDO, Gabba-Dogi forest coffee conservation project and the district administration. Activities undertaken by these institutions are either self-contradictory or lack common objectives. There is no clearly defined areas of accountability and responsibility that facilitates work towards common end. Hence, it is essential to promote shared objective, role and responsibilities towards ensuring sustainable conservation of *Coffea arabica* biodiversity which simultaneously ensures sustainable livelihood of the local community. Policies and proclamations are also issued without community participation which made its implementation very difficult. That is why it was stated that conflict between official/statutory and customary tenure rights (Engel A and B. Korf, 2005) exists in resource management. Customary access to land and ownership is either not recognized through the national legal and policy frameworks or not practically translated into work. See chapter four for policies governing forest in Ethiopia. The following section is devoted to analysis of stakeholder mainly their identification and how they are affected by conflicts.

6.4. Stakeholder Identification and Analysis

Identification and assessment of stakeholders help to reveal the relationship, dependency and power of different stakeholders in conflict. Stakeholders in this context refer to all those people or organizations that have a stake in the conflict. These are the people and organizations that are directly involved in the conflict, are affected by the conflict, or influence (or may influence) the dynamics of the conflict (Engel A, and Korf B, 2005). Hence stakeholder analysis helps to identify the power they have and the relationship among them which can stipulate the extent of conflict or harmony among them. Identification of stakeholders provides access to groups that had previously been excluded (Means K and Josayma C, 2002). In addition, it is essential to identify secondary stakeholders who are not directly involved in the conflict but may be affected by the conflict or who are considered influential in conflict management. Secondary stakeholders usually serve as mediators in conflict resolution or management. Stakeholders listed below are identified by FGD members that participated in the meeting:

- Oromia regional state administrative government (ORSAG) i.e. (zonal and district administrative councils, *Kebele* cabinet, and *Kebele* manager at local level)*⁵⁶

⁵⁶ The symbol * is used to indicate primary stakeholders.

- Oromia Region Agriculture and Rural Development Office (ORARDO) i.e. zonal and *wereda* agriculture and rural development offices at local level*.
- Local communities*
- Gabba-Dogi forest coffee conservation project (CIP IV Coordination Office at Federal Ministry of Agriculture and Rural Development Office (MoARD))*
- District forest committee
- *Wereda* (district) justice office
- *Wereda* court
- *Wereda* police
- State forest enterprise*
- Ethiopian Coffee Forest Forum (ECFF)
- *Wereda* Cooperatives Office
- Small-scale timber processors
- Potters
- Coal mining company
- Sand and stone producers' association
- Ethiopian Electric Light and Power Authority (EELPA)
- Development NGO (Menschen fur Menschen)
- Oromo Peoples' Democratic Organization (OPDO)

Though the above organizations are identified as stakeholders, their relative power, influence, and the extent to which they are being affected by the conflict vary greatly. District administrative council, district agriculture and rural development office (ARDO), local community, Gabba-Dogi forest coffee conservation project, and Ilu Abba Bora state forest enterprise are among the most influential (primary) stakeholders directly involved in the use and conservation of coffee forest. The following figure shows the relative power and the extent to which different stakeholders are affected by the conflict.

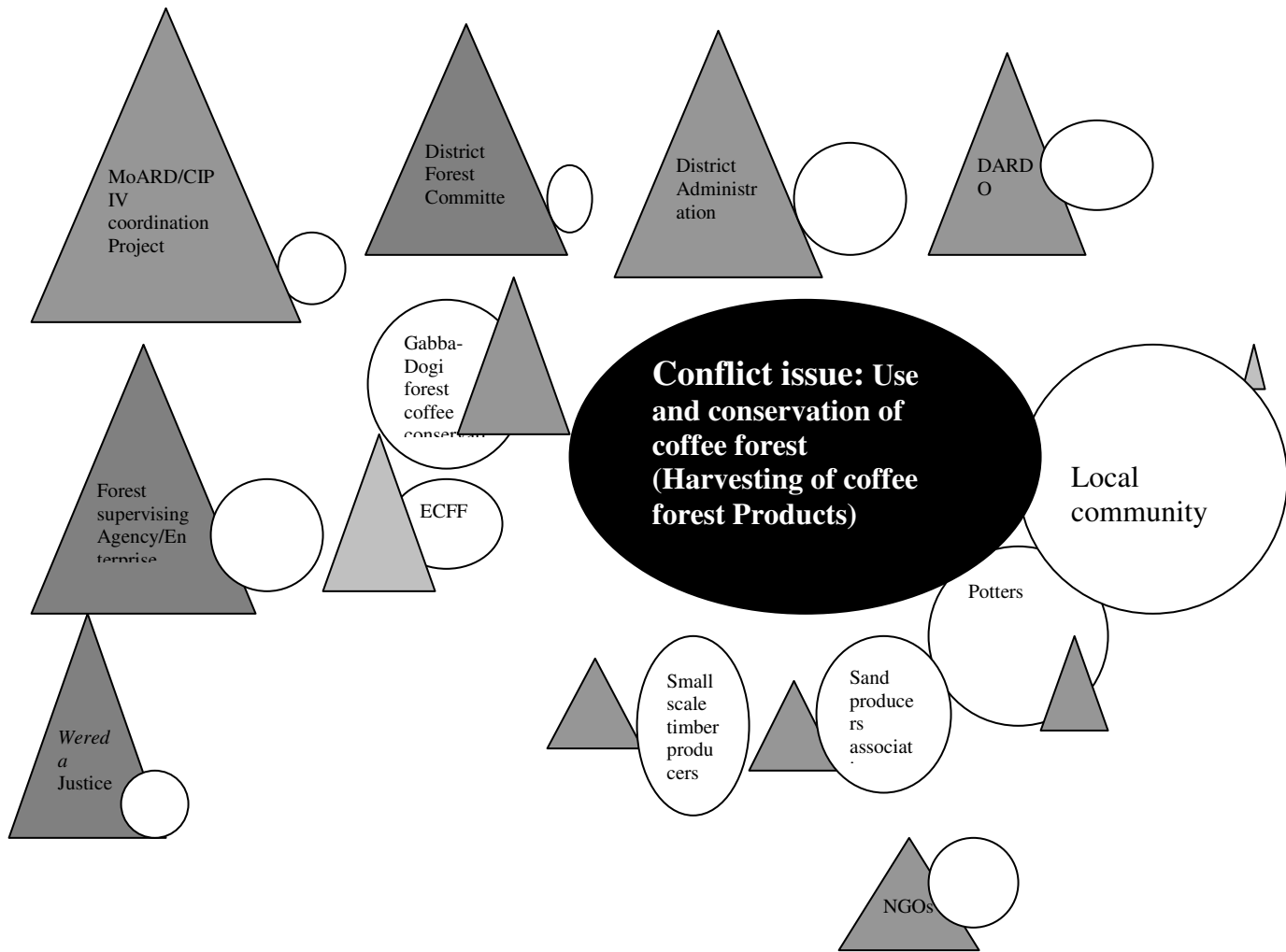


Figure 6.3. Different viewpoints on affected stakeholders and stakeholder power
Source: Stakeholders group discussion

In the diagram, the *size of the circle* and its proximity to the conflict issue indicates the extent to which the group or that particular stakeholder is affected by the conflict. The *size* of the groups or the stake's *triangle* shows the relative power that the group owns in the final management decision. The larger the triangle is, the greater the power that the particular stakeholder owns. The *proximity* of the groups or the stakeholders to one another shows the relationships and alliances existing among the groups.

The diagram illustrates how stakeholders that participated in group discussion viewed stakeholders involving in coffee forest use and conservation. In almost all of the conflict situations, the distribution of power and access that all conflicting parties have to it are issues requiring consideration (Desloges, C. and M. Gauthier, nd). Analysis of power is also conducted on the fact that conflicts could be resolved by means of power, justice, or interest (Sitoe A., 2000). Understanding the power of different stakeholders helps to design or shape how to resolve or manage conflict (Lewis C., 1996). Unbalanced [big

difference] power relations and interdependency results in expectations not being met (Mutimukuru T, nd).

Alliances: The diagram shows alliances and smooth relationships among such formal institutions as *wereda* ARDO, district administration, Gabba-Dogi forest coffee conservation project, district forest committee, MoARD, and state forest supervising agency. Similarly, the proximity of the local community, potters and NGOs to one another also shows the alliance among these stakeholders though NGOs have also alliance with the above government institutions. The existence of alliances/relationships among different groups of institutions helps to bridge the gap and to manage conflicts. The fact that the proximity of the local community, the potters and somehow the district administration are very close to the conflict issue indicates that they are highly affected by the outcome of the conflict.

Stakes affected by the outcome of the conflict: The conflict is among different stakes that incorporate local community and different government offices such as district administration, ARDO, Justice Office, Gabba-Dogi wild coffee conservation project, and few of the organizations shown on the figure. The figure shows that the local community that intensively depend on the products of the coffee forest is the most affected by the decision making process and the effect of the conflict.

Power: On the contrary, they [local community] have the smallest or no input or power to influence the decision making process. This clearly shows that the exclusion of this affected stakeholder (local community) is the major source of conflict (Lewis C, (1996) in coffee forest management. Local communities that include the traditional potters, small-scale timber producers and sand producers associations felt disadvantaged by the prohibition of coffee forest harvesting from core and buffer zones according to their interest after the demarcation. (See chapter four for impact of the demarcation on the local community). They were seen to be incomparably less powerful than district administration, ARDO, and other government institutions involved in the use and conservation of coffee forest. The communities were seen to be the main victims of prohibition of coffee forest harvesting that rendered them unable to cover their basic living expenses (see again chapter four for the impact of demarcation on the community). Scholars indicated that conflict is about the power relationship between the groups or stakeholders. “Power can be derived from many sources: control of resources, role in decision-making processes, control of information, leadership, wealth, legal status, and so on. It is derived from stakeholders’ relationships with other groups and from the structures within which the power operates” (Ramirez, 1999 quoted in Means K. and Josayma C. with E. Nielsen and V. Viriyasakultorn (2002:82).

6.5. Analyzing the 4Rs: Stakeholder Rights, Responsibilities, Returns and Relationships

According to Engel and Korf (2005), rights are legally defined access and control over resources while responsibilities are the role and the power of stakeholders in the use and conservation (management) of coffee forest. Return is the cost and benefit that the stakeholders get based on the rights and responsibilities they have. Relationships refer to

interactions among stakeholders in relation to the resource concerned. The final or the fourth R is particularly important in order to analyze stakeholders' networks that have an impact on the conflict, to identify potential new alliances and intermediaries, and finally to gain understanding on the power base of different stakeholders. The examination of rights, responsibilities and returns (benefits and costs) of different groups or stakeholders in relation to the resources enables us to enhance the understanding of the essence of conflict over forest (Engel A. and Korf B, 2005). Similarly it can also enables us to analyze the relationship among different stakeholders involved in coffee forest use and conservation. The inequalities existing among different stakeholders in terms of these variables signify power imbalances and other relationships among the stakeholders that may generate conflict. Section 6.5.1 deals with analysis of the 3Rs (rights, responsibilities and returns), while the one next to it deals with the fourth R or stakeholders' relationships.

6.5.1. Analysis of Rights, Responsibilities and Returns

The matrix shown in Table 6.1 is constructed by participants of the group discussions on which they scored the rights, responsibilities and returns of the stakeholders involved in the management or use of coffee forest on a scale of 0 to 5 where 0 means no or nothing and 5 means high or maximum. The methodology used to rate the 3Rs matrix is that people from all the relevant stakeholders are invited to the meeting. All participants in group discussions were requested to rate the extent/level of the rights, responsibilities and the returns for all stakeholders after thorough discussions were held on each of the issues. Through such process, the 3Rs matrix is scored for the two districts (Yayo and Dorenni) and then the average rank of each R was taken for all stakeholders. The table below clearly shows the result of this procedure.

Table 6.1. Analysis of the 3Rs matrix for different stakeholders

Stakeholder	Right	Rank	Responsibility	Rank	Return	Rank
District Administration	<ul style="list-style-type: none"> • Protecting forest • Controlling other stakehold-ers • Approves policies and proclamations • Preventdeforestation • Follow up forest management • Report Problems 	4.5	Facilitating cooperation between stakeholders; Monitoring and evaluation; discussion with the community on the forest issue; coordinate activities: awareness creation; follow up the protection;	5	<ul style="list-style-type: none"> +Peace and stability +sustainable conservation +Increase in forest coverage +Enhance Development activities -Hate and bade attitude towards government -Political crises (lack of legitimacy and trust -Lies, inability to provide timely response to the community problems -Reduction in revenue income. 	3

Stakeholder	Right	Rank	Responsibility	Rank	Return	Rank
Ministry of Agriculture and Rural Development (MoARD)	Conservation; development activities; fund raising; preparing guidance and policies; providing technical Support; education and awareness creation; implementation of research outputs, conducting in-situ and ex-situ conservation	4	Forest conservation; monitoring and evaluation; planning; making decision on use and conservation	3.5	+Implementation of policies +Sustainable conservation +satisfaction of community needs -Deforestation -Loss of biodiversity -Environmental degradation -Famine	2
Wereda ARDO	Prevent deforestation; follow up; submit cases to the prosecutor	4	Awareness creation; Seedling Provision,	3	+Reduce deforestation +Ecological balance -Hate and Complain from the community	2
District Forest Committee	-Control illegal deforestation; Provide ideas on the resolution of the conflict; investigate cases together with police	4	Investigate community issues & interest on forest; report to the district; follow up illegal deforestation;	2	+Protection of forest +Created stability among the community at least for the moment -Inability to do per the schedule and respond community questions	2
Institute of Biodiversity Conservation (IBC)	Providing technical guideline; Providing technical support	2.5	Surveying forest reserve areas; conducting conservation;	2	+Biodiversity conservation; +Ecosystem Preservation -Biodiversity loss	2

Stakeholder	Right	Rank	Responsibility	Rank	Return	Rank
Iluu Abba Bora state forest enterprise	Control all national forest priority areas; getting forest related compensations; demarcation of forest areas	5	Plantation of seedling; marketing forest products; processing forest products; Improving livelihood; harvesting forest products; developing infrastructures	2	+Making profit or getting income +Infrastructure development +Creating employment opportunities	5
Local Communities	-Harvesting ⁵⁷ wild coffee form buffer and core zones; Managing semi forest coffee in the buffer zone; Using fuel wood in the buffer zone; Extracting medicinal plant and other NTFP from the buffer zone (Has no legally recognized right ⁵⁸ or unrecognized customary forest use right)	2	Participation ⁵⁹ in conservation activities	1	+Harvesting NTFP ⁶⁰ & firewood + Getting income from the wild coffee sale +Provide feedback for the researchers +Getting Construction material +Getting environmental benefits such as. ecological balance ecotourism, clean air, good rainfall +Increase in forest coverage -Unpredictable and undetermined right and responsibility on forest use deforestation	2

⁵⁷ Harvesting wild coffee from buffer and core zone is not legally recognized; it rather depend on mere understanding as it is not certified for them

⁵⁸ Some participants indicated that the community has no any legally acknowledged rights from the demarcated area.

⁵⁹ It is just at principle level as there is no things facilitated to promote their participation in the demarcated area

⁶⁰ On limited conditions, this is based on informal agreement; not based on legal bases.

					<ul style="list-style-type: none"> -Loss of biodiversity -Attacks by wild animal on their crop, domestic animal and children. -Loss of means of subsistence (income source) -Illegal logging as a result of deterioration of community ownership or prohibition -Loss of grazing land -Prohibition of harvesting some NTFP (honey,) 	
Gabba-Dogi Wild coffee conservation project	<p>Conducting conservation activities; conducting community development activities</p> <ul style="list-style-type: none"> -Prevent deforestation; Follow up; prepare charge; Demarcation (IBC) 	4	<p>Awareness creation;</p> <p>Provision of training on conservation issues; Forest follow up, monitoring and supervision;</p> <p>Afforestation;</p> <p>Restoration of buffer zone; seedling production; creating livelihood opportunities;</p>	3.5	<ul style="list-style-type: none"> +Biodiversity conservation +Enhancing participation -Hate from the community and some line offices -Dissatisfaction -Loss of biodiversity 	3.5
<i>Kebele</i> Cabinet	Control illegal extraction	5	Follow up and monitor forest; report forest status	3	<ul style="list-style-type: none"> +Increase in forest coverage +biodiversity conservation -Lack of acceptance by the community -Hate 	4

Stakeholder	Right	Rank	Responsibility	Rank	Return	Rank
Community Elders	Have no any formally recognized right	1	Mediate conflict between some parties; Awareness creation	2	+Ensure Peace and stability	1
<i>Wereda</i> Court	Giving decision on conflict issues;	5	Case investigation and giving decision on resource conflict issues	1	+Reduce conflict and crime -lack of timely justice -Bureaucratic procedures in getting justice -Deforestation	2
Public prosecutor	Preparing charge	5	Case investigation; awareness creation; ensuring peace and security	2.5	+Enforcing rules +implementation of decisions -Lack of awareness on policy issues	2
Police	Prevention of crime	5	Monitor and control illegal appropriation	3	+peace and stability +Reduction in illegal appropriation -Hate from the community	3

Stakeholder	Right	Rank	Responsibility	Rank	Return	Rank
Ethiopian Coffee Forest Forum (ECFF)	Conducting research; implementing previous research outputs; Creating civilized society in the safe environment	5	Fund raising; identification of problems in use and conservation of coffee forest; technical support; awareness creation; training; Bridging communication among stakeholders	4.5	+Implementation of research findings +Improvement in forest condition -Loss of biodiversity	4

In the discussion of the matrix, participants in different *weredas* identified that the rights, responsibilities and benefits of the resource, coffee forest, is mostly dominated by government-based institutions at the top led by the MoARD and Oromia administrative councils (through district administration office). As shown in the discussion matrix, at the lower or local level, district/*wereda* administration, *wereda* ARDO, Justice office, Gabba-Dogi forest coffee conservation project, district forest committee, state forest enterprise, *kebele* cabinet, etc are all government-led institutions with differential mandates related to the management of coffee forest. All of these institutions are rated in the range of 4-5 matrixes by participants in terms of the right they have while securing a rate of three and above in terms of the responsibility they have in managing and the power they have to make decision on coffee forest.

Specifically, it is essential to see the matrix of few of the governmental institutions, mainly district administration, state forest enterprise, district ARDO, justice office and *kebele* cabinet. District administration is at the top of all governmental institutions that coordinates and controls the activities of all governmental institutions at district level. Hence the participants in the discussion of the matrix gave 4.5 and 5 for its right and responsibility, respectively. Ilu Aba Bora State Forest Enterprise also got the highest rank of five for both right and benefits. On the contrary, the enterprise is rated two for responsibility. This shows that the enterprise is getting the highest right and benefit with very little responsibility. It is worth noting that this enterprise is led by the board chaired by the head of zonal administrative council which shows the domination of the rights, responsibilities and benefits by the state agents.

Contrary to the above, local communities and institutions are rated the least in terms of the right, responsibilities and benefits related with the management (use and conservation) of the coffee forest. In the discussion matrix, local communities and elders'

council are stakeholders that did not exceed two in their right, responsibilities and returns ratings. This indisputably indicates the marginalization of the local community in terms of the 3Rs in relation to the coffee forest. The marginalization of the local community and their indigenous institutions in the use and conservation of the coffee forest is the biggest issue fueling conflict with different state-based institutions.

The other independent (neither government nor community institution) stakeholder is the Ethiopian Coffee Forest Forum (ECFF). The Forum is a non-for-profit local NGO, which has been conducting an independent and implementation-oriented research. ECFF has been rated 5, 4.5 and 4, a balanced rating distribution for the 3Rs, for its rights, responsibility and benefit, respectively in relation to its contact or link with the coffee forest. This depicts ECFF’s potential for the management or resolution of conflict between state-based institutions and the local community.

The 3Rs matrix generally shows that governmental institutions have the greatest rights in the management of the coffee forest though their capacity of executing their responsibilities is generally low and differs across institutions. In terms of the benefits, State Forest Enterprise Supervising Agency has the highest benefit though it is executing very little of its responsibilities. Table 6.2 shows the rankings of the stakeholders based on the 3Rs.

Table 6.2. Stakeholders rank based on the 3Rs

Stakeholders rankings based on their respective 3Rs weight			
Rank	Greatest right	Most responsibilities	Most benefits
1	State forest enterprise, Justice offices (police ⁶¹ , court and prosecutor), Ethiopian Coffee Forest Forum	District Administration	Ilu Abba Bora, State Forest Enterprise
2	District Administration, <i>Kebele</i> Cabinet	Ethiopian Coffee Forest Forum (ECFF)	Gabba-Dogi Wild Cffee Conservation Project
3	MoARD, <i>Wereda</i> ARDO, District forest committee, Gabba-Dogi Wild coffee conservation project	MoARD, Gabba-Dogi forest coffee conservation project	District Administration and police

The differences in the 3Rs rankings between governmental institutions and the local community imply a fundamental power difference between the two parties as

⁶¹ The police are legally and formally recognized by the government to get the highest “right”. It also relatively owns higher benefit (3) as it ensures peace and stability and reduces illegal extractions.

stakeholders, which makes the management of the conflict between them difficult. Attempts made to change this situation or reduce conflict have to consider mechanisms that help to reduce the big gaps in the distribution of the 3Rs or power between the two parties thus promoting sustainable conservation and use of coffee forest. This may involve one of the many available mechanisms of resource management that is based on **real participatory** approaches. The analysis of the 3Rs has clearly demonstrated that the Ethiopian Coffee Forest Forum is an institution believed to “play the role of a trusted party to help support a conflict management process” (Engel A. and Korf B, 2005). This can be observed from the fact that the Ethiopian Coffee Forest Forum (ECFF) has received fair and balanced ranking distribution of the 3Rs. Moreover, NGOs play an active role in facilitating successful negotiation between local people and the government and co-management of forest resources among government, local community and other stakeholders (Isager L., Theilade I. and Thomsen L..2002).

6.5.2. Stakeholders’ Relationship Analysis

A study of relationships that exist among stakeholders helps us to understand the nature of conflicts. There are two types of stakeholders’ relationship that are greatly influenced by their power and capacity. The two types of relationships comprise: 1) relationships based on the resource base that includes rights, responsibilities and benefits (discussed above); and 2) relationships with each other. According to (Ramirez, 1999), “rights of access and control, and the benefits gained from the forest often define stakeholders’ roles and power in relation to management (quoted in Means K. and Josayma C., Erik Nielsen and Vitoon Viriyasakultorn, 2002). Similarly, alliances with other groups, networks and collective action can be an important bargaining tool and a means of striking new and necessary institutional arrangements”. (Ibid).

Figure 6.2 shows relationships among different stakeholders indicating the way for the establishment of new institutional arrangement.

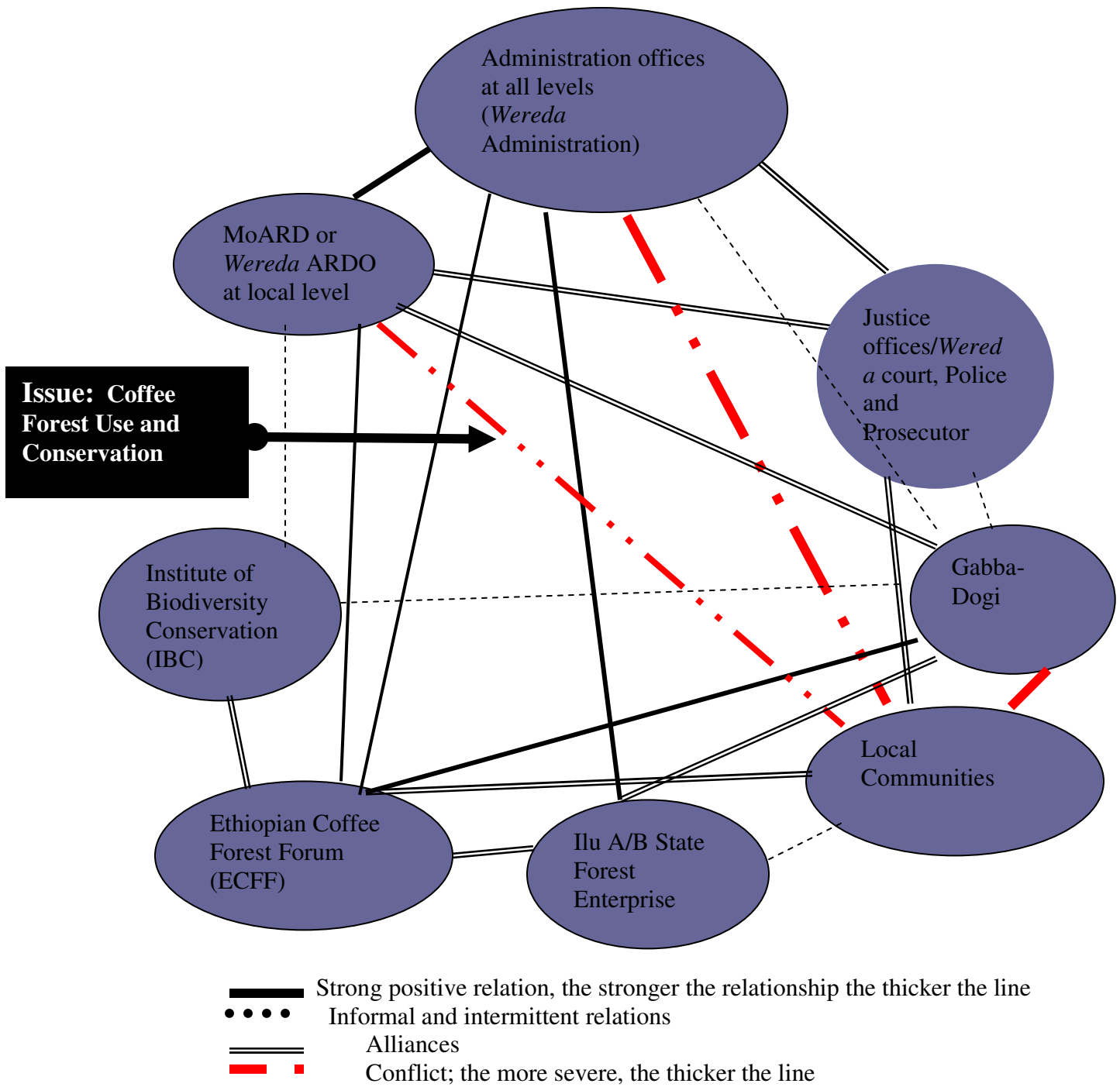


Figure 6.4. Stakeholders' Relationship Analysis

Source: Stakeholders Group Discussion

Analysis of the Stakeholders Map

Issue: Use and conservation or management of coffee forest among stakeholders.

District Administration:

- Strong positive relationship with *Wereda* ARDO and Forest Enterprise and strong relation with Ethiopian Coffee Forest Forum.
- Alliances with justice office
- Major conflict with local community's interest to use and manage coffee forest.
- Informal and intermittent relationship with Gabba-Dogi Forest Coffee Conservation Project

Wereda Agriculture and Rural Development Office (ARDO)

- Alliances with Justice offices (*wereda* court, police, prosecutor and court) and Gabba-Dogi forest coffee conservation project
- Strong positive relationship with district administration.
- Informal and intermittent relationship with Institute of Biodiversity Conservation (IBC).
- Major conflict with the local community on their interest to use and conserve the coffee forest.

Ethiopian Coffee Forest Forum (ECFF)

- Alliances with the Institute of Biodiversity Conservation (IBC), Ilu Aba Bora State Forest Enterprise and the local communities
- Strong positive relationship with Gabba-Dogi Forest Coffee Conservation Project, *Wereda* agriculture and rural development office (ARDO), and the district administration.
- No conflict with stakeholders involved in access, control or management of forest coffee

Ilu Abba Bora State Forest Enterprise

- Alliance with Ethiopian Coffee Forest Forum and Gabba-Dogi Forest Coffee Conservation Project.
- Strong and positive relationship with District Administration as the enterprise by itself is led by the board chaired by zonal administration.
- Informal and intermitant relation with the local community

Local Communities

- Alliance with Ethiopian Coffee Forest Forum and Justice Offices especially the court and prosecutor

- Major conflict with district administration, *Wereda* Agriculture and Rural Development Office and Gabba-Dogi Forest Coffee Conservation Project.

Gabba-Dogi Forest Coffee Conservation Project

- Alliance with Ilu Abba Bora state forest enterprise and *Wereda* Agriculture and Rural Development Office (ARDO).
- Informal and intermittent relationship with Institute of Biodiversity Conservation, District Administration and Justice Office mainly police or prosecutor.
- Major conflict with local community over use and conservation of coffee forest.

Possible action to improve use and conservation by local community and to ensure sustainable conservation of wild coffee:

- 1) It is very essential to use the alliance existing among different stakeholders to bridge the gap created among some stakeholders due to conflicts. The alliance among local community, ECFF, and justice offices can be used to bridge the conflict situation between the communities and government institutions. These institutions can play an active role in the settlement of conflicts among local community and government institutions (district administration and ARDO), as it has alliances with conflicting institutions, by applying legal procedures, both formal and customary.
- 2) Ethiopian Coffee Forest Forum can act as an intermediary among government institutions (District administration, *Wereda* agriculture and Rural Development (ARDO) and the local community. It is acknowledged for the decisive intermediary role it plays in the settlement of conflicts arising between these government institutions and the local community. ECFF's intermediary role emanates from its alliances or positive relation with all conflicting parties.
- 3) The Ethiopian Coffee Forest Forum has to present the concerns of the local community to government institutions so as to ensure the sustenance of both the local community's livelihood and to achieve conservation of coffee forest.
- 4) An alternative mechanism for improving the relationship between the local community and government institutions has to be designed.

6.6. Conflict Management Mechanisms

Different approaches to address conflicts have been identified (Claude Desloges and Michelle Gauthier, n.d) including traditional conflict management approaches, a continuum⁶² of dispute resolution mechanisms that have differing access to power, legal and formal approaches, adoption of participatory approaches and planning, reviewing policy and legislation and developing ways to integrate national and international

⁶² The main dispute resolution techniques can be placed on a continuum comprising six main categories: (1) informal procedures, (2) cooperative decision-making, (3) third-party assistance with negotiation or cooperative problem solving, (4) third-party decision-making, (5) nonviolent coercion, and (6) war (Desloges C. and M.Gauthier, nd).

institutions in conflict management. There is no single formula for settling all conflict situations since conflict management mechanisms differ with conflict situations involving the needs, interests, perceptions and feelings of parties and peoples under consideration.

Some literatures identify three major conflict management mechanisms (e.g., Engel A. and B. Korf, 2005). These include customary conflict resolution comprising negotiation, mediation and arbitration; national legal system that includes adjudication and arbitration; and finally alternative conflict management that mainly includes consensual negotiation. The different conflict management approaches have their own suitability and convenience for different forms of conflict. Two of the three major conflict management approaches identified above are discussed below in the context of conflicts in Yayo area. These are the customary conflict management and the alternative conflict management (ACM).

6.6.1. Customary Conflict Management Mechanisms in Yayo Area

Traditional conflict management approaches are considered as having strong potential with proven experience among communities living in Yayo area. There are two major conflict management approaches widely employed in managing resource conflicts in Yayo area:

A) Gumii Firaa (Relatives' Association): In this type of conflict resolution/management mechanism, elders call the two parties together for conflict management before the case is presented to court. Comprising 5-7 people, members of this association are elected by close relatives of the two conflicting parties. That is why it is called *Gumii Firaa*, an Oromiffa word that stands for the relatives' gathering/assembly.

B) The second type of conflict management mechanism is the one in which one of the conflicting parties invites the elders when s/he seeks conflict resolution through his/her initiation. This usually happens when one of the conflicting parties believes that he has done an offence or something bad. In this case conflict management/settlement involves 7-8 people. This group of elders must be respected people elected by the party seeking conflict management

Conflicts between individuals usually arise over use of resource or other affairs having social or economic background. The resolution is based on the degree of the offense or the nature of the conflicts. Arbitration is conducted so as to address the interests of the claimant in covering the costs expended by the claimant during the process including medical cost, transportation expense, etc. If the conflict is related to issues of boundary, the elders decide to return the amount of crop harvested by the offender passing the boundary to the claimant's holding. If there is no witness when the crime or the event was committed, the elders prepare a forum at which swearing is conducted.

If there is no significant harm made on either of the parties, the elders put rules or guidelines to oversee future conflict prevention. This involves nominating guarantors to

ensure the future safety and security of the harmed party. If there is harm made to one of the parties, the elders will decide compensation for the harmed party. The compensation is mostly in terms of cash and/or cattle. If one of the parties who did not accept the elders' decision went to the court, the court usually refers the case back to the elders' council. When the case is submitted to the court, then the court asks the two parties to elect their respective representative elders. In this case, the elders elected by the two parties will decide in favor of one of the parties or may reconcile the two parties.

There are two more approaches of managing conflict among groups or communities:

A) If the case is among or between groups or clans, the other neutral clan or group calls for conflict management or creates forum to conduct negotiation. They bring the two clans or groups together. In this case, elders who manage the conflict will be elected from the other neutral clan/group.

B) If the case is between the community and the government, arbitration takes a different form. It begins with the election of community elders who would represent and submit the case on behalf of the community to district, zonal or regional administrative councils. In this case, the community demands reconsideration of unacceptable decisions by the government. Or it is mostly a request for the reversal of the decision that gave rise to the conflict. In this case, there is no equal negotiation between the community and the government as there is a big power difference. Informants said that in most of the cases, the government either agrees to make some concessions in favor of the community's request or may not make any concession at all. This is the major source of many on-going conflicts. That is why (Engel A. and B. Korf, 2005) stated that the success of customary natural resource management strategies in managing conflict often depends on the enforcement capacities of traditional authorities". Previous research also confirms that, among the communities adjacent to the protected area, customary conflict resolution mechanisms practiced by indigenous institutions like the elders' council are unlikely to enforce community decisions when the case is with government agents (Zewdie J, 2005).

In general, customary conflict management mechanisms are not currently applicable for conflicts between the community and the government institutions due to lack of decision enforcement power among elders' council and traditional authorities. Nonetheless, they can contribute to the negotiation process if their representatives are incorporated in coffee forest conflict management as they can voice community and other party's interest. In other words, they can mediate or negotiate in defence of the interests of the community with that of the government and other opposing parties through traditional mechanisms if they are empowered by the government and other agencies. ACM, which is one of the conflict management approaches, is more elaborately discussed below.

6.6.2. Alternative Conflict Management Mechanisms

Conflict management is not an easy task as it may involve many stakeholders subscribing to different interests, perceptions and feelings. In addition, stakeholders may have many social, political, economic and cultural layers (Means K and C. Josayma, 2002). Hence,

seeking to manage conflict is a more realistic action than trying to resolve conflicts with such differing interests of different stakeholders. In alternative conflict management (ACM), all opposing parties promote joint decision making and seek voluntary agreement to reach a win-win solution and its enforcement depends on all parties' willingness to obey the agreement (Engel A. and B. Korf, 2005).

Conflict management approaches are designed in attempts to ensure long-term mutual gain for all stakeholders. It usually addresses natural resources conflicts through making joint decision by consensual negotiation. Conflict management approaches usually vary based on the causes of conflict. Conflicts can arise due to various reasons. Conflicts can arise due to problems with natural resource management policies, programs and projects (FAO, 2000). This includes policies imposed without local participation, lack of harmony and coordination between bodies of law and legal procedures, poor identification of and inadequate consultation with stakeholders, uncoordinated planning, inadequate or poor information sharing, limited institutional capacity, inadequate monitoring and evaluation of programs and lack of effective mechanisms for conflict management (FAO, 2000:7) most of which are also the problems in coffee forest conflicts of Yayo protected area.

Consensual negotiation is a typical form of alternative conflict management (ACM). It is mainly based on the the readiness of stakeholders in identifying their needs and interests and thereby finding their way to promote mutual gains (Engel A. and B. Korf, 2005). It strengthens long-term stakeholders' working relationships and produces more satisfying and enforceable settlements. It is an alternative means for the poor, marginalized groups and remote communities who have no access to the national legal system. Consensual negotiation gives an alternative to the "winner takes-all" approach that usually appears in arbitration and adjudication (Ibid). In the context of Yayo coffee forest conflict, the ACM, particularly the consensual negotiation, enables the coffee forest community to address their interests left unexplained/unaddressed in the national legal system. In other words, ACM helps to address conflicting interests of different stakeholders involved in the use and conservation of coffee forests.

Conflict management is an approach that can address the roots of conflicts by building upon shared interests and finding points of agreement that accommodate the respective needs of the various parties involved (Anderson, J, M Gauthier, G. Thomas, and J, Wondolleck, 1996). In eastern African countries, the causes of conflict can be political, socio-cultural, legal and economic factors (Odhiambo M, O, 1996). In the case of Yayo coffee forest, the legal basis or legal pluralism leading to the conflict is that the local community is related to the coffee forest through customary laws and rules while the government is based on the statutory laws which has a binding rule of coffee forest management. Conflicts based on economic factors arise due to conflicts between national and local community interests. In Yayo coffee forest conflict, the national economic interest is reflected through forestry agents or government offices working on forests that include ARDO, state forest enterprise, district administration, and Gaba Dogi forest coffee conservation project;. Some literatures confirm this reality claiming that community interest is challenged by external interest (Odhiambo, M. O, 1996). This is very similar to the situation in Yayo coffee forest conflict. Hence, the ACM, particularly

consensual negotiation, can help reconcile these different interests of diverse stakeholders.

In order to manage conflicts, alternative conflict management (comanagemt particularly consensual negotiation) is very essential (Carlsson L. and Berkes F. 2003). Hence, attempts to manage coffee forest conflict through ACM or other mechanisms have to consider the following issues raised/regarded as the causes of conflict, stakeholder analysis and identification and other topics discussed above:

- Indigenous or customary resource management system needs to be incorporated into national and regional forest polices and proclamations. It also requires the real incorporation and implementation of the two systems of resource management at local level so as to manage conflicts arising in the management systems of the coffee forest
- There is need to consider and incorporate traditional institutions in the coffee forest management system manly the elders' council and the *Tuullaa* institutions so that community interest, access and control may be realized in the resource management system.
- There is a necessity to ensure the real decentralization and/or devolution of power from central and regional governments so as to facilitate equal negotiation and mediation of the conflict between government institutions and the local community. This helps to promote real sustainability both for coffee forest conservation and the livelihood of the community.
- Promoting or ensuring real participation of the local community and all relevant stakeholders in the conservation and use of coffee forest is also an important step in the management of coffee forest conflict.
- Provision of adequate and timely information on management, use and conservation of the coffee forest is one of the mechanisms to prevent or manage conflicts. Access to information by all concerned stakeholders creates a forum to compromise on the conflicting values and interests before the issue develops into conflict or violence.
- Addressing contradiction between polices, rules and programs helps to manage conflicts. Programs being implemented by different government offices often conflict on the management of the coffee forest.
- Inequitable distribution of rights and responsibilities leading to inequitable distribution of power and resources or use and conservation of coffee forest is the other issue requiring immediate attention of governors, policymakers and all concerned bodies in attempt to manage and resolve conflicts.
- The design of conflict management has to **incorporate stakeholders** previously excluded from resource access and management and should ensure that new stakeholder groups are identified at all stages (Means K. and C. Josayma, 2002).

After observing customary and alternative conflict management mechanisms in light of the Yayo coffee forest conflict, it would be essential to review generally accepted approaches of conflict management so as to reflect its implication for Yayo research site.

6.7. Approaches to Conflict Management

Different approaches have been adopted throughout the world for conflict management. Collaborative management and co-management are the two most commonly used approaches. Conflict management requires addressing differences among stakeholders. “Throughout the world, collaborative management has been largely initiated in response to conflict and crisis situations” (Means K. and C. Josayma, 2002: 65).

In conflict management procedures, emerging conflicts have to be addressed in the context of social, cultural and political situations. Conflict management mechanisms must take into consideration the local, traditional and customary conflict management approaches (Lewis C., 1996). In many parts of the world, the mechanism widely adopted to manage conflicts between protected area and the people is **co-management**. It needs further analysis before applying co-management in the context of the conflict in Yayo area. The **distribution of costs and benefits** of the conservation is also another way of managing conflict. In the context of conflicts created on Gabba-Dogi forest coffee conservation area, it is essential to revise or amend existing rights, responsibilities, benefits and power balances among stakeholders.

As coffee forest protected area is generating national benefit, especially in light of the ongoing effort to give it world heritage status, it is unlikely to reduce conflicts between the local community and the government. This is because the protected area is becoming a liability to the people living in and adjacent to the coffee forest. It denies the community access to resources, causes damage to their crops and domestic animals by wild animals and so on. As a result, the issue of fair distribution of rights, responsibilities, and return is essential as it helps to reduce conflict in the protected area.

The issues mentioned as collaborative resource management and co-management can be specifically observed in terms of other elaborate activities constituting them. The fundamental procedure in addressing a conflict is responding to the conflicting interests or basic needs and concerns. Some studies show that compromise is the best way to manage or resolve conflicts. Compromise in this sense means allowing “some use of an area's resources that may ultimately serve a protected area's interests better than keeping the area in strict reserve status, and could serve interests of adjacent communities as well” (Lewis C., 1996).

Conflict management process has to take into account the power of stakeholders involving in conflict. The power that stakeholders have include position power (owing authority to influence decision); knowledge power or having information; economic power or having financial resource; having political power or access to political leadership; legal power like access to court; and coercive physical power such as police and military power are some of the types of powers influentially impacting the stakeholders conflict resolution process (Lewis C., 1996).

Negotiation is the other mechanism of conflict management that may involve two or more parties. Negotiation can also involve more than two parties that may include the local community, domestic and multi-national businesses, government agencies,

international development agencies, politicians, and non-governmental organizations (NGOs). When the parties can no more bring successful negotiation by themselves, there is a need for third party or a mediator to manage a conflict. Collaborative resource management is also a mechanism of promoting both conservation and livelihood goals in sustainable manner (Engel A. and B. Korf, 2005). It is an innovative response for long-standing conflicts (Moote A., 2006; Carter J., Gronow J., 2005). Collaborative resource management is essential in dealing with disagreements on access rights, lack of consensus on management objectives and misunderstandings emerging in some issues. When there is lack of shared goal in conserving resources and inequality in power among actors, there is a need for institution (Agrawal, A and Gibson C., 1999). Therefore, collaborative resource/forest management that may involve consensual negotiation can be a good approach in managing conflicts in Yayo coffee forest among stakeholders.

Following consideration of these different approaches, it is possible to conclude that there is a need for devising an approach that can fit well with the conflict situation and the conditions of the conflicting parties. The main challenge in applying the collaborative conflict management or ACM, mainly consensual negotiation, is the power gap between stakeholders in conflict. Co-management is also identified as an approach for the management of conflicts created in resource management (Carlsson L. and Berkes F. 2003). Nonetheless, it is essential to apply collaborative resource management and/or consensual negotiation based on the practical context of the resource and the stakeholders in Yayo area.

6.8. Communities' Suggested Approach to Conflict Management.

Informants that participated in the group discussion and the key informants suggested different ideas on how to manage conflicts on the use and conservation or management of coffee forest. Listed below are few mechanisms and approaches suggested to manage or resolve the conflict:

- ❖ Redemarcation: Informants interviewed indicated that the demarcation of the coffee forest was not participatory. As a result, different properties of the people living in the area have been incorporated in the demarcated area. This has led to the creation of hostility and suspicion between the community and the government. Hence, redemarcation can be the solution to manage or resolve existing conflicts.
- ❖ Involvement of elders and other traditional institutions: The community and other informants interviewed suggested that the involvement of elders' council and other traditional institutions is mandatory for the management of conflicts. Elders' councils, religious leaders, coffee forest owners, professionals, development agents and politicians have to see the case together. It can include *shane*, *tulla*, and *xuxe* from customary institutions.
- ❖ Need to facilitate conditions to promote the livelihood of the community living in the forest area. This may be done through provision of alternative means of

- subsistence, supporting the forest dependent community, providing immediate response to the community to maintain the reserve.
- ❖ Providing compensation to those people whose coffee forest is demarcated: Two contradicting views are reflected in the community regarding their coffee forest incorporated in the demarcated area. Some of them indicated that compensation will not grant the sustainability of livelihood as people received compensation for their coffee forest engaged in the coal mining company become daily labourers after a short time. Some of them recommended compensation payment in cash to get alternative means of subsistence. This shows the need for assessment of the need of people whose coffee forest is incorporated in the demarcated area. Some informants suggested that the whole community has to give its consent to the fate of their coffee forest.
 - ❖ Active involvement of the community in the management of coffee forest. This is also identified as the mechanism of conflict resolution. This is manifested through their strong need to remove forest guards and making the community responsible for the control and protection of illegal extraction. This needs further assessment.
 - ❖ Creating awareness: Stakeholders involved in the use and conservation of coffee forest have no common understanding regarding coffee forest. In order to reduce the conflict, it is essential to create common understanding on the use and conservation of the coffee forest.

6.9. Conclusion

The causes of conflict in Yayo area are the need to expand coffee farm, disagreement on ownership right, the craving for timber and construction materials and prohibition of harvesting forest and NTFP in that order. The absence of policies and proclamations focusing on coffee forest, the absence of community participation during demarcation and confiscation of their forest coffee land during demarcation, the continually diminishing farmland and increasing population pressure, as well as shortage of grazing area are also cited as the causes of conflict mainly among the local community and government-led formal institutions.

In the discussion of the 3R matrix, participants in different *weredas* identified that the rights, responsibilities and returns of the resource (coffee forest) is mostly dominated by government-based institutions led by the MoARD and Oromia administrative councils. It also indicates the marginalization of the local community and community-based institutions mainly elders' council in 3Rs. Marginalization in 3Rs, in fact, has been the major source of conflict between the two categories of institutions.

Any attempts made to change this situation or reduce conflicts have to consider mechanisms that help to reduce the big gaps in the distribution of the 3Rs or power so as to promote sustainable conservation and use of coffee forest. This may involve one of the many available mechanisms of resource management based on real participatory approaches.

The analysis of the fourth R or stakeholders' relationship showed that Ethiopian Coffee Forest Forum (ECFF) can act as an intermediary among government institutions (district administration, *Wereda* Agriculture and Rural Development (ARDO) and the local community. ECFF has good relationship with both the government institutions and the local community and its recognized intermediary role emanates from this understanding.

Two types of conflict resolution mechanism are identified: customary conflict management and alternative conflict management mechanisms. Though there are two approaches of customary conflict resolution and management in Yayo area, they could not effectively deal with the conflict among the local community and the government institution due to power imbalance. Yet they can manage most of the conflicts among the local community and can also contribute to ACM. With regard to the alternative conflict management (ACM), collaborative resource management and co-managements are the approaches usually identified as a response to the natural resource conflict management as they help to incorporate customary and formal resource management systems as well as all relevant stakeholders.

Inequitable distribution of rights, responsibilities and benefits leading to inequitable distribution of power and resources or use and conservation of coffee forest is the other issue requiring immediate attention from the governors, policymakers and all concerned bodies in attempt to manage conflicts. It is essential to revise existing rights, responsibilities, benefits and power balances among stakeholders.

Compromise, consensual negotiation or consensus building is the typical form of collaborative resource management involving the management of conflicts among stakeholders such as communities, government, NGOs and other private stakeholders. The main challenge to apply the collaborative resource management, mainly consensual negotiation, is the power gap between the stakeholders in conflict. Redemarcation and active involvement of the community and their institutions in the management of coffee forest can also be identified as the mechanism of conflict management.

Chapter Seven

7. Conclusions, Recommendations and Further Research Focus

Natural resource management in general and forests in particular has become a subject of development debates during the past few decades. The lack of viable institutional arrangement as well as inappropriate rules and regulations of existing institutions and conflicts among different institutions and the community are contributing to the current institutional failure of the coffee forest. This research explores the contribution, links and importance of different formal and informal institutions to coffee forest management. The research as well explores formal and informal institutions and projects, federal and regional policies and proclamations and property rights issues. It also deals with rules acting as incentives or disincentives contributing to the rise of conflicts and their management. The rules of the protected area are given Special focus. What kind of institutional arrangement is most fitting to sustainably manage coffee forest at Yayo? This is the central question around which this research revolves. The study used both quantitative and qualitative data and employed Institutional Analysis and Development (IAD) framework and political ecology as the main theoretical framework to substantiate the empirical facts with theoretical perspectives.

7.1. Institutions and their Link with Coffee Forest Conservation

7.1.1 Formal Institutions from Federal to Local Level

Different institutions are identified at federal, regional and local levels along with their inter-linkages and the resource (coffee forest) under investigation. The institutions are studied in terms of their background and past linkages, present objectives and attachment with coffee forest. Analysis of formal institutions from federal to local level shows that there is no viable institutional set-up that can sustainably and effectively manage the coffee forest. This conclusion is derived from data gathered from two institutions at federal, two at regional and three institutions at local (district) level. Changes in institutional structure of the Ministry of Agriculture (MoA) since the early 1990s did not address the need for separate government structure dealing with coffee forest management or conservation and use. This in one way or another contributes to the increasing lack of viable institutions of the coffee forest. Federal institutions under the MoARD, mainly IBC, provide technical support while the CIP IV project passes down the budget directly to the local project (Gabba-Dogi forest coffee conservation project). The federal institutions do not have formal and strong links except informal provision of technical support by IBC. This also entails the necessity of designing relevant institutions based on the practical situation of the two resources (natural forest and wild coffee) to ensure sustainable conservation and use of coffee forest at all levels.

At regional level, two institutions which could have links with the coffee forest are analyzed. These are Oromia Forest Enterprise Supervising Agency and the regional ARDB. The main problem observed in these organizations is the absence of technical and

direct objective link to forest coffee biodiversity conservation in the two institutions, absence of budget and technically pertinent person at regional ARDB, lack of real decentralization of budget and community participation in planning and implementation in the Forest Enterprise Supervising Agency. The other gap observed in State Forest Enterprise is the absence of the point or incentive that encourages the community to conserve specific forest.

At local level, Gabba-Dogi coffee forest conservation project, district administration (including *kebele* and development team) and district ARDO are institutions having relationships with the use and conservation as well as the management of the coffee forest. Among these institutions, there is a lack of coordination and sharing of responsibility and accountability. This leads to the absence of viable institution and conflict. Gabba-Dogi forest coffee conservation project has no formal relationship with district offices which indicate the absence of responsible institution (coordinating body) with clear structure along the ladders, (both vertically and horizontally), from local to regional level. The local bodies including ARDO, district administration, the community and other stakeholders are not formally participating in the use and conservation of the coffee forest. *Kebeles* and development teams⁶³ are also working on coffee forest though they lack coordination with ARDO and the project Gabba-Dogi. Hence in Gabba-Dogi forest coffee conservation, there is lack of formal relationship and coordination and clear structure that link them with other local stakes i.e., it lacks clear inter organizational supports and relationships over the implementation of the forest coffee project. Poor staffing of the project (Gabba-Dogi) has also resulted in poor implementation of planned activities. In keeping with its set purpose, Gabba-Dogi is the only institution that has structures and objectives related with the conservation and use of wild coffee biodiversity. This fragmented and multifarious relation of the Gabba-Dogi forest coffee conservation project with different offices and bureaus at different level has made responsibility and accountability very loose thus paving the way for alarming deforestation.

7.1.2. Informal institutions

Diverse informal institutions are discussed in relation to their structure and role in the livelihood of the community in the study area. These institutions are clustered into four groups (Zewdie J, 2005) out of which special focus was given to two clusters of informal institutions. These include territorial-based administrative indigenous/customary institutions and a range of self-help work organizations. Territorial-based administrative indigenous/customary institutions again are grouped into two: These are *Tuullaa*, *xuxee* and *shane*, on one hand, and *Jaarsa Biyya* and *Muchoo*, on the other. All these institutions played an active role directly in the management of the coffee forest and other resources and diverse aspects of the communities' livelihood. However, they have been isolated from directly involving in coffee forest and other natural resource management mainly after the 1974 change of government. After this time they have been involving themselves in diverse social, economic and cultural aspects of the community. *Tuullaa*,

⁶³ *Kebeles* and development teams are formal institutions under district administration in descending order.

xuxe, and *Shane* can contribute to the efforts of coffee forest management in two senses. Firstly, *tuulla* that organizes, leads, controls and enforces the activities, rules and regulations of diverse local customary institutions or self-help work organizations. These customary institutions are directly or indirectly involved in coffee forest management, harvesting coffee forest, and controlling violations of rules in coffee forest management. It also controls and enforces the traditional rules of coffee forest management or the coffee forest plot system, until it was formally relegated by government-led formal institutions after 1974, though it is still informally working in very few places. Secondly, as *tuulla* is behind the overall life of the community in the coffee forest area, socially, culturally, economically, it can also control the activities and behavior of the local community specially in promoting collective action such as in designing, crafting, and enforcing rules and alternative institutions that can sustainably manage the coffee forest through community participation.

Jaarsa biyya and *Mucho*, on the other hand, can contribute in coffee forest or other natural resource conservation and use principally in two contexts: Firstly, they can enforce the rules and regulations of existing customary institutions through serving as customary judge in natural resource management or in conflict cases. They can enforce any customary rules for which the local community gives due attention and respect. Secondly, these institutions have a potential to judge the local community and enforce any other rules in coffee forest and other resource management if they are given the privilege. Having popular acceptance among the community, the institutions of *Jaarsa Biyya* and *mucho* can participate in the design and enforcement of rules governing the coffee forest. Previous experiences show that in a country like Ethiopia where there is political instability, the existence of community accepted customary institutions helps to save the degradation and deforestation of resources like coffee forest in times of government changes. In general, informal institutions can contribute in crafting and enforcing institutions of coffee forest management and help guide the behavior of the community in coffee forest use and conservation.

7.1.3. Property Rights

Different forms of ownership existed before the demarcation including private and/or (associations), public (state), communal and the combination of these. After demarcation, however, survey result indicates that the majority of community members have no both operational-level (access and withdrawal) and collective-choice level (management, exclusion and alienation) rights. This makes the use and conservation of coffee forest very difficult.

It is feasible to conclude from the results of the research that after the demarcation of the coffee forest for wild coffee gene-pool conservation, the government is the *de jure* owner of coffee forest which has its own multi-dimensional implication on the conservation and use of coffee forest itself. However, the local community is the *de facto* owner of most of the coffee forest in the demarcated area. The absence of clear (some times overlapping and conflicting) property right is the cause for the creation of conflict and the degradation of coffee forest that aggravate the lack of commitment among the local community for sustainable conservation and use.

7.1.4. Policy Constraints

Analysis of Oromia Rural Land Use and Administration Proclamation (Proclamation 56/2002); Forest Proclamation of Oromia, Proclamation 72/2003 and Federal Forest Development, Conservation and Utilization Proclamation no. 542/2007 have much to offer for future resource management.

Policies and proclamations issued in relation to land use and administration as well as forest development, conservation and utilization share the same attribute in the sense that they are not contextualized based on the ideas of the people living in and adjacent to the forest area. They are rather based on the centralized approaches where much of the management decisions are made at federal and regional level. Though many of the provisions indicated in the policies and the proclamations support community involvement and benefits, they are not practically translated into work. These kinds of policies and proclamations may be the major reasons for the creation of conflict with the local community and the degradation of the resource. As the traditional resource management persisted for the past many generations, the designation of forests as protected and productive forest of the state without the active involvement of the local community might have multi-dimensional consequences on the livelihood of the local community and the sustainable management of forest. Forest Proclamation 542/2007 argues well for enhanced community participation, at least in theory.

7.1.5. Present and Future Institutions

The fundamental problem among formal institutions is the lack of coordination and clear-cut areas of responsibility. The other is the absence of direct focus by many institutions for coffee forest biodiversity conservation that contributed to the absence of viable institution thereby aggravating coffee forest degradation. The existence of overlapping and conflicting property right, the absence of appropriate policy supporting real community participation and acknowledging customary institutions and rights, and the lack of real decentralization of rights and responsibilities and inability to translate existing policies into practice are also obstacles in promoting sustainable conservation and use. There are three distinct channels of financial, administrative and technical support flow or pass from federal through local level without directly supporting each other. This creates communication gap and made responsibility, accountability and inter-organizational link very loose. However, there is an on going initiative to establish the forest management unit at different level. In addition to the scattered responsibilities among different offices and bureaus at federal, regional and district levels, there is no common understanding on forest coffee gene pool/biodiversity conservation among these stakeholders and the community at large.

Hence, there is a need to establish vertical and horizontal structure, accountability and responsibility with clear objective of coffee forest biodiversity conservation. In other words, analysis of formal and informal institutions shows that there is a need to establish new institutions or to modify existing institutions so as to incorporate different property right. When existing institutions have constraints, there would be a need to create new

institutions for strategic actors (Agrawal A. and Gibson C., 1999). There is also a need for the revision of forest policies and proclamations that uphold community interests thereby ensuring sustainable conservation of coffee forest. The most feasible way to modify existing institutional set-up is the modification or the integration of institutional set-up in Agriculture and Rural Development/ARDO or state forest supervising agency. On the contrary, establishing an independent and new institution with clear objective and structural links with other institutions, both vertically and horizontally, may help to avoid the recurrent changes in institutional set-up and the exclusionary approach.

7.2. Legal Incentives: Rules that Serve as Incentives or Disincentives

The study focuses on property right, rules currently governing the coffee forest as protected area (PA) and the impact of demarcation on the local community in attempt to deal with the rules that act as either incentive or disincentives for coffee forest users. Rules posing incentives and disincentives are seen at operational level, collective-choice and constitutional-choice level. The perception of the community and the property right are also observed interms of incentives at operational level. Incentives related with national legislation are also seen as collective choice and constitutional-choice level incentives. Rules may create incentives or disincentives and conflict (CLARM and NSC, 1996). Incentive in this context include as defined by (Thomson James T. and Freudenberger K Schoonmaker, 1997) “any source of positive or negative motivation that influences someone's behaviour; not economic incentives, but legal incentives that comprise “rules that authorize, compel or prohibit certain kinds of behaviour” in this case coffee forest conservation and use.

Impact of Demarcation: There is no direct benefit of demarcation to the local community. The impact of demarcation of coffee forest as a protected area on local community is immense. This includes inability to pay government tax, reduced to the status of daily labourer and migrating elsewhere in search of jobs. In short they are exposed to poverty. This situation creates an overall disincentive towards conservation of the coffee forest as a protected area.

7.2.1. Operational Level Rules

There are two sources of operational rules that act either as incentives or disincentives. These are indigenous forms of rules governing the coffee forest and the formal operational rules enacted during the designation of many forests as NFPA and particularly Gabba-Dogi as protected area. Traditional rules allow harvesting of coffee forest, timbers, climbers, spices, keeping beehives, etc., on their own plot. This can serve as an incentive for forest conservation and use. On the contrary, formal rules developed by formal institutions includes prohibition of some activities both in the core and buffer zones such as expansion of coffee farm, keeping beehives in the core zone, prohibition of management, regeneration and conservation activities in the core zone, prohibition of grazing their cattle and hunting. Some of the rules act as disincentives. Broadly speaking, the strict protection of the core zone and dependence of the people on that coffee forest creates disincentive on the conservation of coffee forest.

Inability to get enough access to forest products in the buffer zone and strict protection of forest products in the core zone are the major disincentives in the rule that forced the people to develop negative and strongly negative attitude towards protection of the coffee forest as a protected area.

The analysis of the bundles of right (access, withdrawal, management, exclusion and alienation) shows that these bundles of right in the core zone creates disincentives while the right to bee keeping and spices in the buffer zone creates positive incentive towards conservation. Some literatures (Emerton L., 1999) show that joint forest management and co-management are special forms of property right that can serve as incentives.

7.2.2. Collective-Choice and Constitutional-Choice Level Rules

The sources of the majority of rules governing the coffee forest are at collective choice and constitutional-choice level. The absence of the participation of the local people in rule making on whose behaviour the rule will be applied is the major disincentive. This is evident from the fact that rules made by individual imposition serve as disincentive while rules made by community participation can serve as incentive. Rules, policies, proclamations or legislations at different levels with different origins that includes national law, indigenous law and project law at local level can impose incentives and disincentives on resource users (Hesseling G., 1996). In the context of the current legislation, the designation of almost all or most forest lands as state forest and the absence of communal forest in the recent Proclamation (542/2007) and prohibition of recognition to traditional forest management system remain a big challenge and as disincentives for the local people's conservation and use effort. There is no clear provision at coffee forest project level on how individuals benefit from the core zone.

The fines and imprisonments pronounced on all offenses is relatively more serious for all types of offences in the recent 542/2007 Proclamation that can serve as a disincentives for forest conservation and use. This is unlike the case in the previous Proclamation 94/1994 that imposed uniform sanctions for all. On the other hand, the absence of clarity on the role of the local community in the use and conservation and lack of trust for the local community (designation of most forests as "state" forest and the absence of communal forest on federal law and putting trust on guards) are the major disincentives affecting the behaviour of the local community towards conservation and use. In general, the major disincentive related with the rules at collective-choice level and above level is the legislation of laws and policies at higher official level without community participation that reflected by the fact that some rules are against the community interest towards forest conservation. This created the absence of community participation during demarcation, incorporation of settlement, grazing, and farm areas; the absence of buffer zone⁶⁴ in some areas; trying to enforce rules from federal, national and international level without the knowledge, consent and willingness of the local community; dissolution of customary right without making any agreement and providing tangible alternative

⁶⁴ Buffer zone is an area where the users are supposed to get relatively higher benefit from the coffee forest.

arrangements to the interest of the local community; prohibition of land certificate for the buffer zone to the farmers; prohibition (may be inability to pay) of compensation payment for the farmers whose plots are incorporated in the core zone, and generally the enforcement of strict protection in the core zone. All these are disincentives arising from constitutional and collective choice level rules.

Disincentives can also be understood as a mechanism which discourages degradation of natural resources (Emerton L., 1999). As a result, disincentives related with the rules of coffee forest conservation can be seen in two ways: a) those rules that discourage the participation of the local community in the conservation and use of coffee forest as discussed above and b) those rules that discourage coffee forest degradation through imposing strong or effective penalties and sanctions.

Disincentives in the context of rules that discourage the contribution of the local community to conservation include: prohibition of entering the core zone carrying axe and other tools; prohibition of selective use of trees for timber for their own household consumption; prohibition of harvesting non-timber woods for agricultural tools from core zone which are not available in buffer and transition zones; prohibition of collecting fuel wood from both core and buffer zone; prohibition of conducting some minor management on the wild coffee in the core zone; the absence of chances to participate in rule making and the application or imposition of formal rules without integrating with the customary laws. Disincentives in the context of legal provisions imposing strong penalties that discourage deforestation is federal forest Proclamation 542/2007. Oromia Land Use and Administration Proclamation 56/2002; and Forest Proclamation 72/2003 are also playing a big role in this regard.

In light of positive incentives, the local community did not consider many of them as incentive for sustainable conservation except the fact that in some places the use of timber and NTFP from their forest plots through their customary rights is one of the incentives. However, the existing rules and regulations are improving the forest condition. This shows that at least some of the rules currently governing the coffee forest are effective in improving the forest condition. However, it highly affects the customary right and the subsistence mechanisms of the local community. The reason behind contradicting results of the data collected from the field is the issue of farmers' willingness to reduce their consumption of forest products for the sake of coffee forest genetic diversity conservation. The rules serving as incentives or disincentive indicate the sustainability of coffee forest conservation. It also shows the farmers' (local community's) perception, willingness and agreement to the conservation which of course indirectly ensures sustainability. Therefore, the reason that most of the existing rules are not seen as incentive might be due to the fact that most of the local people (62.6%) are not willing to reduce their consumption. From this, it is possible to argue that the local community needs a change or the amendment of the rules currently governing coffee forest in a way it can address their customary right and do not substantially affect their means of subsistence.

7.2.3. Rules that Need to be Changed

Which of the rules that are considered disincentive need to be changed? The rules that need to be changed include consideration of the need for minor management in the core zone or convincing the locals that it is impossible to do so; clearly identifying where, how and when they can get access, withdrawal and other rights; reduce unnecessary procedures to get permission for the trees they planted themselves in the buffer zone; recognize the need to revise the rules that forbids local community to use timber products for their own household consumption through some mechanisms; local people's selective use of non-timber products; ensure the participation of the local community in the demarcation and making of rules governing the coffee forest; creating an opportunity whereby the role of customary institutions can be integrated with formal institutions in the conservation; revise the rules that forbid the use of fuel wood (dried wood) from the core zone; seek advice from the local community and concerned stakeholder about the need to promote some institutional arrangements.

7.2.4. General Guidelines for Coffee Forest Conservation and Use

The general guideline that attempts to solve and guide the issues mentioned include participation of the local community in rule making, demarcation and zoning; making consultation with appropriate stakes; considering the past arrangement before imposing the new tenure; ensuring free and informed consent of the community; when developing policies, rules and regulations, including all stakeholders; adopting right-based approach, understanding and acknowledging the available traditional institution, and exploring for the real transference of right and tenure to local people.

7.3. Conflict and its Management

The main causes of conflict in Yayo area are the need to expand coffee farm, disagreement on ownership right and the need for timber and construction material, prohibition of harvesting forest and NTFP in that order. The absence of policies and proclamations focusing on "coffee forest", the absence of community participation during demarcation and confiscation of their forest coffee land during demarcation, the diminishing amount of farmland and the increasing population pressure, lack of grazing area, are also cited as the causes of conflict created on the use and management of coffee forest mainly among the local community and government-led formal institutions.

In the discussion of the 3R matrix, participants in different *weredas* identified that the rights, responsibilities and benefits of the resource (coffee forest) is mostly dominated by government-based institutions at the top led by the MoARD and Oromia administrative councils. It also indicates the marginalization of the local community and community-based institution, mainly elders' council, in 3Rs which has been the source of conflict between the two categories of institutions.

Attempts that would be made to change this situation or reduce conflict have to consider mechanisms that help to reduce the big gaps in the distribution of the 3Rs or power so as to promote sustainable conservation and use of coffee forest. This may involve one of the many available mechanisms of resource management based on real participatory approaches.

The analysis of the fourth R or stakeholders' relationship showed that Ethiopian Coffee Forest Forum (ECFF) can act as an intermediary among government institutions (district administration, *Gabba-Dogi* Coffee Forest Conservation Project, *Wereda* Agriculture and Rural Development (ARDO), and the local community. The ECFF intermediary position emanates from the fact that these government institutions are in conflict with the local community. The ECFF has strongly positive relation or alliance with all of these on the objective of the management and conservation of the coffee forest.

Two forms of conflict resolution mechanisms are identified: customary conflict management and alternative conflict management mechanisms. Though there are two approaches of customary conflict resolution and management in Yayo area, they could not effectively deal with conflict among the local community and the government institution due to lack of power and formal recognition that become the source of the on-going conflicts. Yet they can manage most of the conflicts among the local community. With regard to alternative conflict management (ACM), collaborative resource management and co-management are the approaches usually identified as a response to the natural resource conflict management as these help to incorporate customary and formal resource management systems as well as all relevant stakeholders.

Inequitable distribution of rights, responsibilities and benefits leading to inequitable distribution of power and resources or use and conservation of coffee forest is the other issue that needs immediate attention from governors, policymakers and all concerned bodies in attempt to manage and/or resolve conflicts. It is essential to revise or amend existing rights, responsibilities, benefits and power balances among stakeholders.

Collaborative Forest Management (CFM) or co-managements is the approach identified as a response to the natural resource (forest) conflict as it helps to incorporate customary and formal resource management systems as well as all relevant stakeholders.

In summary, analyses of institutions and conflict shows that the Yayo (*Gabba-Dogi*) forest has been conserved because of armed force/policing or guards paid by *Gabba-Dogi* wild coffee conservation project. Therefore, these rules set up by the project and supported by other laws, although they are not participatory and created conflict, led to the conservation of the Yayo/*Gabba-Dogi* Protected coffee forest.

Therefore it is possible to conclude that the failure to design institutions for forest management is reflected by the fact that current rules cause conflicts among stakeholders and that the "conservation by force" approach compensated for that failure. But it is a risky approach to conservation because as soon as the force cannot be maintained (because the

project ends and the guards cannot be paid) there are no more effective institutions which can prevent people from using the forest as they like. Moreover, it is difficult to predict the sustainability of the coffee forest as there are usually power vacuums as there is no smooth power transfer during transition periods⁶⁵ among Ethiopian governments when most projects and illegitimate institutions among community are destroyed. This generally entail the need to make smooth transition from management by force/armed guards to management by co-management.

7.4. Recommendations and Policy Implications

The fact that the Ethiopian forest coverage for which the coffee forests are a part, have declined from more than 35 percent to less than 3 percent in the past few decades is becoming a common knowledge. Attempts made to reverse this situation have to focus critically on its respective line of research and has to identify concrete measures that has to be embarked on. In the context of this research, focus is made on three broad themes: the role of institutions at different level, legal incentives, and causes of conflict and conflict management. The following issues are addressed as policy recommendations. These are steps that need to be taken to further efforts to save the threatened coffee forest:

- Policies and proclamations issued need to clarify the roles, responsibilities and overall (though not specific) mandates of federal, regional and local institutions in relation to the forest as they help reduce the confusion created in this regard. There is still a need to make more elaborate guidelines and proclamations for ‘coffee forest’ as it is not the same with “forest” in terms of its use and conservation as well as management. Though collaboration among institutions on specific duty (in this case coffee forest) is unavoidable, the policy or the concerned government body has to equip with staffing, finance and administrative aspects as the separation of these component is resulting in poor management and thereby deforestation. There is the need to identify the principally mandated institutions for coffee forest management and institutions identified or responsible for coffee forest management. These have to be equipped with relevant technical staff and objective focus to biodiversity conservation and use.
- Policy makers or the relevant government agents have to clearly indicate the role, clear structure, inter organizational relation and the boundary of different institutions dealing with the same/single resource (in this case coffee forest). This enables to avoid confusion and conflicting mandates and responsibilities on the use and conservation and to fill the gaps of mandate and power vacuum appearing at local level that usually paves the way for deforestation.
- There is a need either to stay away from the provision of mandate for institutions without having technical staff, budget, structure for mandated activity (coffee forest management) and objective focus to coffee forest biodiversity conservation

⁶⁵ During transition periods unlike developed countries, power transfer is not smooth as it is usually done by force. During this time there is no strong central power some times for years where state owned property are destroyed, looted, etc, especially when the property is illegitimate and already in conflict like the Gabba-Dogi Coffee forest protected area.

or making the necessary reform within the mandated institution to suit or in line with the skill and all the resource it requires.

- The designation of almost all forest areas as productive and protected “state forest” as a default where the community persisted communal and different traditional management system for generations and many decades entail the need for the revision of existing policies and proclamations in a way it can reflect the practical context of the forest and community relations.
- Though the policies and proclamations have useful provisions, some of them lack practical implementation on the ground and the integration of the interest and customary right and use of the community in the coffee forest area. Hence, attempts have to be made and measures have to be taken in bringing practical implementation of the policies and participating and incorporating the needs and interests of the community. Measures are also required to be taken in conducting real decentralization of authority, power and responsibility to local level institutions and the community at large for effective and sustainable natural resource management.
- It is also essential to facilitate conditions to ensure the way policies, programs, projects and activities for which mandated institutions can positively and practically interact with the community at the grass root level and contribute to sustainable conservation of the coffee forest and sustenance of the community.
- Policies and proclamations have to have a room for the integration of customary institutions (*tuullaa, jaarsa biyyaa* and *Mucho*) in the management of the coffee forest mainly in the design and enforcement of the rules governing the use and conservation of the coffee forest as well as in the designing of new and effective institutions. It is also essential to use the potential of customary institutions in promoting collective action and leading and governing the behavior of the community towards resource use and conservation.
- Attempts need to be made in order to resolve conflicting and overlapping property right regimes (mainly *de facto* and *de jure* ownership rights) if possible for all identifiable plots and sections of the forest with active community participation. Attempts also need to be made to enforce the right-based approach to coffee forest and to integrate and formalize the customary ownership system and the traditional resource management system into the formal legal system.
- Analysis of formal and informal institutions shows that there are no viable and dependable institutions. Hence there is a need to establish new institution or modify the existing institutions through some mechanisms that incorporate different property right systems for the sustainable conservation and use of coffee forest. It also has to be an institution that can fit with the local context and the specific resource (coffee forest). This effort has to integrate and provide the necessary feedback in getting an umbrella and workable policy environment and proclamations. Establishing an independent and new institution with clear objective and structural links with other institutions, both vertically and horizontally, may help to avoid recurrent changes in institutional set-up and the

exclusionary approach, and the lack of devolution of power and responsibility rooted in the tradition of current institutions.

- Analysis of the operational-choice, collective-choice and constitutional-choice level rules show that there is a need to revise rules and regulations governing coffee forest protected area. A range of rules listed as disincentives to the coffee forest conservation and use should be revised in a way that can compromise the subsistence need of the local community and the coffee forest biodiversity conservation. Rules identified as incentive also need to be encouraged and reintegrated in the revised rules of the coffee forest. Promoting fines and punishments that can serve as effective disincentives or “graduated sanctions” and identifying those that do not fit with the offences for which they are applied or labeled.
- The need for the redemarcation and the participation of the community in and adjacent to the coffee forest in the redemarcation process is vital in ensuring sustainable use and conservation of the coffee forest.
- Promoting the prior, free and informed consent of the local community before enforcing national and international rules of resource management rules through marginalizing the customary management system and without integrating with existing management system.
- Ensuring that the rules, both from buffer and core zone, identified as those requiring to be changed are effectively implemented with further dialogue and participation of the community and other close stakeholders.
- Guidelines that govern the behavior of resource users and governors are identified so as to promote effective conservation. Hence there is a need to make the necessary effort to implement basic concepts identified as a guideline in promoting use and conservation of the coffee forest.
- Educating local community on the importance of coffee forest conservation
- Make the necessary effort to address the rules in governing coffee forest protected area mainly those identified as the root causes of conflicts. Trying to devise alternative sources and strategy of benefiting from the coffee forest to compensate or compromise with the rules and issues that become the source of conflict or and disagreement among the community and other stakeholders.
- Empowering community and community-based customary institutions instead of marginalizing them and enforcing and encouraging the real bottom-up approach in the conservation and use of the coffee forest that can also reduce conflicts.
- Reduce the big gap in the 3Rs (right, responsibility and return) matrix in attempt to reduce conflict among stakeholders. In other words, it is essential to revise or amend existing rights, responsibilities, benefits and power balances among stakeholders.
- Encouraging and empowering customary conflict management approaches and adopting Collaborative Forest Management Approaches as an Alternative Conflict Management (ACM) approach among different stakeholders and as the way out from the institutional complexity.

7.5. Issues Suggested for Further Research

There is a need for an institution that can effectively and sustainably manage the coffee forest in Yayo area. However, there is no elaborate research conducted and PRA data gathered on the ideas and interests of the principal stakeholders on the type of institutions they would like to have for the use and conservation of coffee forest. There is also an on-going initiative to establish an institution (forest management unit) at different levels. However, there is a need to gather data and conduct preliminary study on the drafted idea of the newly established institution before its practical implementation; that means there is a need to test both the recommended institutions based on this study and the one under implementation before hand by establishing pilot kind of institution.

Though the research covers institutions from national to local level, it is specific to the specific research site (Yayo/Gabba-Dogi) especially as it goes down the ladder. Data collected, rules and regulations identified especially below zonal level are mainly specific to this research site. It may not work for other forest sites. Hence, as coffee forest sites are many in the country, it is indispensable to conduct similar research in other coffee forests to come out with specific findings for that area.

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