

United Nations Development Programme (UNDP)
and
United Nations Department of Economic and Social Affairs
(UNDESA)

**Study Report on "Poverty Eradication and Sustainable
Livelihood: Focusing on the Artisanal
Mining Communities in Ethiopia"**

Main Report

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October 2002
Addis Ababa

ACKNOWLEDGEMENTS

The PRA which was the basis for this report could not have been successful without the assistance of several institutions. We would like to thank the Oromia Bureau of Mines, Bureau of Finance and Economic Development, the Odo Shakisso and Guder Wereda, as well as Hayadima and Sankelle – Farisi kebele administrations. The support provided by the AGME is also appreciated. The study has been possible by the financial support of the UNDP and UNDESA.

Many individuals have given support at different levels. To mention only a few specific names, Mr. Grima Hailu who made the study possible by making all the necessary arrangements and contributing valuable ideas relating to the technical aspects of the study, Her Excellency Mrs. Senkenesh Ejigu. Minister of State- Ministry of Mines, for sharing her experience and views with the study team and making arrangements for interviews with officials and experts in the Ministry and chairing the national workshop, Mr. Assefa Kumsa Head of Oromiya Department of Mining for making arrangements for study visits to the sites and sharing his experience with the study team. The data collectors have all been very co-operative and efficient. We acknowledge all who have contributed in any way and have been helpful in undertaking the study. We are indebted to them all. Last but not least we thank Mrs. Yisged Mekonnen for her help in computer work by turning illegible handwritings into beautifully prepared manuscripts.

Thank you all.

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EXPLANATORY NOTES

a) Units

Cu	:	Cubic
\$:	United States Dollar
⁰ C	:	Degrees Celsius
g/t	:	Grams per metric tone
km	:	Kilometer
m	:	Meter
m ³	:	Cubic meter
Sqm	:	Square meter
t	:	Metric tones
tpa	:	Tone per annum
tpy	:	Tones per year
y	:	Year

b) Abbreviations/Acronyms

AGDE	:	Adola Gold Development Enterprise
AGME	:	Adola Gold Mines Enterprise
AIDS	:	Acquired Immuno Deficiency Syndrome
AM	:	Artisanal Mining
CBO	:	Community Based Organizations
CRDA	:	Christian Relief and Development Association
DFID	:	Department for International Development (UK)
DPPC	:	Disaster Prevention and Preparedness Commission
E.C	:	Ethiopian Calendar
EECMY	:	Ethiopian Evangelical Church Mekane Yesus Church
E.F.Y	:	Ethiopian Fiscal Year

EBCS	:	Ethiopian Building Construction Standard
EMDE	:	Ethiopian Mineral Development Enterprise
EMRDC	:	Ethiopia Mineral Resource Development Corporation
G.C	:	Gregorian Calendar
GDP	:	Gross Domestic Product
HIV	:	Human Immuno Virus
ILO	:	International Labour Organization
LGM	:	Lega Dambi Gold Mine
MIDROC	:	Mohamed International Development Research and Organization Companies
MOA	:	Ministry of Agriculture
MOH	:	Ministry of Health
MOLSA	:	Ministry of Labour and Social Affairs
MOM	:	Ministry of Mines
NGO	:	Non- Government Organization
OMERB	:	Oromia Mineral & Energy Resources Bureau
OWMERD	:	Oromia Water, Mineral & Energy Resources Development
PRA	:	Participatory Rural Appraisal
PRSP	:	Poverty Reduction Strategy Paper
SLA	:	Sustainable Livelihoods Approach
UNDESA	:	United Nations Department of Economic and Social Affairs
UNDP	:	United Nations Development Programme
UNESCO	:	United Nations Education, Science and Cultural Organization
UNICEF	:	United Nations Children's Fund

c) Terminology

1. Amalgam : A process of recovering gold particles by mercury.
2. Artisan (traditionally called Artisanal): Unskilled, semi-skilled and skilled workforce in mineral mining/quarrying industry.

3. Batea : Cone-shaped tray made of wood or sheet metal.
4. Classification : Separation of rock masses into classes according to particle size.
5. Concentrate : To treat ore so that it will contain less waste and higher grade of valuable minerals.
6. Conservation : Preservation of natural resources for the sake of future use.
7. Depletion : The steadily declining of ore in a deposit or property resulting from continuous exploitation.
8. Disintegration : Mechanical decomposition of rock mass, usually accompanied by washing.
9. Exploitation : It is the process of extracting ore or economic mineral from the earth.
10. Hydraulic mine : A placer deposit mine worked by means of a stream water jet directed against a bank of sand, gravel talus, soft rock and others.
11. Mine : An opening or excavation in the earth for the purpose of extracting minerals; a pit or excavation in the earth from which metallic ores or other mineral substances are taken by digging.
12. Mineral : A substance which may or may not be of economic value that occurs naturally in the earth.
13. Mineral deposit : Natural deposit of useful mineral substances, which under favourable circumstances can be potentially exploited.
14. Mineral endowment : Literally means some gift which has been enriched with some qualities or to mean a part of resource base (or the total geological occurrence).
15. Ore : A mixture of minerals and gangue from which at least one of the minerals can be extracted at a profit.

16. Overburden : Waste material overlying an ore body or useful mineral/rock.
17. Placer deposit : A sand, gravel or any other loose material deposit which contains valuable minerals such as gold, platinum, tantalum, etc. having formed due to weathering processes.
18. Pulp : A mixture of gravel/soil and water.
19. Quarry : An open- cut mining operation in which rock/stone is produced rather than minerals.
20. Quarry Development : The work done on quarry after exploration to provide access to the deposit and haulage or transportation ways for the exploitation periods.
21. Resource Base : The totality of elements as they occur in their many chemical and physical states within the earth's crust.
22. Screening : Classification of particles on a screen according to the desired sizes.
23. Stripping : A removal of overburden.
24. Tailings : Waste product of dressing and mining which contains less payable components than raw materials.

d) Currency Equivalents:

Official Rate: US\$ 1.00= Birr 8.56 (April, 2002)

EXECUTIVE SUMMARY

1. This study report on “Poverty Eradication and Sustainable Livelihoods: Focusing on the Artisanal Mining Communities in Ethiopia” was conducted on two representative sites of artisanal mining communities, Hayadima and Senkelle both of which are located in Oromia region. Its main objective is to develop policy options and practices towards sustainable livelihoods of artisanal mining communities in the country. The study was conducted following Sustainable Livelihood Approach (SLA) which involved a consultative process of all stakeholders in addressing the root cause of poverty among the artisanal mining communities along with remedial measures towards poverty alleviation.

2. The total population of Ethiopia is 65 million and the land area is 1.1 million, which gives an average population density of 59 persons per km². With the current annual growth rate of 3%, the population is expected to double within the next 20-25 years. Agriculture is the mainstay of the economy accounting for about 50% of the GDP, 85% of employment and 90% of foreign exchange earnings. Although the mining sector is one of the areas where employment opportunity could be significant, it could not create adequate employment opportunities owing to the low level of development.
 - a) In Ethiopia, mining is categorized as artisanal, small scale and large scale as per proclamation number 52/1993. Artisanal mining is essentially an operation of manual nature carried out by individuals or groups of people. The artisanal mining operators engage in gold, quarry, clay and salt extraction activities. Currently there are more than 100 sizeable operational artisanal mining sites in the country. As per Proclamation No. 52/93 of the Ethiopian government, possessions of financial resources, technical competence, professional skill and experience are not required to acquire artisanal mining license. According to data obtained from the Ministry of

Mines, more than 500 thousand people are engaged in artisanal mining all over the country. The levels of income and working conditions of artisanal miners are largely similar regardless of the region they come from.

- b) The Sustainable Livelihood Approach (SLA) is one of the human development approaches to address poverty which embraces the capabilities and assets required for a means of living. The approach hinges on participation of the beneficiary, good governance, decentralization and sustainability to bring about more income, improved well-being, reduced vulnerability, improved food security, and more sustainable use of natural resources.
- c) Incidences of poverty have been prevalent in the country since the last few decades mainly owing to recurrent drought and war. Using the minimum calorie required for subsistence adjusted for the requirement of non-food expenditures, about 44% of the Ethiopian people are under absolute poverty. Poverty head count ratio is highest in Tigray region (61%) followed by Afar region (56%), and Benishangul—Gumuz (54%). Incidence of poverty in Oromia, where the study areas are located, is 39.9%.

This study attempts to apply SLA framework in addressing issues of poverty among the artisanal mining communities by considering available assets, expected outcomes, livelihood strategies and appropriate institutions and processes.

3. As mentioned earlier, two case study sites were considered to analyze the situation of poverty among artisanal mining communities.
 - a) In the case study area of Hayadima, a total of about 8000 persons are said to be involved in artisanal mining of placer gold while the Senkelle quarries are considered to engage about 800 to 1000 persons. Although both study

areas are located in Oromia region, the livelihood pattern of the inhabitants is different. In Shakisso (Hayadima), the majorities of the artisanal miners are migrants from other parts of Ethiopia and work in groups of 4-6 to dig for gold prospecting. The local people, the Gujji Oromos constitute a small group in the mining sector and mainly depend on pastoralism and agro-pastoralism. They involve in gold mining to supplement their income from livestock rearing. In Senkelle the indigenous people are the highland farming community whose livelihood is mainly crop growing integrated with livestock rearing.

- b) Currently artisanal placer gold mining in Hayadima area is being undertaken at seven principal sites while three principal quarry sites are operational at Senkelle. The artisanal mining activities in the country in general and the two study areas of Oromia in particular have not reached a stage whereby they can provide sustainable livelihoods.
- c) In the past various efforts were made to assist the artisanal mining communities and counter illegal trade of gold via the Ministry of Mines and AGDE. These include setting up purchasing posts at various convenient places of the artisanal mining sites, organizing the mines into cooperatives, providing 'technical' support on mining and processing technique, medication, safety cloths, etc. However, the efforts could not be sustainable mainly as the purchasing posts were not able to offer better prices to the miners, and all other attempts were not strongly backed up by the government.
- d) Livelihoods of the artisanal miners at both sites are marked by vulnerabilities. The majority of them do not have assets worthy of mention for use in improving their livelihoods. Major problems of the artisanal miners at both sites are related to exhaustion of resources, fast degradation of the environment, lack of basic infrastructure and services.

4. Recent issues for poverty reduction and sustainable livelihood in artisanal mining communities include improving jobs and incomes, conserving the natural resources, developing the physical infrastructure, building on social networks, culture and politics as well as developing human capacity.
 - a) At national level artisanal mining has created job opportunities for over 500 thousand persons of which 200 to 300 thousand persons are engaged only in artisanal gold and salt mining. As per the group discussion held with the community, employees and other key informants, in Hayadima alone about 8000 persons are said to be involved in artisanal mining and about 800 to 1000 persons in Senkelle quarries. In addition to those engaged in artisanal mining activities, there are service providers at the mining sites who are principally traders selling various goods and services to the miners. According to group discussions and key informants estimates average which annual incomes of artisanal gold miners range from Birr 600 (US \$ 70) to Birr 3750 (US\$ 438). Quarry workers in Senkelle earn between an estimated amount of Birr 1000 (US\$116.8) to 3000 (US\$ 350.5) per annum. Miners' income, if converted to per capita income, is lower than the national average which is US\$ 100 (assuming a family of five for each miner). Service providers earn between Birr 720 and Birr 4600 per annum in Hayadima and Senkelle respectively. The activity in general is characterized as unproductive, uncontrolled, uneconomical, and unhealthy lacking operational safety. In order to improve job opportunities and income from the sector due attention should be given to artisanal mining in the formulation of overall economic policies and development strategies.
 - b) Like many other activities, mineral resource development operations have negative impacts on the physical, biological and social environment. The artisanal mining operations in Borena Zone especially are becoming a case for land degradation, deforestation, loss of wildlife resources, source of

pollution for those downstream users of water for household use. Thousands of people migrate from every corner of the country to Borena Zone, Shakisso and its surrounding to mine gold. This population pressure and reckless mining operation caused a great problem to the surrounding residents and natural resources. The lack of clear policies and regulations, absence of appropriate institutional arrangement to deal with the environment are contributing to the unsustainable development of the resources. Hence the problems should be addressed through education/skill development training, information, setting up of appropriate legal and institutional framework, proper planning, application of mining and processing techniques.

- c) Developing physical infrastructure is one of the requirements for sustainable livelihood of the artisanal mining communities. In both case study areas infrastructure facilities and social services such as water supply, electricity, road networks, and communication facilities are far from adequate. Mining sites in both study areas are not easily accessible by road. The only all weather road running from Shakisso to Hagare Mariam provides access to the Hayadima area. Dwellings of the communities are built from poor quality materials such as mud walls, thatched roofs, etc. In both sites lack of safe drinking water is one of the major problems. Other physical infrastructures are either inadequate or do not exist at all.

- d) Ethiopia is a multi-ethnic state with a multitude of culture and languages. It is home to around 80 ethnic groups that vary in population size from 18 million to less than 100. Interfamily relationships in artisanal mining communities at the study areas are governed by rules established through traditions and CBOs such as *Iddir*, *Equb*, *Senbete*, etc. In terms of inter-household relations, there is a symbiotic relation between the service providers and the artisanal miners. The artisanal miners get credit facilities in terms of food and drinks from the service providers and pay back upon

discovery of gold. At household level, there has been a tradition of combining forces (husband, wife and children) to tackle poverty. In the absence of welfare system and in the face of limited governmental services, the family has become a major source of support and of alternative strategies. In the political sphere, the constitution of the country prescribes that regional and local governments are empowered to plan and implement policies and programmes to address their specific needs. However, the exercise of political, economic, and administrative authority at levels of government below regional level is very weak. Hence the key role that good governance should play in creating enabling environment and expediting the attainment of sustainable livelihood should be adequately addressed.

- e) Developing human capacity is a key issue in poverty reduction. Capacity to earn income is obviously the most important factor in raising the standard of living of people or lifting households out of poverty. The educational policy of 1994 focuses mainly on basic education, professional development, and technical and vocational training for the formal sector. It does not include training for the informal sector, which requires special treatment. Hence, relevant training programmes should be organized for increasing the productivity of artisanal miners as means of improving their incomes and livelihoods.

- f) Artisanal mining activity is probably the most hazardous of any occupation. However, at both study areas health measures and occupational safety are neglected. The number of health institutions in the artisanal mining areas is too small when compared to the size of the population. Even the existing institutions lack capacity in terms of skilled manpower, equipment and medicine. No safety/security procedure is considered in the mining activity. The situation obviously requires greater attention of the government and other stakeholders to safeguard the human resource from diseases and industrial accidents.

5. Sustainability of projects depends largely upon the extent of community participation in issues involving them. It is important that communities actively participate in the identification of priority action areas so as to solve the myriad of problems that keep them in poverty. Kebeles such as Hayadima and Senkelle, the lowest formal administrative units, are believed to create conducive environment for community participation. It is believed that the decentralization process in the country will improve the quality of service delivery since it makes relatively easier to better incorporate local needs more effectively. The communities in general lack administrative, organizational and technical capacities to plan and implement development plans and projects. Hence, issues of capacity building should receive utmost attention to bring about genuine participation of the community in development efforts aimed at poverty reduction on sustainable basis.
 - a) Within the framework of the current structure of the Ethiopian government, districts /woreda constitute an important local government structure. The Woreda administrations are given all the powers necessary to prepare, determine and implement within their own areas plans concerning social services and economic development. The Woreda administration shall be made accountable to the administrator and the Woreda council, while the administrator is accountable to the Woreda council and the regional president. The important restructuring in favour of devolution of power to districts and kebeles is expected to deliver the promised result of poverty reduction through enhancing community participation, provided the democratization process takes root.
 - b) The level of poverty has grown considerably intense in Ethiopia drawing the attention of various institutions and sectors of society. Community Based Organizations (CBOs), NGOs, donors, religious institutions, etc., are increasingly involved in poverty reduction activities. Traditional CBOs like *Debo, Mahaber, Iqub, Idir* are increasingly becoming development partners to

donors and NGOs and play important roles in providing support to the needy people in times of hardship. While their importance is fully recognized in Senkelle, artisanal miners in Hayadima do not make much use of such organizations since they are mobile and as such do not have permanency in any settlement. There are no NGOs operating at the two study areas except intermittent support to some members of the community by organizations based elsewhere.

6. Major development constraints in the two study areas especially in Hayadima include:

- Exhaustion of high grade and easily exploitable placer gold deposits;
- High population growth rate and frequent migration to the area which placed severe pressure on the natural resources of the area and the subsequent depletion of the resources;
- Lack of regular marketing process and unfavorable terms of trade to the artisanal miners.

a) In order to contribute to the effort of poverty reduction among the artisanal communities, the government policy should address the following issues:

- Give due recognition to artisanal mining on a national basis in the frame-work of employment generation and reduction of poverty;
- Organize the artisanal mining work force and provide appropriate support, i.e. means of production, institutional support and services in order to cater to the needs of the sector;
- Promote equitable income distribution;
- Build institutional and productive capacity, so that the contribution of the sector to poverty alleviation may be enhanced;
- Strengthen the livelihood of artisanal miners as much as possible where they are; and

- Protect the natural resource in the areas where the artisanal miners operate.
- b) To attain the above objectives, strategies to be adopted in the short and medium terms are as outlined below:
- Support investors to engage in investment in and around artisanal mining in order to increase employment opportunities and contribute towards poverty alleviation;
 - Choose appropriate technologies to enhance production in artisanal mining and create alternative activities to improve livelihoods i.e. afforestation, small-scale agro industries, brick making for constructing walls and roofing; and
 - Establish procedures and set up appropriate environmental, health and safety standards.
 - Protect artisanal mining areas from too much population pressure through appropriate legislation and regulation.
- c) In view of the above policy objectives and strategies, the following courses of action are recommended in the short and medium terms:-
- Conduct study on the mineral resource base and identify sites that can engage artisanal miners;
 - Provide appropriate legal and institutional framework to support artisanal miners;
 - Organize the artisanal miners into co-operatives, credit and saving groups, provide technical and seed money support;
 - Provide support for investment in and around artisanal mining activities by encouraging the private sector to engage in the production and distribution of tools, assisting goldsmiths to enhance their competitive capacities in the international markets and provide value added;

- Design and implement skill training programs to equip the artisanal miners with marketable skills or skills that can help them improve their outputs;
- Expand basic social services and infrastructure facilities; and
- Promote community development by organizing the community into groups and create awareness through advocacy and civil education.

Further studies are required for formulating specific projects in each of the areas of action indicated above. In the long term, survey, prospecting and adequate exploration of the mineral resources should be conducted to determine the potentials and contribution of the sector towards poverty alleviation.

- d) Major stakeholders in the development of the livelihood of artisanal mining communities are several and diverse. At the federal level, a forum comprising representatives of institutions that are concerned in the improvement of the livelihoods of artisanal mining communities needs to be formed with the Ministry of Mines serving as a focal point. Similar forums need to be established at regional, wereda and kebele levels. The forum should also include the private sector, NGOs and donors that have potential interest in poverty reduction.

1 BACKGROUND

1.1 Introduction

Conditions of employment and livelihood are acute in developing countries like Ethiopia. Problems associated with land acquisition and housing, lack of infrastructure, poor access to safe water, health, sanitation and educational facilities, unemployment, and increasing rural-urban migration are rampant in these countries. Poverty eradication and attainment of sustainable livelihood are aims of the government institutions, NGOs and bilateral and multilateral agencies.

The economy of Ethiopia is based on agriculture representing approximately 50% of its GDP, approximately 85% of its employment, and its major source of foreign exchange. Mining contributes less than 1% of the GDP and this is principally composed of gold production, quarrying and exploitation of industrial/construction materials and salt.

The socio-economic situation of Ethiopia indicates that over 60% of the population lack adequate access to food (insufficient calorie intake/consumption), clothing, shelter and other amenities like health, sanitation and education services which are essential for life. Poverty is a serious problem in the country. It is an issue which is known to be a chronic problem. Poverty is also causing serious damage to the environment since the poor extract natural resources indiscriminately out of dire need for sustaining themselves. There is need for addressing poverty urgently on sustainable basis in order to maintain the necessary physical and human resources required for sustaining economic development and social-progress.

Ethiopia is well placed on account of its geology, and is endowed with a variety of mineral resources. However, the mineral sector remains the most insignificant part of its

economy and contributes about 1%¹ of the GDP and this is principally composed of gold production and the minimum of quarrying and exploitation of industrial minerals and construction materials. Major mineral rock deposits known to exist in the country include: metallic minerals (placer/primary gold, platinum, tantalum- niobium, nickel, iron, manganese ore); industrial minerals agro-minerals, construction materials (limestone, silica sand, soda ash, potash, pumice, quartz, diatomite, benotnite, marble, granite, feldspar, clay, kaolin, gypsum and anhydrite, asbestos, sandstone, scoria, phosphate, graphite, common salt); energy minerals (lignite/coal, oil shale and gas); gemstones (garnet & opal) vast reserves of mineral water and geothermal power. Of all well known mineral deposits, some are under exploitation, while others are under exploration and study. To date except the Lega-Dembi primary gold mine, most mining activities are confined to low-level operations. Gold is the most important metallic mineral in the country.

Exploration for gold at Adola resulted not only in the discovery of the Lega Dembi primary gold deposit, but also tantalum at Kenticha. Other metallic and non-metallic minerals mined on pilot and small-scale basis at present are tantalite, ceramic raw materials such as Buambua Weha Kaolin, Kenticha feldspar quartz and Abijata soda ash.

The beginning of the mining industry, particularly the mining of placer gold by the local population in Western Wellega and Borena in southern Oromia dates back to several decades. Currently, the exploitation of placer gold is carried out by the Adola Gold Mines Enterprise, sole government owned mining enterprise under the supervision of the Public Enterprise Supervising Authority.

In the early 1980's, a sizeable deposit of primary gold was discovered at Lega Dembi and feasibility studies proved subsequently that the deposit was economically viable and as a result, in 1991 a modern and large-scale mine with annual output of 3,000 kg of gold was

¹ This percentage contribution to the GDP seems to be under estimated because information obtained from the Ministry of Mines, Plan Dept. Head. The data input does not include figures for industrial minerals construction materials, gem stone product values adequately.

established. The mine is now owned and operated by a private company increasing the country's annual gold production from 700kg to 3500 kg (Abdu 1995). Total production of gold from placer deposits during the last 50 years is estimated to be about 40 tons. The main foreign currency earning minerals are gold, platinum, tantalum and limited exports of granite, marble, opal and olivine.

Generally, the present state of the mining activity is characterized as a mixture of traditional/artisanal methods and modern mining, with an increasing proportion of the latter.

The first important mining in Ethiopia was placer deposit mining for gold by artisanal /manual/ miners. Artisanal gold mining has been largely practiced in various parts of Ethiopia.

Mining for placer gold in southern and western Ethiopia continued to operate traditionally in an unorganized manner. In spite of similarities of the placers, major mining activities, however, are concentrated in Adola (Borena Zone- the major mining area in the country). The main reason for placing emphasis on the Borana deposits probably stems from its geological location, accessibility of the area, availability of workable deposits and water.

This study on poverty eradication & sustainable livelihoods; focusing on artisanal mining communities in Ethiopia is initiated by the United Nations Development Programme (UNDP) and UN/DESA.

1.2 Objectives of the Study

The main objective of the study is to develop policy options and practices towards sustainable livelihoods of artisanal mining communities of Ethiopia. More specifically, the study aims at:

- a) Developing an understanding of poverty in artisanal mining communities and the role the sustainable livelihood approach can play in alleviating and subsequently eradicating poverty in these communities; and
- b) Producing a set of policy options and best practices towards poverty alleviation and eventual eradication for use by government, NGOs, private institutions, mutual assistance community organization at kebele, wereda, zonal, regional and federal levels for promoting ways and means of developing alternative and complementary sustainable livelihoods.

1.3 Methodology

The main methods and approaches used for undertaking the study are review of related literature and field investigation.

1.3.1 Literature Review

The desk work involved review of secondary data which comprised of previous studies, i.e., publications, bulletins, project documents, published and unpublished reports, previous survey findings, etc.

1.3.2 Field Investigation

The field investigation task involved, among others,

- Holding initial community meetings;
- Listing of projects and organizations operating in the community by brainstorming with a representative group;
- Interview sessions with relevant officials and staff of concerned institutions at different levels (micro, meso and macro levels) including women and youth organizations (see TOR annex 1A);
- Community appraisal through discussions with representatives of communities and relevant organizations/institutions;
- Gathering information through checklists and questionnaires; and

- Focus-group discussions with relevant persons selected from concerned organizations and institutions to gather inputs and get feedback.

Data collection instruments included:

- Observation, and checklist;
- Group discussion guide;
- Focus group discussion with diverse representation; and
- Consultation with knowledgeable persons.

1.4 Study Team Composition

1.4.1 Core Study Team

The study team was composed of:

- A Human Resources Specialist, Team- Leader
 - A Mining Engineer
 - An Economist
 - A Sociologist.
-
- The team –leader was responsible for the smooth implementation of the study work plan and participated on issues related to the realization of the contract. He was in charge of the portion of the study dealing with social amenities and services (education, training and health facilities as well as conditions of work).
 - The mining engineer was responsible for the artisanal mining workings and environmental aspects of the study.
 - The economist conducted the economic analysis aspect of the study.

- The sociologist was assigned to study socio-economic groups, class structures, the distribution of social groups, their mode of livelihood, gender issues and overall behaviour patterns.

1.4.2 Data Collectors/Enumerators

Three data collectors were deployed for Hayadima site and two for Senkelle to assist the core study team in the field investigation.

1.5 Site Selection

1.5.1 Selection Criteria

For providing a realistic picture of the livelihoods of the artisanal miners in the country in general, and for selecting representative mining and quarrying operational activity areas in particular, the team of consultants has classified or categorized the mineral resource bases into:

- metallic (gold, platinum, etc) and
- non-metallic (industrial minerals, construction materials, precious stones, salt, etc).

Furthermore, for an ease of the selection of the case study sites within the districts, the team of consultants has considered the following conditions:

- a) The limited time allocated for the site visit and conduct of the PRA case study, and the artisanal mining/quarrying activity location.
- b) Type and number of mining and quarrying activities.
- c) Mode of mining, processing, and work organization.
- d) Availability of infrastructure and geographical location of the artisanal mining sites in relation to the existing main roads and source of water supply, markets, etc.
- e) Availability of social services

- f) Distribution and structure of different socio-groups and socio-economic conditions
- g) Representativeness in relation to the points in (a)—(e) above
- h) Intensiveness of mining/quarrying activity
- i) Security conditions
- j) Means of product marketing
- k) Communication Facilities.

Accordingly, two case study areas were selected from the two areas identified in the TOR, Adola in Borena zone for gold and Ambo in West Shoa zone for non-metallic minerals.

Case Study 1: Hayadima in Shakisso area, Borena Zone (See Figure 1.1)

Case Study 2: Senkelle in Ambo area, West Shewa Zone for metallic minerals and for non-metallic minerals/rocks. (See Figure 1.2)

Therefore, the issues discussed, the problems identified & selected together with the conclusions and recommendations made on the “Study on Poverty Eradication and Sustainable Livelihoods; Focusing on Artisanal Mining Communities in Ethiopia” can also logically be applied for the artisanal miners working/operating in the other national regional states of the country.

However, the degree of severity of the problems that the artisanal miners face at present, such as the frequency of mineral resources depletion, the inadequacy of infrastructure and problems of marketing, etc differs from region to region. But the artisanal miners have some common denominator in their livelihoods including their sociological make up, their mode of operation, social services and cultural aspects.

Fig. 1.1: Shakisso- Adola Area Placer/Primary Gold Occurrences and the Location of the Hayadima Study Site

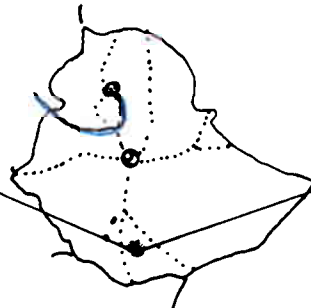
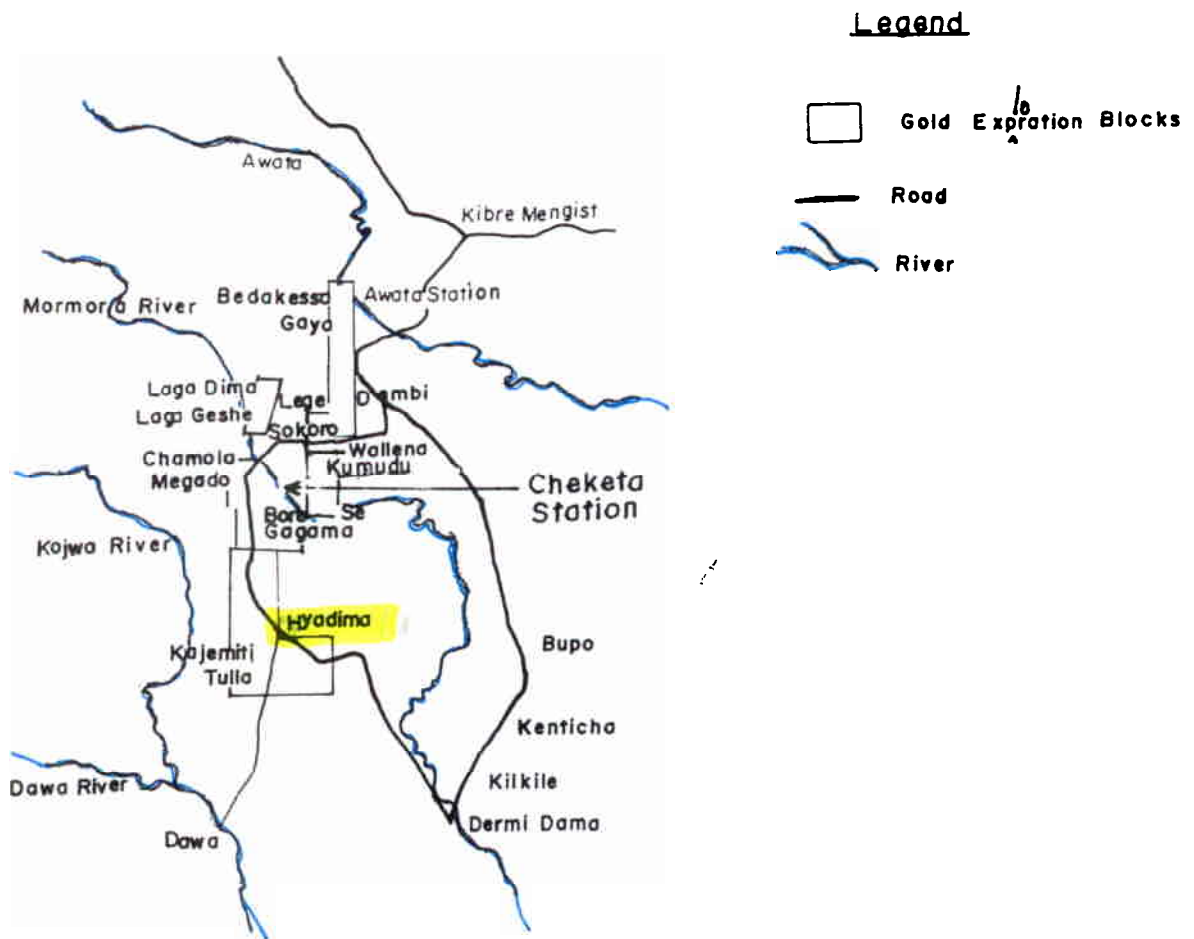
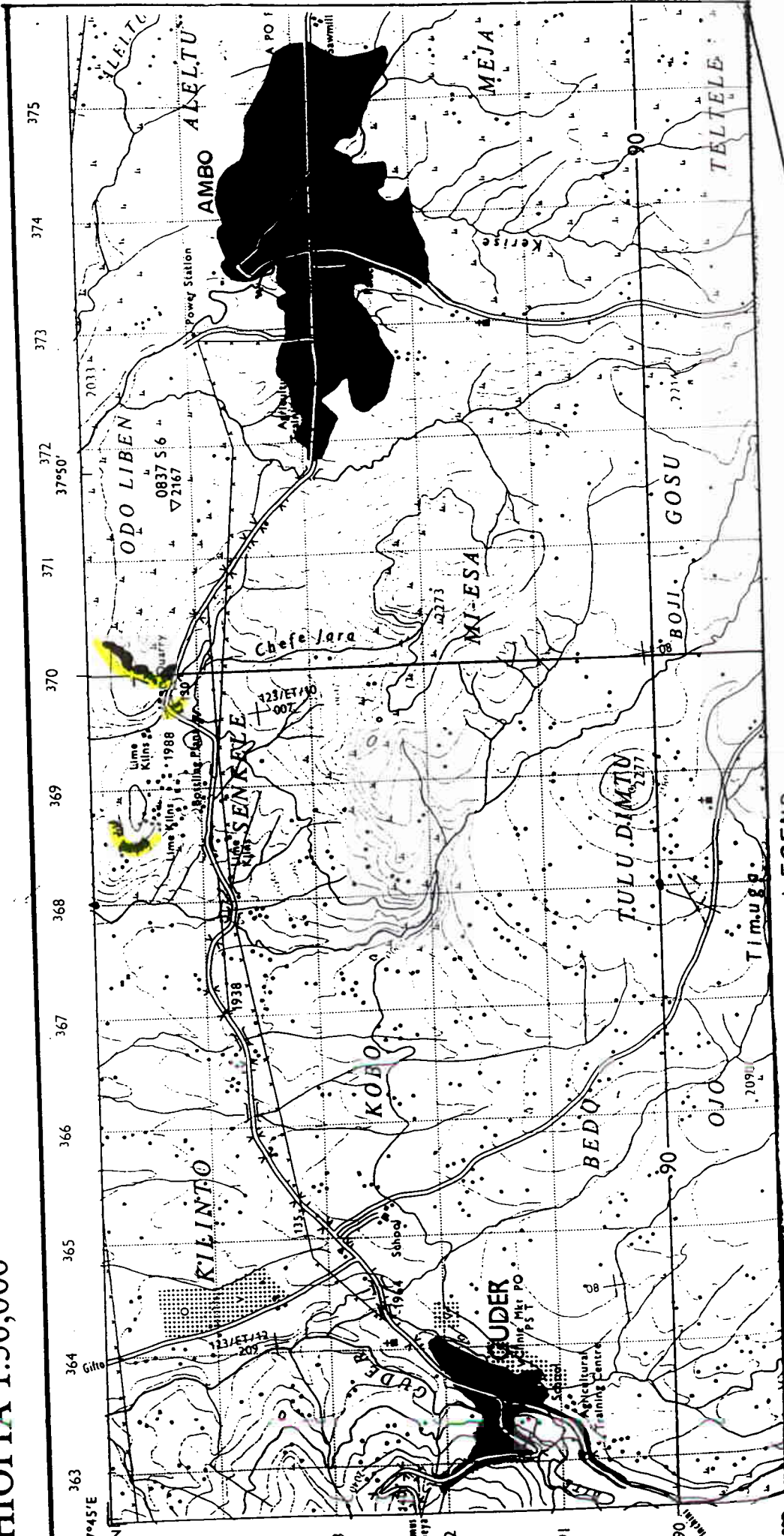


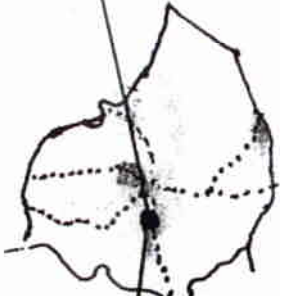
Figure 1: AMBO — GUDER

ETHIOPIA 1:50,000



LEGEND

- Town
- Road
- Quarry
- Stream



2 THE COUNTRY CONTEXT

2.1 Macroeconomic Indicators

Ethiopia has a total land area of 1.1 million and a population density of 59 persons per sq. km. Northern parts of the country and lowlands in south and east are semi-arid to arid, while the rest of the country has a highland rainy climate with mild winter. The total population of the country reached 65 million in 2001, the second largest in sub-Saharan Africa. Only about 15 percent of the total population live in urban areas. Ethiopia's urban population is concentrated in one primate city, Addis Ababa, which accounts for about 27 percent of the total urban population. Currently growing at a rate of 3 percent, the population is expected to double within the next 20 to 25 years. Close to 45 percent of the population is under the age of 14 years. Such a very high degree of dependency is bound to reduce the volume of resources available for investment.

Three different forms of government assumed political power in Ethiopia over the last three to four decades. The political system changed from a semi-feudal imperial regime to a military rule with Marxist ideological orientation in 1974. All rural and urban lands as well as all major business establishments in the country were nationalized through a series of radical proclamation issued between 1975 and 1976. The private sector was stifled and actively discouraged as the government attempted to establish control over production and distribution activities. The military administration aimed at converting an agricultural system based on individual peasant farming into Soviet-style collective farms.

Public dissatisfactions with the dictatorial rule and armed resistance led by a coalition of rebellion groups named the Ethiopian People's Revolutionary Democratic Front (EPRDF) resulted in the overthrow of the military government in May 1991. The coalition succeeded in the formation of the Transitional Government of Ethiopia (TGE) in July 1991 and the Federal Democratic Republic of Ethiopia in August 1995. A total of nine states and two autonomous administrative regions are included in the Federation.

The EPRDF-led government initiated an economic reform program that eventually took the form of Structural Adjustment Program (SAP) under the auspices of the World Bank and IMF. The reform included devaluation, market liberalization, privatization, and removal of substantial taxation of agriculture, among others. A strategy known as the Agricultural Development – Led Industrialization (ADLI) was also formulated with the belief that a dynamic agricultural sector can serve as the driving force for the rest of the economy. Nonetheless, the country became land-locked as Eritrea seceded from Ethiopia and declared its independence in 1993.

Agriculture is the single most important sector of the economy. It accounts for 45 percent of the GDP (2000/01), employs 85 percent of the labor force, generates over 90 percent of the foreign exchange earnings, and supplies the bulk of the raw material inputs to the industrial sector. In 2000/01, the industrial sector accounted for 11 percent of the GDP, compared to the service sector that constituted about 44 percent of the GDP. Large and medium scale manufacturing, mainly concentrated around the capital city, accounted for less than 5 percent of the GDP (Table 2.1).

Mining has not been of a major importance to the Ethiopian economy. But several foreign mining companies have been awarded concessions to prospect for gold and other precious metals since 1996. Gold reserves are estimated at about 60 to 200 tones. Studies have also indicated that the country has substantial reserves of coal, iron ore, tantalum, bicarbonate and potassium, although a number of significant deposits are in inaccessible locations. Limestone, clay and marble are produced in large quantities, and the output of non-metallic minerals has been boosted by the upsurge in construction activity since 1991.²

According to the 2002 Foreign Trade Report of the External Trade Promotion Agency, mining sector is the third largest foreign exchange earner representing 5% of foreign exchange earnings of the country.

² The economist Intelligence Unit, 2001.

Table 2-1: Gross Domestic Production at 1980/81 Constant Factor Cost

E.F.Y	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
G.C	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01
1. Gross Domestic Product												
GDP (Millions of Birr)	11432.7	10938.1	10534.6	11798.7	11999.3	12644.3	13987.1	14709.9	14572.6	15460.9	16284.3	17688.6
GDP per capital (Birr)	243.1	223.4	210.4	227.4	223	229.	250	255.2	246.6	255.7	260.1	274.7
2. Sectoral Distribution of GDP(%)												
Agriculture	50.9	55.9	56.3	53.5	50.7	49.7	51.5	50.7	45.7	44.7	43.2	44.9
Industry	11.1	9.4	9	10.4	10.9	11.2	10.6	10.8	11.2	11.7	11.5	11.3
LMS Manufacturing ²	4.9	3.1	2.9	3.9	4.3	4.4	4.3	4.4	4.3	4.8	4.8	4.7
Distributive Services	14.9	11.9	12.1	13.2	13.8	13.9	13.7	14	15	14.6	14.9	14.5
Other Services	23.2	22.8	22.4	23	24.7	25.2	24.1	24.5	27.1	29	30.4	29.4
3. Annual Growth Rates (%)												
GDP	4.1	-4.3	-3.7	12	1.7	5.4	10.6	5.2	-1.2	6.3	5.3	9
Agriculture	5.3	5.2	-2.7	6.1	-3.7	3.4	14.7	3.4	-10.8	3.8	1.9	13.2
Industry	-4.7	-19.1	-7.1	28.5	7	8.1	5.4	6.8	2.3	11.3	3	6.7
LMS Manufacturing	-3.3	-39.6	-9	49.1	12.7	9.4	7.8	5.7	-3.5	19.8	5	7
Distributive Services	4.4	-23.5	-2.5	22.2	6.2	6.4	9	7.7	5.6	3.5	7.5	6.1
Other Services	5.7	-5.8	-5.2	14.8	9.2	7.7	5.9	6.7	13.4	9.8	10.4	5.2
4. Inflation Rate (%)	5.2	20.9	21	10	1.2	13.4	0.9	-6.4	2.33	4.8	4.2	-4.5
5. Population (million)	47.4	48.8	50.2	51.6	53.1	54.6	56.4	58.1	59.9	61.7	63.5	65.4
6. Growth rate (annual)	2.9	2.9	2.9	2.9	2.9	2.92	2.92	2.92	2.92	2.92	2.92	2.92

Source: MEDaC; (2000). Data of 1999/00 and 2000/01 are forecasted value

The Ethiopian economy performed very badly in the 1980s as a result of the restrictive government policies. Annual GDP growth rate averaged only 1.1 percent between 1981/82 and 1990/91. Growth rate of GDP and agricultural output declined by 10 and 21 percent, respectively, during the disastrous drought of 1984/85. The reform programs of the early 1990s contributed to improved performance of the economy (Table 2.1). Real GDP grew on average by nearly 6 percent between 1992/93 and 2000/01. The growth rate was 12 percent in 1992/93 mainly due to the strong recovery from a very low base or a negative growth rate (-3.7%) of the previous year. A growth rate of 10.6 and 9 percent was recorded in 1995/96 and 2000/01, respectively, largely as a result of the good weather conditions and bumper harvest. On the other hand, growth rate slipped to -1.2 percent in 1997/98 because of the unfavorable weather that reduced agricultural output by about 11 percent. Although policy changes have influenced performance, the Ethiopian economy remains heavily dependent on rainfall conditions.

Gross domestic saving ratios reached a maximum of 13 percent per annum during the imperial period (prior to 1974) and declined to an average of 7.2 percent under the military government (1974 - 91). The ratio further declined during the post 1991 period, averaging only about 6.5 percent between 1991/92 and 1997/98. Owing to large drop in public savings, gross domestic saving went down to negative 2.1 percent in 1999/00. The border conflict with Eritrea during the period 1999/00 and 2000/01 seriously affected domestic savings, particularly public saving.³

Gross fixed capital formation as percent of GDP registered a significant increase after the 1991/92 reform: the investment ratio averaged 15.2 percent during the period 1991/92 to 1997/98.⁴ Nonetheless, the ratio of investment for Ethiopia is far below the average for developing countries, estimated at 25.7 percent in 1998/99. Moreover, gross domestic investment in percent of GDP in Ethiopia declined to 13.3 percent in 1999/00.⁵ The

³ National Bank of Ethiopia, Annual Report, 1999/00, Addis Ababa Ethiopia.

⁴ Befekadu Degefe and Berhanu Nega, Annual Report on the Ethiopian Economy, Volume I, 1999/2000, The Ethiopian Economic Association, 1999/00.

⁵ National Bank of Ethiopia, Annual Report, 1999/00, Addis Ababa, Ethiopia

widening resource gap also required substantial external sources. For instance, gross domestic savings were able to finance only 34 percent of the gross domestic capital formation in 1997/98.⁶

Total external debt stock (excluding ruble denominated debt to Russia) increased from 31.6 billion Birr in 1998/99 to Birr 44.6 billion in 1999/00, implying an increase in the external indebtedness of the country by 41.4 percent. Because of the unsustainable level of external debt, Ethiopia has been put in the list of heavily indebted poor countries and is expected to benefit from the HIPC initiative of the World Bank and IMF. The country's external debt to GDP stood at 86.5 percent in 1999/00.⁷

The structure of the external sector did not show any marked change over the last two or three decades. Ethiopia's export sector is highly dependent on a few agricultural commodities such as coffee, hides and skins, pulses, oilseeds, and chat. Coffee alone accounts for more than 60% of foreign/-exchange earnings. The dependence on coffee has become even more dominant in recent years, rendering the country's external sector more susceptible to adverse shocks that affect production and world price developments. Receipts from coffee had declined sharply in recent years due to the collapse of prices in the international market. As a result, the trade gap has widened to unprecedented levels in the last two years.

Inflation in Ethiopia has never been a serious and persistent threat to saving, investment or purchasing power of consumers. In the 1980s, for instance, the highest rate of inflation recorded was 18.5 during the drought year of 1984/85. Inflation rates were not out of control (not exceeding 21%) even in the last years of the military government (e.g. 1990/91 and 1991/92) when most parts of the country were affected by social upheavals. Inflation rates went down considerably under the Transitional and Federal Governments. Throughout the period since 1991/92, prices increased by less than 5 percent, except in the drought year 1994/95 that witnessed a 13 percent inflation rate. A negative 7.2

⁶ MEDaC, Survey of the Ethiopian Economy: Review of Post-Reform Developments (1992/93- 1997/98), Addis Ababa, September 1999.

⁷ National Bank of Ethiopia, Annual Report, 1999/00, Addis Ababa, Ethiopia.

percent was also registered in 2000/01. The predominance of the subsistence economy or the low degree monetization, and sound macroeconomic policies and management are believed to have eased the pressure on prices in Ethiopia.⁸

2.2 Artisanal Mining as a Means of Livelihood

2.2.1 Policy Evolution

The earlier imperial laws through a period of over 50 years laid down only a very general framework of mining laws primarily geared to control of precious minerals in particular gold, which then held a very important place in the world market. However, these earlier laws did not create conditions for mineral development or laid down conditions for mineral investment in the entire country. (See Annex 2.A).

The Provisional Military administration Council in 1974, introduced Socialist Economic Policy. The various legislations initially set up restrictions on mineral exploration and a legal regime by which the state secured ownership of key production enterprises and put natural resources and minerals under state property. They also restricted private capital investment in the economy which in turn hampered economic development of the country.

Towards the end of 1980's the Ethiopian government realized the role of investment to develop the country's economy and the need for forming joint venture with foreign/or domestic private capital. Thus the government introduced joint venture laws, which granted various incentives such as remittances of dividends, and granted exemption from customs duties, taxes, income taxes and maintenance for foreign currency accounts. The decree on Investment of May 19,1990 established a departure from a command economy system to mixed economic structures by issuing a comprehensive legislation of areas of investment to investors and on further incentives to investment but not specifically

⁸ MEDaC, Survey of the Ethiopian Economy: Review of Post-Reform Developments (1992/93 – 1997/98), Addis Ababa, September 1999.

granted to mining operations. Thus, the mineral sector remained underdeveloped and its contribution to the national economy remained minimal.

After the downfall of the military dictatorship, the Transitional Government of Ethiopia issued a New Economic Policy, which is principally aimed at reorienting the economy along the path of free market and rapid economic recovery. The government therefore introduced various pieces of legislation to implement the new economic policy. The principal promulgated laws are presented in Annex 2.A.

Thus the mining proclamation presently in force is new and lays down major framework for the development of the mineral resources of the country. Since its promulgation, this law has been amended twice. The first amendment dealt with the financial package which reduced taxation from 45% to 35% and state free equity participation from ten to two percent. The second amendment dealt with the power of issuing license. Previously the power of the regions to issue licenses was limited to artisanal mining and construction minerals. Under the second amendment, regional governments can issue license to artisanal miners, construction minerals as well as prospecting, exploration and small-scale mining exclusively undertaken by domestic investors. This amendment goes in line with the provision of the constitution that gives power to regions to levy and collect taxes and royalties on mining operations except for the large-scale operations.

With regard to mining sector the new mining proclamation and amendment (52/1993, 4/1995), apart from providing incentives (Annex 2.A), is likely to reduce risk and uncertainty for potential investors. This is a step in the right direction. The provisions of the mining proclamation and regulations are described in Annex 2.A.

2.2.2 Current Situation

a) Definition

In Ethiopia, mining is categorized into artisanal, small scale and large-scale mining in accordance with the Ethiopian Proclamation No. 52/1993. In accordance with the provision of the same Proclamation, artisanal mining can further be defined as non-mechanized mining operation of gold, platinum, precious stones, salt, clay and other similar minerals and rocks. It is essentially an operation of manual nature carried out by individuals or groups of people.

In Ethiopia, small-scale mining is defined by mining regulations based on the amount of the annual run-off mine ore. Where the annual run-off mine exceeds the specified amount indicated in the regulations, the operation is considered as large-scale mining.

On the other hand small-scale mining operations required substantial prospecting and exploration work and in respect of exploration, that is to develop, extract and remove minerals including storage, treatment, processing, transportation and marketing requires very large capital outlays. Small-scale mining thus requires substantial capital outlays, mining machinery as well higher equity and debt financing.

b) Type of Mining

In Ethiopia, the participation of rural communities in mining has long been known and accounts for a significant share of mineral exploitation and discoveries.

Depending upon the minerals and rocks under exploitation, there are four types of artisanal mining undertaking in the country; namely

- Artisanal gold mining (including gold, platinum, etc.);
- Artisanal quarry operation (including limestone, dolomite, pumice, silica sand, diatomite, opal, olivine, ignimbrite, gypsum, sandstone, basalt, sand, scoria, etc.);

- Artisanal clay mining (pottery making); and
- Salt extraction (including rock salt, crater lakes).

c) Relationship With Other Livelihood Strategies

Artisanal mining has, so far, been the main activity in the case study kebeles providing incomes and creating markets for consumption goods as well as services. It has rendered trade to become a source of livelihood to a considerable extent. It also provides a significant local market for agricultural products.

d) Location of Artisanal Mining Activities

Artisanal mining activities are largely practiced all over the country especially where the workable minerals and rocks potentials are available. (see location map of major artisanal mining activities in Ethiopia (Annex 2.B).

Currently, there are more than 100 sizeable operational artisanal mining sites in the country including precious minerals (gold, platinum, etc.), industrial mineral groups mainly used in construction industries (such as silica-sand, dolomite, diatomite, clays, pumice, etc.) construction materials (ignimbrite, basalt, clays, sand, scoria, gypsum, etc.) and precious stone (olivine, opal, etc.) and salt.

e) Titles, Rights and Licensing

Mining Proclamation No. 52/93 among other things provides, that the holder of a prospecting or an exploration license is permitted to remove, transport, analyze and, with the prior consent of the Minister, export samples of minerals for testing. However, such minerals shall remain the property of the Government and the licensee shall not dispose of them without the prior consent of the Minister (Article 35(1)).

The holder of an artisanal, small-scale or large-scale, mining license shall obtain title to the minerals specified in the license upon their extraction Article 35(2) and the holder of mining license shall have the right to sell the minerals locally or export all minerals specified in the license.

According to the present Mining Proclamation No. 52/93 and article 95(2), possessions of financial resources, technical competence, professional skill and experience are not required to acquire artisanal mining license.

Under Article 14(1) of this Proclamation Artisanal mining license grants an exclusive right to explore and mine for the minerals within the license area. Artisanal mining operations shall exclude all tunneling and other underground work except vertical excavations of less than 15 meters in depth.

With regards to licensing procedures, the existing council of Ministers Regulations No. 182/94 was issued for the implementation of the Mining Law No. 52/93 by the Federal Ministry of Mines and Energy.

The Mining Proclamation No. 52/93 as amended, provides for a clear distinction as related to the power of issuance of licenses.

The laws provide that licenses for artisanal mining, small-scale, construction, minerals prospecting and exploration activities undertaken by Ethiopian investors shall be issued by Regional states, while the rest of licenses shall be issued by the Ministry. However, issues related to depositing of mineral data and collection of basic geological information seem to be blurred.

Therefore, policy decisions need to be made in order to draw distinction between the powers of the regions and that of the central organs so as to avoid power overlapping and wastage of resources.

f) Institutions and Regulatory Frameworks

In mineral resource development, many projects have fallen short of expectations, either because of lack of experience and sound professional background to carry out planning and supervision or because of lack of proper organizational set-ups.

The Ministry of Mines (formerly known as Ministry of Mines and Energy) was set –up in 1958 and was then known as Ministry of Mines and State Domain Earlier it was a department under the Ministry of Finance. When Ministry of Mines and State Domain was set-up its main function was to run the Adola Gold Mine and state owned properties. Since its inception this Ministry has under gone a number of organizational changes. Regional Governments are entrusted with increasing responsibilities. Under the present Federal System the Ministry has an advisory role and much is not expected from it with respect to project design and implementation in the regions. As such, it does not maintain close contact with the artisanal mining activities.

It is to be recalled that the transitional period, following the down fall of the Derg Regime, was marked by decentralization of authority. This led to the creation of several National Regional States of which the Oromia National Regional State (i.e. the selected study Region) is one such state created as a result of decentralization. Within the Regional State the Mineral, Energy and Water Sectors came under one umbrella, known as the Water, Minerals and Energy Resources Development Bureau.

The Mineral Sector under this Bureau maintained some zonal offices in respective localities. One of the duties of the Bureaus is organizing and supervising artisanal miners. However, this service is not put in place in the different sites due to various problems. It was understood that, under the present institutional arrangement more emphasis is given to the water sector for example within Oromia Regional Government.

g) Size of the Sector

Employment

In Ethiopia, the mineral exploration, development, processing and production works being carried out in different parts of the country by the private sector and government institution and have created a job opportunity for a significant number of Ethiopians.

According to the data obtained from Ministry of Mines, the total number of workforce engaged in mining activities by region excluding Addis Ababa has increased from 6902 to 8575 during the period 1993/94 – 1999/2000. (See table 2.2). During the same years, the number of licenses in Ethiopia fluctuated between 3036 and 1283 (See Table 2.3). Unknown volumes of building stones, sand, gravel, pumice, scoria, clay soil, etc. were exploited mainly near major urban areas for construction of dwellings and other construction.

The production activities are undertaken by individuals and hence it was not possible to get specific data on production statistics. However, data obtained from the Ministry of Mines indicate that about 200 to 300 thousand people are engaged in artisanal gold mining, and salt and on other mining activities 150-250 thousand bringing the total to over 0.5 million. Although the mining sector is one of the areas where employment opportunity is very high, it couldn't create adequate employment opportunities owing to its development stage, and the over all low level of economic development.

Table 2-2: Workforce Engaged in Mining Activities Distributed by Region from (1993/94) – (1999/2000).

Ser. No	Region	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000
1	Tigray	357	388	285	735	1271	1077	1204
2	Oromia	5691	7539	9492	10136	2177	2436	2674
3	Benishangul –Gumuz	120	250	440	-	200	581	497
4	SNNPR	283	492	2240	-	-	3288	3288
5	Somalie	-	-	30	105	90	115	100
6	Harrari	-	-	-	-	529	614	530
7	Gambella	340	395	428	-	222	250	282
8	Addis Ababa	-	890	1615	895	395	341	-
9	Dire Dawa	111	48	-	31	73	-	-
	Total	6902	10002	14530	11902	4957	8702	8575

Source: Ministry of Mines, Planning and Programming Department Statistical Data (Amharic Version, 1994).

Table 2-3: Number of License Holders Distributed by Region from (1993/94) – (1999/2000).

Ser. No	Region	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000
1	Amhara	123	51	64	371	-	-	-
2	Tigray	209	209	63	73	227	161	166
3	Oromia	738	1056	1336	1448	311	348	382
4	Benishangul –Gumuz	19	38	64	69	42	67	46
5	SNNPR	48	115	168	-	237	197	230
6	Afar	-	-	-	-	45	130	-
7	Somalie	-	-	3	16	13	-	75
8	Harrari	-	-	45	31	31	42	35
9	Gambella	39	51	62	-	67	10	10
10	Addis Ababa	610	966	993	1026	1061	359	339
11	Dire Dawa	1	4	1	2	9	-	-
	Total	1787	2490	2799	3036	2043	1287	1283

Source: Ibid

Production/output

Studies conducted in the past have indicated that most of the mineral operations activities were concentrated on the discovery and development of gold. Due to this, contribution of the sector to the GDP has remained to be low.

The total amount of minerals and rocks produced by the country during the fiscal years 1993/94 – 1999/2000 is shown in Table 2.4. The corresponding values of minerals and rocks produced during the same period are shown in Table 2.5.

h) Organizations

Traditional: Traditional social organizations such as *Mahaber*, *Idir*, *Wadda* and *Wenfel* are important forms of mutual assistance at times of difficulty among the artisanal mining communities. Essences of these traditional social organizations are briefly described below.

Mahber: *Mahber* is established in the name of a saint and it is a form of get together among people of the same religion. The main purpose is to worship but eating and drinking are generally involved.

Mahber is a social gathering but which has religious overtone. The members of the *Mahber* would prepare food and drinks each month by turn on the specified saint's day and other members of the *Mahber* come to eat and drink and also discuss matters of common interest to the members. As a rule no work of any economic significance is done on this saint's days. Some aspects of *Mahaber* has resemblance to *Idir* in that the members have the obligation of helping each other in various ways at times of difficulty.

Table 2-4: Volume of Mineral and Rocks of National Production from (1993/94) – (1999/2000).

Description	Unit	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000
Stone	M ³	2124851	1411549	16220075	945275	599886	861512	827151
Sand	"	10630938	574438	4591582	10143455	1199870	1060072	985142
Selected material	"	138687	188883	175487	203621	194792	233428	395685
Gravel	"	69944	230178	153037	146807	658511	356291	212257
Scoria	"	86858	87227	61402	102320	147425	64179	83806
Pumice	"	113344	66915	243700	246700	79509	201318	106824
Clay	"	288	109	1974	-	-	75914	321284
Clay bricks	Pcs.	443929	512189	881490	410787	790739	4915	-
Gypsum	M ³	20488	22332	4595	26966	4357	19023	5786
Red soil	"	203547	227472	10665	100778	217667	412291	626083
Limestone (fine)	"	174296			5115	4233	214251	60653
Marble blocks	"	669	3034	3878	4539	4499	21174	7578
Mineral water	Bottle	34390237	41090000	53750000	68750000	2780000	65274978	68393209
Diatomite	Kg.	20000	20000	20000	20000	20000	20000	-
Silica sand	Ton	5368	4733	3908	4541	6118	5336	-
Soda ash	"	2153	4937	4551	3595	1136	4409	3805
Limestone	"	608223	748342	778247	749812	826945	840918	793973
Gypsum	"	17431	35179	33024	40072	37325	35983	37798
Clay	"	94968	102114	86762	92194	760002	69560	77490
Pumice	"	9313	17927	48109	99335	127601	135349	156466
Sand	"	8994	7732	9900	9585	12854	13308	9468
Kaolin	"	-	701	1438	3512	338	681	1654
Feldspar	"	-	1255	569	456	-	1117	556
Marble	"	-	959	1802	637	615	632	-
Granite	M ³	-	-	6	2651	1436	-	2003
Gold	Kg.	2450.0	1182.81	199	754.5	36.4	283.6.8	3206.2
Tantalum	Ton	30	35.1	53.62	60.5	62.29	49.63	65.73

Source: Ministry of Mines

Table 2-5: Value of Mineral and Rock Products (1000 Birr)

Mineral/Rock Type	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000
Stone	18969	13909	242227	8566	1916	9877	8072
Sand	88272	5783	70146	151454	16468	20614	14957
Selected material	1713	3296	1796	3117	1450	1820	2854
Gravel	5063	14964	10088	12104	17032	29915	17862
Scoria	447	499	741	851	554	464	516
Pumice	836	1249	3122	5580	7469	3128	2341
Clay soil	676	1137	1490	1486	1276	22199	90879
Clay bricks	5656	4001	3850	210	211	963	204
Gypsum	1327	1191	748	1819	755	862	1071
Red soil	1604	828	162	384	458	1344	1957
Limestone (fine)	697	-	-	21	27	1349	358
Marble/Limestone blocks	120	1915	2306	2814	5545	17793	15332
Mineral water	17195	37110	37830	45840	57530	52352	55430
Diatomite	4	4	4	4	4	4	-
Tantalum	727	5985	16926	22184	30960	29096	50515
Silica sand	158	141	134	174	255	264	-
Soda ash	2153	2760	2770	3643	691	3661	2996
Limestone	6570	11417	12074	17377	12296	13734	16743
Gold	123135	85899	70230	51255	2046	143379	269846
Kaolin	-	551	1130	2760	266	535	1299
Feldspar & Quartz	-	824	374	299	-	733	365
Marble	-	224	424	150	146	106	-
Silver	-	-	-	-	-	582	1376
Total	275322	193687	478572	332092	157355	354774	554973

Source: Ministry of Mines

Idir: *Idir* is a form of mutual assistance at times of difficulty (death among relatives) while *Iqub* is means of capital raising for certain investment purpose.

Wadda: *Wadda* is a committee composed of five wise elderly men, elected from a given number of kebeles on the basis of their merit of wisdom, who is empowered to pass social laws on most pressing issues of the community. These laws, once made public after long deliberation, and decided by consensus, are strictly observed by all members of the community. Those who refuse to accept are isolated completely to the extent that he/she will be denied of any assistance at times of difficulty. *Wadda* is a very powerful organ which, if involved in development activities, can command the fullest support of the community.

Wenfel: *Wenfel* is a system of labour exchange mainly, but not exclusively, among close age groups and friends. It can be equated to credit system where labour without interest is involved in the lending and paying.

Modern

NGOs: NGOs provide basic services to artisanal miners but not permanently stationed at the mining sites and within the localities.

Kebele Administrations and Peasant Associations: The kebele and peasant associations render administrative and social services.

i) Type of Labour

i) Full-time

The type of labour in artisanal mining communities comprises of landless farmers who joined the ranks of the artisanal mining workforce, children below the age of 15 (7-14 years), youth between 25 and 40 as well as those in the 41 to 50 age category, older

persons over 50 years, women and ex-soldiers. Those in the 25-40 age group are the predominant category in number followed by the youth.

In Hayadima, children, older persons and women are engaged on tailings and, panning of placer gold.

ii) Part-time

Part-time artisanal miners consist of mainly children –who attend school on shift basis, farmers and housewives.

j) Relationship to Large Scale Mines

- The relationship of artisanal mining to large scale mines is seen in the large-scale semi mechanized hydraulic placer gold mining where both use/ apply the same panning equipment, i.e. batea, as a means of fine gold recovery. Also artisanal mining panners can work on both types of mining operations.
- In the case of Shakisso area, Borena Zone most artisanal mining operations depend on the semi-mechanized large-scale placer gold mining for its source of water for drinking and industrial purposes (Bore, Kadijmetti, Deme Demissa, both in Small and Large Gagama valleys, etc).
- As mining of placer gold in the Adola area is reported to have been going on for over 40 years, the base of experienced human resource is present.

k) Artisanal Mining As a Coping Strategy

Artisanal mining is a source of employment for those who are faced with open unemployment and a critical survival strategy for supplementing meager farm incomes particularly where drought is recurrent and agricultural output is on the decline.

l) Skills, Learning and Upgrading

A very significant proportion of the artisanal miners are said to have acquired primary or higher level of education. This is illustrated by the educational categories of artisanal miners interviewed at case study sites. For instance, in Hyadima, out of 67 interviewed persons 44 had primary or higher level of education. Among these about 50% expressed their desire to be trained in agriculture but only 10 or 13% have received the training.

m) Institutions and Services

There are very few institutions in Haydima kebele. Social service institutions are very few in number. They cover only a very small proportion of the population providing limited service. “*Idir*” and other mutual assistance associations which are common in other communities in the country are non-existent among the artisanal miners. As far as health services are concerned, there are only one health post and one elementary school serving the residents in the area.

The whole population of Senkelle & Farisi kebele is being served by nearest health centers, clinics and hospital of Ambo town (5km). However, there is lack of basic health services such as health post, provision of first aid, contraceptive distribution, delivery and health education in the village itself. Other basic social services like safe drinking water, power supply, etc., are lacking.

n) Market Relationship and Commercialization of Production

The market and prices differ in accordance with type of product and from area to area. Artisanal miners for instance, sell the raw gold to small traders who offer the highest price, mostly directly on the site. The small traders buy from the miners and sell to medium traders making profits of up to 5 Birr per gram; currently one gram of gold is sold for 40-70 Birr. The medium traders who live in neighboring towns collect the gold from small traders and take it to big traders who send it abroad, mainly to neighbouring countries. Gold traders follow world market prices daily and set the price. The artisanal

miners lose because of the widespread cheating. They lose because they are not informed about world market price and sometimes they are forced to sell only to license holders.

“Construction” stones produced at Senkelle are sold for 13 Birr per cubic meter on the site and 20-25 Birr in Addis Ababa. Most of the construction stones are sent to the Addis Ababa market (130 kms) away while some go to more distant places like Nazareth (about 230 kms) and Awassa (405 kms).

2.3 Why the Sustainable Livelihood Approach (SLA)?

The SLA is used as one of the human development approaches to address poverty because it embraces the capabilities, and assests (including both material and social resources as well as activities) required for a means of living. It is based on best practices used by many institutions in the world and encompasses different elements which are put together into an approach. Another important reason why it is favoured as an approach to human development is that it builds on:

- participatory approaches,
- good governance,
- decentralization, and
- sustainability.

It becomes sustainable when it can cope with stresses and shocks by enhancing capabilities and assets now and in the future without undermining the natural resource base (Kanya, 2000).

2.3.1 The Sustainable Livelihood Approach Framework

The sustainable livelihood approach implies a sustainable livelihood framework, which can be regarded as a context in which assets, access to which is critically influenced by policies and institutions, which serve to influence strategies that people adopt in the process of poverty reduction and eventual elimination.

The concept of assets and vulnerabilities are used in this framework which recognizes that people not only have needs but also resources identified as:

- natural
- social capital
- human
- physical and
- financial

It embraces a situation whereby capital assets are influenced by external environment, i.e., policy, institutional and vulnerability contexts. In the SLA framework the livelihood outcomes desired consist of:

- more income
- improved well-being
- reduced vulnerability
- improved food security and
- more sustainable use of natural resources

It is important to note that communities have their own views about their aspirations. Outcomes should not be imposed on them but rather discussions with community members must be undertaken in order to find out what the aspiration of communities are and the achievable outcomes may be, taking into account the external resources that government and donors may be able to provide. Such participatory appraisals can serve as means of finding out the desired outcomes of communities in terms of increased assets and/or reduced vulnerability, self-esteem, happiness etc. (Kanya, 2000).

It is also necessary to recognize that institutional structures and processes define the options available thereby influencing the outcomes desired and the selection of livelihood strategies on the basis of awareness impact of the external environment consisting of vulnerability as well as policy and institutional context which influence the livelihood strategies for attaining the desired outcomes. Increasing the options and choices people have enhances their power over their lives, or their power to determine the key livelihood