Social Aspects of Dynamic Poverty Traps: The Case of Dirib Gombo Location of Marsabit District, Kenya

Report Submitted as part of the Collaborative Research Support Project on Broadening Access and Strengthening Input Systems

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1. Background

This report is on a qualitative study, which is part of a broader research program funded by BASIS-CRSP of USAID to undertake studies on rural poverty traps in East Africa. The studies are conducted in Kenya and Madagascar. In Kenya the study is a collaborative project involving Kenya Agricultural Research Institute (KARI), University of Nairobi and International Center for Research in Agroforestry (ICRAF) and is being undertaken in 3 field sites: Dirib Gombo (Marsabit district), Madzuu (Vihiga district), and Ng'ambo (Baringo district). Collection of data on the qualitative aspects of social aspects of dynamic poverty traps was accomplished using three approaches: 1) a one-day community workshop, 2) household interviews, and 3) key informants interviews.

2. The study area

Marsabit district is one of the 13 districts that make up Eastern province of Kenya and covers a total area of 61,296 km² which is about 11% of the area of Kenya (Republic of Kenya, 2001). It is the second largest district in Kenya after Turkana. Marsabit borders Moyale in the north, Samburu to the south, Turkana to the west, and Wajir and Isiolo to the east; it is located between latitudes 02045' and 04°27' North and longitudes 37°51' and 39°21' East at an average altitude of 300-900m above sea level over most parts; Mt. Kulal is the highest point at 2355m above sea level. Administratively the district is divided into six divisions: Central, Gadamoji, Maikona, North Horr, Loiyangalani, and Laisamis. The total population is 121,478 out of which 60,940 (50.17%) are male and 60,538 (49.83%) female; the density is on average 2 persons per km² and most of the population is settled on mount Marsabit. The main ethnic groups are Boran, Rendille, Gabbra, Samburu, Burji, Turkana, Shangila, Somali, and El Molo (smallest tribe in Kenya) majority of who are pastoralists. The climate is characterized by low rainfall, which falls in two seasons (April/May and November/December) and high levels of evapotranspiration. More than 97% of the district is rangeland dominated by agroecological zones 5 and 6. Livestock keeping is the major economic activity with pastoralism being the dominant mode of production. Crop farming is practiced on less than 3% (about 3,512 ha) of the district mostly on Mt. Marsabit where maize is the most cultivated crop followed by beans. Other crops include pigeon peas, sorghum, teff, wheat, bananas. fruits, and kales. Fishing is practiced in the waters of Lake Turkana.

Dirib Gombo³ is one of the 28 locations that make up Marsabit district. It is found within Gadamoji division (Republic of Kenya, 2001) and lies on the southeastern windward slopes of Marsabit Mountain. The terrain is of gently rolling slopes (photo 1738) with several dry riverbeds that drain water during the rain season. It covers an area of 98.5km² with a population of 3,718 (in 832 households) out of which 1,846 (49.7%) are male and 1,872 (50.3%) female and a density of 38

³ *Dirib* is *Boran* word for valley while *Gombo* is a traditional salt licking container for animals carved out from a tree trunk. *Dirib Gombo* therefore means shaped like a valley.

persons per km². The population is increasing rapidly due to immigration from other areas. Many immigrants are coming from Chalbi (Bika Godana, personal communication). Historically these would be outcasts but now they come to start farming activities especially after losing livestock to droughts. The institution of the Chief and elders allocates Land. Boran and Burji are the two main ethnic communities settled in Dirib Gombo. The Burji are predominantly farmers and keep oxen primarily for ploughing while Boran keeps more livestock (Katelo Guyo, personal communication). Maize is the most widely cultivated crop followed by beans. The cultivation of miraa4 (khat) and kales is also increasing and these are now important sources of income for a good number of farmers as they have good demand in the Marsabit town market, which is 15 km away from Dirib Gombo centre. The Catholic diocese runs the only secondary school and health facility and sponsors 1 of the 2 primary schools. There are 2 boreholes but one has broken down. A community nursery has been established near the operational borehole and this has received some support in form of propagation materials from CIFA. The shopping centre has few small structures providing retail services and a butchery. The older structures are made of mud walls while the more modern ones have timber walls and corrugated iron sheet roofing (photo 1724). There is one public service vehicle that operates through Dirib Gombo to Marsabit town. Walking still remains the major commuting method while a few HHs use donkeys or bicycles. There is no telephone or power services and only a few HHs are supplied with water from the borehole while the majority has to buy from the selling point or fetch it from hand-dug wells.

3. Sampling and sample size

Households interviewed in the qualitative work were selected from a panel of 24 that had been covered in the quantitative survey sample. These households had been categorized into four transition matrices based on changes, from a previous survey, in terms of their per capita incomes. The categories were 1) poor-poor, 2) non-poor to poor, 3) nonpoor-nonpoor, and 4) poor to non-poor. We designed to select 6 households from each of categories 1 and 3, and 2 from each of categories 2 and 4. For categories 1 and 3 the selection was based on whether their situation had worsened, remained the same or improved. For category 1 we selected 2 households from each of the 3 sub-categories (total=6) and for category 2 we selected 2 households (total=2). For category 3 there was only one household in each of the first two sub-categories and 2 in the third subcategory (total=4). There were no households in category 4. Hence in total we obtained 12 households. In categories where we had more than two households we relied on the guidance of the chief and the translators to advice us on who was expected to willingly share the information with the research team; thus the selection of the household case studies was done purposely.

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⁴ A herb whose tender twigs are chewed as a stimulant.

The last part of the research involved talking to key informants in order to get a clear picture of general community factors that affects the welfare of the people in the research area. Ethnographic interviewing was the main methodology used to sauce information from the key informants. The key informants included an extension officer from the ministry of agriculture, a farmer, a community development worker, and the chief of Dirib Gombo location.

4. Community level factors affecting welfare change

There several factors which are both exogenous and endogenous that influence welfare change in Dirib Gumbo. These factors include:

- There has been a reduction in rainfall reliability and amount over the years in the research area. The frequency and length of droughts have thus increased leading to crop failure and poor harvests. Even some crops and grasses have disappeared because of poor rainfall, poor soils, and destruction by wild animals particularly elephants; the latter leads to increased human/wildlife conflicts. Bananas are disappearing in the landscape because of elephants.
- The productivity of the land is declining because of continuous use, soil erosion, and lack of incorporating manure or fertilizers into the soils to replenish the nutrient base.
- Increases in human and livestock population has led to increased pressure on resources particularly pasture and water. People who migrate from other areas and open new land for cultivation have compounded this. They encroach on land reserved for grazing particularly during the dry season and they clear more trees.
- Because of frequent droughts, people are shifting their production practices from relying on maize and beans to crops that are more tolerant to drought e.g. sorghum, cassava, pigeon peas. However adoption of these crops is still limited. Also in livestock, people are shifting more to keeping camels, which can tolerate drought better and help optimize utilization of vegetation since they are browsers. Further more people are increasingly moving away from pastoralism to mixed farming whereby they keep livestock and also engage in arable farming. This cushions them from total loss incase of adverse whether conditions such as droughts and floods. For example the Burji, a farming community form Ethiopia who migrated into the area, have been predominantly farmers while the Borana community have been livestock keepers. However there is now more integration of both practices by both communities. Cropping has offered new opportunities for generating income but due to the two production practices, the environment is destroyed as evidenced by erosion and large areas of bare land during the dry period.

- Emergence of groups that are involved soil and water conservation and growing of vegetables. Some groups of youth are now collectively constructing water pans and keeping improved poultry breeds. Members of women groups also support one another during times of distress by providing modest loans.
- In Dirid Gumbo poverty is on the increase. One of the factors contributing to this is the collapse of the social norms and regulations that bound people together and the monetization of commodities. People are more individualistic and are only concerned with chasing money for themselves. Social support systems from relatives, clan members, and friends, have disappeared. The wealthy no longer accommodate the poor within their homesteads. Also the institutions of the headman and elders that ensured that support for members of the community provide for the poor are no longer effective.
- Insecurity is a major factor that has contributed to poverty among households in Dirib Gumbo. Ethnic clashes have resulted in loss of life, property, and goodwill among different ethnic groups. Cattle rustling and stealing of livestock at night by other tribes has also contributed to poverty. Political affiliation has also resulted into conflicts among different ethnic groups and within the communities themselves. However in the past few years the government has improved security by providing armed guards.
- Another factor that has retarded development in the research area and is
 of major concern to the community members is high illiteracy rate, which
 have limited people from going for high paying jobs. According to our key
 informants, a very big percentage of the population in the research is is
 illiterate. This they attribute to underdevelopment in the area, which has
 been there for quite a long time. There are very few schools in the area.
- Horticultural farming is picking up in the area particularly after research introduced improved technologies for vegetable production and water harvesting. Households with easy access to water are the ones benefiting. With the introduction of boreholes by NGOs and other agencies, households within reach are able to practice small-scale irrigated agriculture.
- There is also some involvement by Community Initiative Facilitation and Assistance (CIFA) in supporting rehabilitation of water pans and roads in Dirib Gombo using food-for-work. The major impacts include increase water availability and accessibility to households and improved physical infrastructure.
- The destruction of natural forest is on the increase in the area as people clear bushes to open up new lands. This is said to have been responsible for the change of the weather pattern in the area. Trees attract rainfall but these are fast disappearing as people cut them down for charcoal burning. Mainly the youth and the poor women who are involved in charcoal burning and selling as men have migrated to towns.

5. Household level factors affecting welfare change

This section explores the social aspects of dynamic poverty traps. In doing this, we use case study materials to analytically determine factors that have enabled certain households to escape from poverty, fall into poverty, avoid falling into poverty and remain in poverty.

5.1 Reasons for escape from poverty

There were no cases of individuals who escaped from poverty within the period the first research was done and the second.

5.2 Reasons for not falling into poverty

To remain nonpoor involved a combination of factors. People who are involved in mixed farming i.e. keeping of livestock as well as arable farming and had employment in the government or private sector tended not to fall into poverty. Other factors included hard work and education. People who invested in their children's education and their children were lucky to secure well paying jobs are cushioned from poverty. This is because they enjoy support from their children. See the cases of Tadole Galgallo (case 3), Jarso Duba (case 4), Biqa Godana (case 10), and Tuna Duba (case 12).

5.3 Reasons for falling into poverty

Migrants who were rich in their original homeland found themselves landless in their new homes. They had to lease land from the natives to establish their own homes and to cultivate crops. Because of just being tenants, incentive to invest in the land properly was lacking and was a root cause of falling into poverty. See the case of Gababa Galchu (case study 6). Death of a breadwinner was found to be a factor that plunged one household who was not poor into poverty. Jillo Godana (case study 8) who was born in a rich family and got married to a working class husband fell into poverty when he died.

5.4 Reasons for remaining in poverty

The most important factor that prevents poor people from coming out of poverty was found to be frequent droughts that wipe out livestock and lead to crop failure. Furthermore it was found that both livestock and human diseases also accompany the droughts. Other factors include relying on casual jobs, low levels of education, landlessness for those who are immigrants, laziness and

alcoholism (being irresponsible), insecurity (cattle rustling and ethnic clashes), over relying on livestock as the only enterprise, and old age. One or a combination of these factors was found to play a role in making poor people to remain in poverty. The cases of Doyo Buke (case 5), Guyu Wario (case 7) Chaqulu Jillo (case 9), Elema Ibraye (case11),

Appendix 1: Individual case studies

Case study 1: Dima Tari: Poor-poor (decrease)

Dima was born in 1951 at Sololo. When he was born, his family was rich having a good number of livestock, some 70 heads of cattle. In 1962 their area was raided and the animals taken away by bandits and the family became poor. When Dima moved to Marsabit in 1982 he had nothing; he has been here for 21 years. After he reached Marsabit he started working as a casual at a wage of KShs 5.00 per day. He worked as a casual for 15 years in which he was able to save some money and bought one cow, which he kept for several years. He had never been to school. He married his wife and they started working together. Dima is a farmer and now owns five cows and 2 calves. They have six children (2 girls and 4 boys) and one male adopted from his brother. Three children are in primary school, one of his daughters is married, and the adopted male is also married. The two youngest children are at home as they have not yet reached school-going age. He is one of the community guards equipped with a gun to provide security in the area, which enables him to draw a salary and this has improved his welfare.

On land productivity Dima says that when he started farming there was enough rainfall and the land was productive and they used to get a good harvest of maize and beans. But now he says that this has declined due to frequent droughts making them shift from maize and beans only, to include sorghum and peas, which can better withstand drought. Moreover people treated one another with sympathy and could support one another with food, which is not the case today. He says that life is becoming more difficult. There is increased drought, soil erosion, and crop failure almost every year and people increasingly depend on relief food. When he compares the present and the past, life was completely different. He participates in collective action activities by working together with other villagers to dig wells and now belongs to a group (Nagaya Gombo men and women) that is collectively digging terraces, planting and selling vegetables during the rain season. This benefits them by providing nutrition in the house and some income and also eases the labor demands. He experienced poverty when their animals were taken away by raiders; most of his clan members and neighbors were in a similar situation but there were a few rich people. He also says that it has been difficult to get out of poverty because he no longer has as much energy to work like when he was young and this is compounded by drought.

To Dima poverty means having many children that one cannot feed, clothe and educate, lack of animals, no job, failure to get a harvest from the farm, no land and lack of close relatives who can help in times of distress. If one depends only on livestock then they need at least 50 to 60 cows. Poverty first strikes the children and their mother. Many people are poor today having lost means of livelihood to drought and tribal clashes. Help for poor people is not forthcoming today as it used to be those days which makes it more difficult for people to escape from poverty. Droughts, raiding by enemies and disease out break are the main culprits. One can hope to get out of poverty if they have a job and other mechanisms include educating children for future security and keeping animals that can produce more. In terms of land preparation practices there is more use of ox-ploughing than before and those without oxen can borrow from friends or neighbors. People can also help one another to work jointly to open the land or plant. Dima reported that he was one of the villagers that had participated in the food-for-work programme supported by the World Food Programme through supervision by CIFA but this support was to run for only one month for the whole community.

Case study 2: Karu Shama: Poor – poor (decrease)

Karu was born in 1965 in Uran, Sololo where her parents were living. Her parents were rich in terms of livestock (cows, goats, and sheep). She married when she was 15 years of age. The husband was rich as he had about 130 heads of cattle. They have 6 children, 3 boys and 3 girls; first-born girl 15 years, second born 12 years, third-born 8 years, fourth-born 6 years, fifth-born 3 years and last-born 1 year. Among the six children 3 are in primary school. None have employment. The piece of land where they have settled for the last 12 years is about 3 acres. They have eight cows and practice farming when the season allows. She does not belong to a group, however she had joined one, but it did not take off due to lack of commitment by members to attend meetings.

Karu experienced poverty after their 33 heads of cattle were stolen. To her a poor person is one who does not own land, lacks sufficient food, is orphaned, or disabled. Poverty can also vary within a household if all do not have support of the livelihood earner. It is possible for the mother and children to go hungry if the father does not provide. When poverty strikes it affects children and the mother first - the man is strong and he can go elsewhere or he can go and work in a big town like Nairobi and survive while mother and children starve at home. She adds that in the past the number of poor people was smaller compared to the present. Some of the reasons she cites include prolonged drought and effects of tribal clashes, which made life difficult. The poor were also taken acre of better than now; people had plenty of food and there were good pastures for their livestock. As time goes by, drought impoverishes people even further. Those days, poor and weak people were taken care of by elders and clan members

would make contributions to help. These social support systems are no longer operational because in addition to poverty, which has made people less sympathetic, they are adapting other cultures and their traditional practices are dying out. Educating children will not make parents and their children escape poverty unless they are able to get good opportunities in employment where they can earn good money; jobs are very difficult to come by nowadays and even educated people are idle and poor. Also when there is no progress in the country people have no hope of escaping poverty. The main factors that contribute to poverty in this area are cattle raiding and ethnic clashes which resulted in deaths, droughts, crops failure, and/or poor harvest while coping strategies have become less effective.

Land use patterns have changed. In some of the villages maize production is no longer feasible due to shortage of rain, bananas have disappeared due to destruction by wild animals (elephants), which also destroy trees in the forest. Crops that have emerged are sorghum, teff, barley, and pigeon peas, which the present state of the land can support. There are also changes in livestock species. Since cattle die due to drought or reduce milk production people have turned to keeping camels for milk. The most important natural resources are soils, water points, pastures, and trees. However the availability and access to these resources has declined over the years as population increases and the climate changes for the worse. Prolonged droughts are the major cause of food shortages; in the past every household had enough milk and women processed milk into ghee during the rainy season and stored enough fat for the use during the dry season. This food security strategy is no longer there today because of deteriorating production conditions. Other practices like slaughtering cows, camels, or rams for own consumption have also disappeared because people do not have enough animals.

Some groups exist in the community since some people recognize that it is beneficial to work together. Such include village men groups that collectively dig wells for watering livestock and as a source of water for domestic use especially in the drier areas where people do not have access to other sources of water like the borehole. An example of a group is Nagayo Gombo men and women who collectively dig terraces for soil conservation in their *shambas*⁵ and plant kales for both home consumption and sale. However Karu is not a member of this particular group but she is hoping that they can start a women group to undertake some income generating activities to improve their status.

Case study 3: Tadole Galgallo: Nonpoor – Nonpoor (decrease)

Tadolle was born in 1940 at Karare in Marsabit central division. His parents were very rich in terms of livestock when he was born; they had about 100 cattle and 150 goats. During those days droughts and wars among tribes were rare; though

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⁵ Shamba is Swahili word for garden or farm

a Borana they lived harmoniously with Rendille. Their diet consisted mainly of milk and meat only. Every year there were enough rains. In 1968 cattle raiders from the Somali Ogaden clan stole their 40 heads of cattle and one camel that was being used for transportation. In 1973 they faced a serious drought that decimated many cows and the whole lot of goats and only 15 cows survived. He married in 1975 and unfortunately in the same year his father and mother died. With his wife and a few cows Tadolle migrated from Karare to Dirib Gombo where he now lives. He then married a second wife. Later he was employed as an operator for the Dirib Gombo borehole where he worked for 11 years earning 2000 Kenya shillings a month. He now owns 12 acres of land and 1/4 acre of a plot where he has put up his living guarters; a house made of mud walls and iron sheet roofing. He has stayed in this plot for 33 years. Tadolle has six children from his second wife, four of whom are going to primary school and the rest 2 are not yet of school age. Presently he owns 4 cows and 18 goats and he also plants crops. He has no other source of external support. He says that insufficient rains and droughts have affected his living standard by reducing the amount of maize and beans harvested and pastures and water available for livestock. According to him, his situation was similar with his neighbors' and the entire community as they were affected equally by droughts and loss of soil fertility. He says working hard and being serious in what one is doing is the only way to get out of poverty; when there is enough rain he plants more crops. One needs to use all their skills and knowledge, invest in labor for land preparation and plant a variety of crops including those that can earn an income like kales, and take good care of livestock. But it is not easy because one mainly relies on rain. Tadolle does not belong to any groups.

To Tadolle poverty means lack of animals, no ownership of land, poor housing which is poorly thatched. The indicators of poverty therefore include the condition of clothing, lack of land and livestock, poor condition of shelter and household utensils, the type of food one eats and its condition. A person who depends on hunting of wild animals and gathering of wild fruits is poor. The poverty line lies between 30-40 heads of cattle and 3-6 acres of land. Poverty levels in a household may not differ much because traditionally when the head of the family is rich, he will cater for the family's needs and it would be unfair if the head is rich and his family is poor. Between the father and the son it depends on whether they are in the same *boma* or not. If they are in the same *boma* and in good terms the father can support the son and vice versa.

According to Tadolle a greater number of people live in poverty today because the population of people is now high and people have insufficient food and livestock. Soil fertility has declined and productivity has drastically gone down; sometimes there is no harvest. Rainfall does not support enough grass for livestock and fewer animals are kept. Cows produce less and droughts decimate livestock herds. Today the poor are not given the same consideration as before. Those days people had sympathy for others and the poor were taken care of

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⁶ Boma is Swahili word for homestead

among the communities by the clan elders, when one was poor elders gathered together and discussed among themselves how to help; they contributed cows to that poor person. Today there is drought almost every year and people depend on government relief. In terms of wealth people were better off than today; there are fewer wealthy people. Droughts were less frequent and people had good numbers of livestock; climate was better and every time there were enough rains.

In the past people were able to escape poverty because relatives and clan members contributed livestock to the poor; today there is less sympathy for the poor and those strategies are no longer available. People are more concerned about looking for money for their own use. The only option is to work hard while those in employment may assist their parents and siblings. When people become poor today it takes more time to come out of that poverty. The risk and impact of drought is higher and clashes have occurred among the tribes thereby destroying goodwill.

Patterns of land use have changed; soils have become loose because of livestock coming to the farms and they are easily taken away when it rains. There is more cutting of trees. Agriculturally some crops like bananas disappeared through destruction by elephants, some pyrethrum had been introduced but there were no skills to manage the crop and it also disappeared. Those that emerged are kales, which some people are now growing. They got skills from different tribes that came from other areas e.g. *Sidama* and *Burji*. Milk productivity has gone down. Camels are now being kept, as they are able to do better in the current climate. Soils and water are the most important natural resources-soils support trees that attract rainfall and are used for planting crops. Excessive farming and cutting of trees for charcoal burning have affected the soils. People do not migrate any more.

Case study 4: Jarso Duba: Nonpoor – Nonpoor (no change)

He was born in 1951 at Sololo Mado-Adhi now in Moyale district. His parents were not rich in terms of livestock, they had 20 heads of cows and they did not practice farming. In 1973 a severe drought killed the few animals they had, and the family left Sololo and came to Marsabit. They had nothing by this time and they started working as casual farm laborers on other (rich) people's farms at Kenya shillings 3 per day. Marsabit was better than Sololo because there was more rain and soils were fertile. By then a kilo of maize went for KShs 0.25 and a bull would cost KShs. 200.00. Things were cheap and one could live comfortably. He married in 1976. Thereafter Jarso got a job as a government forest caretaker, working in a tree nursery in Dirib Gombo at KShs. 4,000 per month. He has a house that is in good condition (iron sheet) and his family dresses reasonably. Jarso says he improved economically. He has six children, four boys and two girls. One boy and one girl are in primary school. His first-born is working with a security company in Mombasa as a factory guard; one daughter is married and 2 boys were assisting him in farming and looking after animals. He has 7 heads of

cows and 5 goats. He has lived for 15 years on his 10-acre farm. He depends on farming, keeping livestock and his salary. Groups are not popular here and he does not belong to any group.

Jarso experienced poverty when he had no livestock. The major problem is drought, which has severally decimated his animals and reduced production from the farm. The soil also has also lost its fertility worsening the situation. He said that the clan members and neighbors were in a similar situation because of the factors mentioned above. He says that for one to get out of poverty they need to work hard, use improved skills in managing livestock and growing crops, and should save to invest in some income generating activity. "And one also needs to be in good health, in good terms with their family, and should pray for God's blessings", he adds.

Poverty (dega in Boran language) means a state of having no livestock, no land, poor condition of the house, poor condition of the utensils, and malnutrition among the children. Poor condition of clothing, being physically disabled, few or no livestock, lack of access to/ownership of land, and being an orphan are indicators of poverty. One who has 2-3 livestock and 1/4 -1/2 acre of is considered to be poor. Poverty may not differ within a household if the family members support one another if they have the means to do so but if they do not agree then it is possible for poverty to differ. When poverty strikes it affects the children first then the mother; the father can risk his life and steal to survive while the children may not have an option. The mother may also steal or beg food for her children. There are more people living in poverty compared to 10 or even 20 years ago. This is a result of increasing population which has created pressure on land and water resources, soil fertility has deteriorated and people cannot get as much as they used to from their farms, droughts are more frequent occurring almost every year, while the rains have become less frequent. The quality of pastures is low and the amount of water available for livestock has also gone down, so people cannot keep as many animals as they used to. Cattle raiding increased in the last few years and it appears that politicians were involved and the government was not doing enough to control this menace. Because of different political orientations people hate one another more making it difficult for them to unite and find a common solution to the problem. People are also less sympathetic to one another.

Today poor people are treated worse than before; there is less sympathy from the clan members and relatives but in the past they were treated better. In the past, if one had a problem of having no livestock, clan elders came together and discussed how to help. They would contribute livestock to the poor. Each person from the clan of that poor person was required to make some contribution if they had enough livestock and it was sinful for one not to contribute. One factor that affected the way people used to help one another is the frequent droughts, which have reduced the number of livestock. There are also fewer rich men today as the per capita number of livestock has gone down. The high population has

created poverty due to loss of soil fertility and lack of enough pastures and water for the animals; people cannot keep as many animals like before. The institution of the headman and elders was very important in tackling poverty among clan members. These strategies are no longer accessible today; people have less or no sympathy and the social control mechanisms have broken down and there is less effort to solve problems for individuals collectively. All these make it hard to come up with new strategies to escape poverty. To escape poverty one needs to work hard, employ good skills in farming, forge links with others to fight poverty together. Those lucky to get jobs can assist their parents or children. When people get poor today it takes more time to get out of that poverty because they do not get any help; the social norms and regulations that bound people together have collapsed and they are now more individualistic.

Land use patterns have changed a lot. There is more cultivation with no time to rest the land, there are more livestock on the farms because the old grazing areas have been encroached, and people are clearing more trees to grow crops and burn charcoal. Crops like bananas and pyrethrum have completely disappeared while maize and beans are declining. Lower rainfall and declining soil fertility have contributed to this. Crops that have emerged are miraa, kales, onions, tomatoes, carrots, pepper, cassava, and sweet potatoes. People have acquired new farming skills from communities coming into the area like the *Burji* and *Sidama* who came from Ethiopia and live in the neighboring settlement of Badassa where they practice a lot of farming. Some grasses have disappeared and there is less water and pastures for livestock, which has negatively affected milk production. People now keep camels because they tolerate drought and they need to drink water only 2 times in a month.

The most popular natural resources are water, soils, and trees. People use water for irrigating vegetables and trees, for domestic use and for livestock. Good soils support growth of crops and pastures. Trees attract rainfall but these are fast disappearing as people cut them down for charcoal burning.

Case study 5: Doyo Buke: Poor – poor (no change)

Doyo Buke was born in 1968 at a place called Mega in Ethiopia. Some of the information is recollected from what his parents used to tell him when he grew up. When he was growing up his parents were rich in terms of livestock numbers; they had 50 heads of cattle and 20 shoats. A few years later his parents lost their wealth of cows and shoats through a severe drought, which killed many animals. This seems to coincide with the severe drought in 1973, which is associated with eclipse of the sun (ola adun dote) as reported in the community workshop. Due to hunger caused by poverty, Doyo's parents left Ethiopia for Kenya when he was 10 years old in 1978. They had only one cow, which they sold (at 70 birr) to get money to travel to Marsabit. This was equivalent to KShs. 700.00. They were six in the family, each paid KShs. 30 (total KShs 180.00) the balance of KShs

520.00 was to be spent on food once they arrived in Marsabit. When they got to Marsabit their father sought help from his brother-in-law who accommodated them in the village. However one month later he chased them away and they became stranded in the area. His father (Buke Adi) went to the next village and requested one Halake Gurguro who belonged to his clan if he could accommodate them on his farm and the latter agreed. He showed them a portion of land, which they could use (no fee) and this is where they have lived since then. He also gave them 20kg of maize meal, 100gm of salt and ½kg of oil for their consumption at home. The father then got employed as a casual laborer where he earned 150/- per month. Doyo himself was engaged to look after cattle at 50/- per month and was provided with food rations by his employer's family. One of his sisters worked in Marsabit town as a maid at KShs100.00 per month part of which she also brought home to assist the family. They started keeping poultry and with his salary, Doyo's father bought 2 goats. After sometime Doyo's father approached one Osman Jillo who lived next door for assistance. The latter sympathized with their situation and allocated them a 4-acre piece of land where they have ploughed and grown crops without having to pay for it. In the first season they got 5 bags of maize and kept progressing. Doyo's eldest sister got married and the bridegroom paid 1 cow as bride price and this was the first cow they owned since coming to Marsabit. They later acquired another 2 cows, 10 shoats and 15 hens. Doyo mentioned that their major problem was water and people (mainly women) have to walk for 9Km to and fro to get 20 litres of water. Washing clothes, children, and utensils is very taxing.

Doyo married his wife 10 years ago (1993). They have two children, a 3-year old boy and a 7-year old girl. He said that their culture requires that since he is the first-born man in the family he has to share every thing with his parents and siblings. In addition when problems are overwhelming then they work together to fight poverty. He practices both farming and has livestock but does not belong to groups.

Doyo experienced poverty since he was born and growing up in Ethiopia. He says that drought is one of the factors that has brought poverty to them since previously they had 50 heads of cattle all of which except 1 perished. He adds that they were in a situation different from his neighbors with respect to land since they did not have land of their own and they continue living on someone else's land. This makes it difficult for them to climb out of poverty. To him poverty means someone without properties or his or her own land or plot to live on. Others are: no livestock, poor clothing, lack of sufficient or no food, and malnutrition in children due to lack of a good meal. One with less than 20 cows may be considered to be poor if they have many children to feed.

In the Boran culture hunting wild animals, gathering of wild crops (e.g. *aroresa*, *ogomdi*, *deka*, *bururi* (tubers), *charana* (vegetable), *madera* (fruits), being disabled, orphaned, or widowed are indicators of poverty. It is possible for poverty levels to differ within a household if well to do people do not support one

another like they used to do. When poverty strikes the children suffer first, then the mothers because they do not have means to support themselves but have to depend on head of the household. Today a greater number of people were in poverty compared to and 20 years ago. This because in the past there was plenty of rain and good soils which supported crops and livestock for a smaller population then. Today there is less rainfall, soils are not as productive, and population has gone up. People used to assist each other (sympathy) and culturally elders were responsible for intervening when a clan member was confronted with difficult circumstances. A Boran proverb says: mili demu ratha ka tau jibich (one who works for something is likely to be productive--equated to a female cow, compared to one who does not--equated to a bull). He remembers that when they arrived in Marsabit villagers came together and used to supply them with maize and milk for the children and elders used to investigate who had failed to assist Buke Adhi's family. There was a lot of respect then. Today it is difficult to get assistance from the neighbors and one may just not ask for it. One factor that brings this disunity is that the community has abandoned their culture; elders can no longer decide what action to take as people argue that it is the government and not the elders to control people's behavior. The traditional institutions have therefore been weakened and there is less empathy. Today a mother and her daughter can give birth in the same house and the question is who will cater for the daughter's child. Every year there is drought and soil loses fertility.

In the past if one did not have livestock but grew maize, they used to exchange maize for livestock with those who had them. For example Boran farmers and Gabra herders would exchange at the rate of 1 bag of maize to 1-5 goats depending on food needs of the Gabra while the Rendille would exchange I bag for a calf. This barter trade no longer exists because there is less food, fewer livestock, and high population; due to idleness a man now reproduces a child every year. It is possible to escape poverty if one has a good brother, good relative, clan, and community that empathizes and supports him/her like used to happen in the past. A rich man would accommodate a poor person's family within his boma and provide them with food. In return, if that family had a mature boy, he would look after the wealthy man's livestock and the rich man would give them one animal after another if they were working well. In that way the poor family was able to start building a herd of their own. And a point to note is that according to the culture the wealthy man earned prestige and became famous when he thus assisted a poor family within his boma. Today the number of rich men are very few compared to the poor and there is no accessibility because today many people are poor and no one is really much better off than the other. Today life has become difficult because of the high population, climate changes, and poor soil textures. Soils are eroded due to intense cultivation and poor people cut down trees for charcoal burning leaving the soil bare. It is hard to stop the poor from burning charcoal since they have no alternative. Educating children is a way out of poverty but only if they get employment in which case they can assist their parents and pay school fees for their brothers/sisters and educate other members of the community. But in general it takes more time to get out of poverty; there is a high population, which has narrowed opportunities and it is not easy to get employment.

The major a risks that cause poverty include drought, pests and parasites, outbreak of disease, cattle raids, banditry, house fires, and vehicle accidents. For many of these there is little people can do, as they do not know when they are going to happen.

Patterns of land use have changed. People are cutting more trees to build houses, access land for cultivation and for charcoal burning. Crops that have disappeared include bananas, which are destroyed by elephants while production of maize and beans is declining due to poor rainfall. Sunflower and miraa are crops that have emerged. Livestock have reduced milk and meat because of drought every year and young animals grow poorly because their mothers do not get good pastures and water. People are now keeping camels because the camel is tolerant to drought and can stay for 2 weeks without being watered. Water is the most natural resource they have because water is life. Even animals depend on water. "Even if one has food, when there is no water you cannot cook or wash" says Doyo.

There are number of activities that people do collectively e.g. young men cooperate together in the village to do farm activities e.g. weeding, harvesting and ploughing. They also help in building thatch houses, helping the poor or disabled persons and the old men and women.

Case study 6: Gababa Galchu: Nonpoor – poor

Gababa was born in 1947 at Liban in Ethiopia. His parents had a good number of livestock, 70 heads of cattle and 100 goats. In 1973 Somalis raiders took away their animals. Later in the year the community (clan) contributed cattle to assist them build a new herd. Gababa then married and they have 2 children (a boy and a girl). First-born is a male who is 30 years and the second a female who is10 years old, the latter is in primary school with the support of F.H.I. Due to poverty and lack of land they left Ethiopia for Kenya and by the time they reached Marsabit in 1982, they had only 20 goats since most had perished on the way. They live in a grass-thatched house and they don't have land to farm. None of the members of the HH belongs to a group. Gababa's father has been sick for 4 years, his mother is aged and his son got "lost" in Nairobi where he went to look for casual work. Their HH has been in a situation similar to their neighbors. Poverty means: no land, no livestock, being disabled, and living in a house that is about to fall and leaks when it rains. The HH head is the one responsible for meeting the needs of the HH so when poverty strikes the entire HH suffers although children and women are most vulnerable because they do not have means of supporting themselves. The number of poor people has gone up compared to the past because there is a higher population struggling to live on

poorer land with soils that are not producing as much, and people do not assist one another as they used to do. The climate has also changed and drought kills livestock making some rich people to become poor hence there are fewer rich people today. The major coping strategy was the support that people got from the community with the intervention of elders; these strategies are no longer available and it is harder for people to cope and it takes more time to get out of poverty. However parents hope that if they educate their children and they get a job then they can assist them. Droughts and raids have caused people to be poor especially due to ethnic clashes. Bananas are the major crop that has disappeared because of destruction by elephants while poor rainfall has reduced the production of maize and beans. Miraa is now an important cash-earning crop and more people are growing it. People have reduced the frequency and distance moved with their animals. Water is the most important natural resource for everything depends on it--it is life

Case study 7: Guyo Wario: Poor – poor (no change)

Guyo was born in 1947 in Kalacha area of North Horr division. His parents had about 80 cows and 250 shoats so they were rich. They did not practice any farming then. In 1967 there was a drought that killed almost all the cattle but the shoats survived. In 1972 the shoats were taken away by *Shangilla*⁷ raiders and they were left with nothing thus falling into poverty. Guyo left Kalacha immediately and came to Marsabit where he worked as casual farmhand at KShs.15 per month. He worked for several years and later went to Nairobi to look for employment. Here he got a job and later married then came back to Marsabit and bought the 8-acre *shamba* where he has lived for 18 years. They have six children; the first-born is 15 years and the last is 1 year 3 months old. Out of the six children 3 are in primary school and the rest 3 are not yet of school going age. They own 2 cows and 2 goats. He does not belong to any group.

Guyo says he has been poor for many years and finds no improvement in his situation adding that many of his clan members and neighbors are in a similar situation. He blames his condition on droughts, ethnic clashes, and his age and condition saying that he is weak to perform any productive work. To him one is poor if they do not have livestock, if they are orphaned, disabled and aged, and lack other necessities like land for farming, money, clothing, and shelter. Being a widow may also make one poor for relatives may take the property left behind by the husband away.

Those who have 20 to 30 animals are considered well off and poverty levels are likely to be the same in the household if the household head is poor. When poverty strikes women and men suffer first because they give out the little food available to the children while they remain hungry. They have to go looking for work so that they can get some little money. The number of people living in

⁷ Also known as Dasanetch, an ethnic group living in the north-western corner of Marsabit district nears the border with Ethiopia.

poverty is higher today compared to the past because they are losing out to drought, wars, and an increase in population which increases the demand for food and other needs. Also the poor were treated better in the past and those with the means would help the poor at least with food. The rains were good, soils were more fertile, and people had good numbers of livestock. In addition the community/clan had a good tradition of taking care of the weak people in the community. Today once somebody is poor it is very difficult to get out of that poverty. In the past people could escape poverty because the clan would contribute livestock to help. Such strategies are only available to a very small extent, if at all and then only among people who are very close. Educating children, though a potential way to fight poverty, will not make people to escape poverty because there is a lot of competition in getting jobs and people have become very corrupt so that it is only those that have the means to bribe who can get these jobs when they are available so the poor continue being left out to suffer. It is difficult to follow the example of somebody else because one may not have the same ability. It takes more time for people to come out of poverty because of droughts and lack of alternative ways of getting support.

The risks that make people poor today include drought, ethnic clashes, and outbreak of pests and disease and these have increased compared to the past. The risks have become higher and coping mechanisms have decreased and become less effective. Only those with many sources of income (e.g. livestock, farming, business, and jobs) can have access to coping mechanisms. Interms of land use patterns there have been many changes; methods of cultivation have changed as people are now using animals and even tractors to cultivate the land. A lot of people now do both farming and keeping livestock although the numbers of animals per household have decreased. Bananas and mangoes are crops that have disappeared due to destruction by elephants while production of maize and beans has gone down due to droughts, lack of sufficient rain, and pests. Those that have emerged include sorghum and pigeon peas, and teff, which do better in the short rains. Livestock also produced better in the past, as there were more pastures and water. The most important natural resources are soils, watering points, trees, and pastures; soil is necessary for farming, water is used for domestic purposes and watering animals, supporting growth of trees which are used for building, fencing and firewood while pastures support the livestock.

A lot of changes have taken place compared to 10 and 20 years ago. The droughts are more prolonged affecting everything else. There are fewer animals to be offered for sacrifices and this has affected the culture.

Growing kales is becoming a common practice and it is done by men, women, and the youth. The main group is Dirib Gombo water users association. It was initiated by Intermediate Technology Development Group (ITDG) and they have a committee, which sells water using the money to service and maintain the machines. Both men and women work together and people who are not members cannot interfere with the work of the committee.

Case study 8: Jillo Godana: Nonpoor - poor

Jillo was born in 1973 in Sagante location of Gadamoji division, Marsabit. She got married to Godana when she was 15 years old. Her parents were rich in terms of livestock and had 8 acres of land but her husband was poor when he married her. The only piece of land he owned was the 1/4 acre plot where Jillo lives with her children. Jillo's husband became sick and died while in Nairobi. When he was alive he used to send money to them every month and she and her children lived comfortably. After her husband's death life has never been the same again, she had nothing except the plot. She has four children, the first born is a boy aged 14 years and the last born is a girl aged 2 years. Three of her children are going to primary school thanks to the free primary education. Due to the difficulties she was facing in raising her children alone, Jillo approached the community elders for assistance. They allocated her a small plot next to the community borehole where she plants kales, which she sells to support her children. She pays no rent on the plot but she has to pay for the water used. She sells her kales at Marsabit market and she makes 1 trip per week with average sales of KShs. 600 per trip. She says that though she works alone on the plot she is increasing the output of the crop. Jillo belongs to Dirib Gombo women group and she is one of the founder and committee members. The group grows kales and buys iron sheets to roof members' houses. The group members assist one another in times of distress and sickness by contributing some money and advancing modest loans.

Jillo says that when a person does not have land and livestock then they are poor. One is considered better off if they have 8-10 acres of land and 15 - 20 heads of cattle. When poverty strikes it first affects the mother first because children are much closer to the mother and she has to fend for them. She thinks that people are better off today because they have more knowledge and they can improve their living standards if they got the right opportunities. In addition communities get assistance from projects (NGOs) that could give goats, cows, and oxen for ploughing. After the animals give birth one gets milk, which they can sell if they have a problem of money. However only very few people are likely to benefit from such donations and if they do not work for themselves they are not likely to get out of poverty. It is important for people to use the knowledge they have acquired if they want to benefit individually. They can use the skills and knowledge to grow crops like miraa, kales, or burn charcoal. In the past people could escape poverty if they were supported by the clan or relatives but they did not have knowledge and skills to enable them remain out of poverty. Today if somebody is faced with hunger they will go to a big town to look for bread rather than depend on support of relatives, which is not forthcoming as it used to be. To escape poverty both parents and children have to work hard and contribute to household welfare through collective effort. Educating children is a way of getting out of poverty but only if the child gets employment so that s/he could assist other family members. But it is important for the parents to meet the basic needs of the family.

When people become poor today it takes them more time to come out of poverty because the cost of living is very high and what one can earn is low. For example if one works as a farm hand it is difficult to eradicate poverty. Drought and cattle raiding are the primary risks that drive people into poverty, for the latter there has been some improvement due to security provided by the government. There are limited mechanisms to cope with shock, in the past people depended on the goodwill of others but now one can only do this by putting more effort in farming to ensure they have enough food to eat and something to sell to get some money. Usually it is the parents who have access to these risk coping strategies. Land use patterns have changed over the last ten years and people are using different cultivation methods and growing crops that they have learnt from others. Bananas have disappeared due to destruction by elephants while for pyrethrum it is due to lack of skills and unsuitable weather. Miraa and kales have emerged as income generating crops. For livestock the cows have reduced the milk because there are no enough grasses because of little rainfall. People are now keeping camels because they are less expensive; they need little water and grass, and can feed on trees (browse) unlike cattle, which depend on grass.

The watering point is the most important natural resource; water is life, she depends on it to grow kales and miraa, which she sells to make a living. Soils are also important because that is where crops, grass, and trees are grown. However the soils have become poorer because of higher population, which leads to more frequent use while animals and cutting of trees for charcoal burning lead to increased soil erosion.

There are groups that are registered such as the water users association, which manages the borehole, women and youth groups that are growing vegetables for income generation. Another group of women operates a maize mill. Informal groups include those that are based on clans or families/friends who support one another when there is a calamity e.g. sickness or death.

Case study 9: Chuqullu Jillo: poor – poor (increase)

She was born in 1961 at Sagante location of Gadamoji division in Marsabit district. She said that when she grew up her parents had 30 heads of cattle and 7 acres of land and they lived a better life. When Chuqullu got married to Jillo in 1980 they got 2 cows from her parents and these increased to 5 after 6 years. Thereafter 3 of the cattle died during a severe drought. Of the two cows that remained one was sold so that the family could buy food while the other was sold to meet school fees expenses for Jillo's brother. After the drought there was a good rain season and their crop of maize and beans performed very well. They sold part of the harvest and with the proceeds bought oxen for ploughing. However life turned around when Chuqullu's husband turned into a drunkard. Later he sold the oxen and the land, left her with the children and disappeared to

Nairobi. Chuqullu and her children were left homeless and the state of her poverty worsened. She had no land. She has six children, first is a girl aged 16 years, and the last also a girl aged 5 years. Out of these, 2 are in nursery school and 3 in primary school. The second born girl who is 13 years old is not in school. She assists her mother to look after the younger children, cook, fetch water, and firewood when the latter is away. Since she had no land or livestock Chuqullu started burning and selling charcoal to cater for her children. She sacrificed a lot and after a tough struggle she made some savings from charcoal trade and bought a small (¼-acre) plot in Boru Haro village where she built a mud and thatch house and has stayed here for 6 years. Since she had no land to cultivate she approached one of the elder family members who allowed her to plant crops without having to pay for the land. Because of drought and poor soils she was only able to get 2-3 bags of maize, sometimes none.

By default Chuqullu is now the head of the household playing the role of both the father and mother, it is very difficult for her. She would like to educate all her children but the level of her poverty does not allow and she says her progress in life is negative. She says that in the past livestock produced more meat and milk because of good pastures and water, as there was plenty of rainfall all the year. The land produced enough maize and beans because the soils were good and fertile soil and rains came every season.

Chuqullu belonged to two groups: 1. Catholic women group which brings women to pray together, clean the church and assist one another and the needy or disabled. 2. Dirib Gombo livestock group which was initiated by Community Education Concern (CEC) an NGO. Their activities include assisting one another with oxen for ploughing. During drought the project would buy weaker animals, slaughter them and distribute the meat to members of the group. The project also organized workshops to teach people about development. As at the time of the interview the project had stopped its interventions.

Chuqullu has experienced poverty, which she blames on her husband who sold their land and had them chased away. Though she felt discouraged and demoralized she is determined to go on with her difficult life. Most of her clan members were in a similar poverty situation. To her, poverty means being an orphaned child, being single or widowed, and having no land or livestock. Indicators of poverty include poor body health, poor condition of the house (sleeping on cartons on the floor). One can be considered better off if they have at least 10 cows. Within a household where everybody depends on the household head, poverty does not differ because when the father is poor likewise the children and the mother will also be poor. The head of the household has to provide for the family and if poverty strikes he is thus affected most, a father can steal or beg to feed his family.

Today more people are in poverty because the population increases over the years. The droughts are more prolonged reducing the wealth status of the community. Lack of enough rain causes hunger and shortage of water. 20 years

ago life was very successful compared to today. The land was more productive, there was enough rain, and food was abundant compared to today. The poor were well treated in the past because elders were very strict in their concern and help for poor within the community. People had more sympathy and there was plenty of food to share with those not having enough. The number of wealthy people is fewer compared to the past. Life was easier in the past because there was plenty of food and livestock produced more milk, there was enough meat and blood for consumption. There was good pasture for animals and plenty of rain every season but today the land is exhausted. Elders would intervene to see that the poor were taken care of by the community. Today such interventions are not there and it is hard for the poor get out of poverty. To get out of poverty it is necessary to work hard, have some job, and foster good understanding and cooperation within the family. Educating children is a way out of poverty for if they secure employment they can contribute to family welfare by supporting the parents. Nowadays it takes more time to get out of poverty because it needs a lot of effort and also money, which is not easy to make. The risks that get people to poverty include drought, which kills livestock, cattle raiding, and banditry. It is very difficult to cope with these kinds of shocks.

Changes that have occurred include the disappearance of crops like bananas and pyrethrum while production of maize and beans goes down due to lower rainfall and loss of soil fertility. Miraa, kales, onions, and cassava are crops that are now being grown, the first three for income and the last for food security. Because of drought there is less pasture and water available and this reduces livestock productivity. Calves do not grow as fast. People now keep camels because they are tolerant to drought.

Water and soils are the most important natural resources. The changes that have occurred have been caused by drought and increase in population. People are cutting trees for charcoal burning. In the past people used to move from one place to another but now they don't.

Case study 10: Biqa Godana: Nonpoor – Nonpoor (increase)

Biqa was born 1961 in Sagante location of Marsabit district. He has 8 acres of land that he inherited from is father and he has lived here since 1970. His parents had a good number of cows but one day their lost 200 heads of cattle to Somali raiders leaving them poor. Biqa is married and has 5 children, 4 girls and 1 boy all of who are attending primary school. He keeps livestock and grows crops on his farm. As a government employee he earns a salary, which enables him meet the family needs. They used to live in a grass-thatched house but now he has an iron roof over their head. He is a member of the community heath workers, environmental group, and Dirib Gombo farmers group. The health group teaches other community members about hygiene and HIV/AIDS. The farmer group members participate in teaching new knowledge about new farming

systems especially on kales and they also construct terraces for control of soil and water conservation on their farms. He sees poverty as lack water for both animals and human use, lack of farming land, being an orphan, being disabled, being a widow or widower, suffering from a long term disease such as HIV/AIDS, and giving birth before marriage (for girls who may be outcasted). To be considered better off one need to have at least 10 -15 cows. But majority are poor, as they have no cattle. Poverty may differ within a household because of preferential treatment based on gender; males are treated better than females in education and inheriting property. When poverty strikes children and women are affected most.

There is more poverty today compared to the past due to changes in climate, changes in life style (e.g. girls giving birth before marriage), and increase population. In the past the weather was good, there was plenty of rainfall, and prices of goods were good compared to the cost of living. In the past the community treated the poor better and they would get support but today nobody cares for them. There also were more rich people and life was easier. Many things have changed: climate is worse, population has gone up, and there is less water. In the past the poor would get support from the community but that is no longer accessible because more people are poor and there are more natural calamities like drought that affect people in the same way. To escape poverty one has to cultivate a large portion of the farm so that when the weather is friendly they can harvest enough to eat, sell, and store for future use. New technologies and enough water supplies can change the living standards of people. Digging water pans, dams, and conserving soil and water can make life better. Education can make one to escape poverty because an educated person gets knowledge, which makes life easily when s/he gets job. If the parents are successful it would be good for children to follow their strategies. Nowadays it takes more time for people to get out of poverty because of changes in weather, changes the lifestyles, which increase cost of living, and a poor economy.

The primary risks that push people to poverty include disease, drought, banditry, and lack of modern technologies. Although there are more technologies available, the risks of drought and disease are higher and the cost of some of those technologies is beyond the reach of many poor people. Before, the soil was rich in fertility, there was good vegetation cover and enough rainfall, and land was not under intensive cultivation. Bananas have disappeared due to lower rainfall and destruction by wildlife. Crops that have emerged include miraa, kales, and sorghum. The per capita number of livestock has gone down and camels are now part of the production system. Water is the most important natural resource but due to population increase the water situation has worsen. There are several formal and informal groups engaged in different activities such as growing and selling of vegetables, digging water pans, practicing soil conservation and running a nursery, managing water resources, and running merry-go-round activities. Membership to these groups is dependent on the by-laws and constitution guiding their establishment and management.

Case study 11: Elema Ibraye: Poor – poor (increase)

Elema was born in 1946 (57 years old) at Chalbi, in Maikona division of Marsabit district. His parents had about 70 cows, 200 shoats, and 30 camels. He says that they lived a happier life compared to today. In 1973 there was a serious drought (ola adun dote=eclipse of the sun) and most of the animals perished. The few that survived were taken away by bandits during was referred to as olki roboi clashes. Since almost everybody was affected there was no support forthcoming from clan members. Such support is known as hirba busa gonofa in Boran and is applicable to one when they lose animals to drought, wars, flood, or disease. In 1974, Elema left for Nairobi to look for a job. He got one as a night watchman but he says life was very miserable as he was getting a small pay. To supplement his meager earnings he had to do other casual work during the day. In 1977 he met a girl who had also left Chalbi to look for a job in Nairobi and they got married. In 1980 they moved back to Marsabit and came to where they live today. They wanted to do some farming to see if they could better their lives. They approached one Qonchoro Gurra, who is a relative, to allocate them a piece of land where they could settle. Qonchoro kindly allowed them to settle and in addition gave them food and a milking cow (such a gift is referred to as loni amesa). They have lived in this compound up to now, as he has been unable to buy land of his own.

Elema has 9 children, 7 girls and 2 boys. Only one of these has gone to school and none has a job. The first 4 girls are married and he got some cows as bride price (known as *garat*). He also gave out a gift of a cow to each of his daughters when they got married (known as loni sige abaa). This exchange of gifts helps to cement the relationship between affine. Elema belongs to a group of people who had planned to start growing kales collectively. However due to breakdown of the borehole that was going to be the source of the water and lack of financial capacity, they have been unable to take off. Except this group that he belongs to. and which is inactive, he is not aware of other groups in the area. He has not benefited from any external support. His poverty was caused by loss of animals during the 1965-68 clashes when they were raided by Somali people and the 1973 drought. It was in 1973 that the Boran people first received relief food from the government in form of maize and precooked porridge. Other clan members were in a similar situation. He is unable to climb out of poverty because of droughts, ethnic clashes, pests, and disease outbreaks (thadi tachi oyalle) all of which result to livestock deaths/losses and crop failure. A person who does not own land like him, livestock, good shelter, and has no reliable food security is a poor one. When poverty strikes it mostly affects the women and children; the man can move elsewhere to look for means of survival and some people do abandon their families.

The number of people living in poverty is higher today compared to the past. In the past the population was low, there were good rains and there was enough food for all. The culture was much respected and the poor received help from the able ones. Today lifestyles have changed; education, religion, and modern day living have destroyed the good things that people used to do to others. The social mechanisms that helped people escape poverty have disappeared and it is therefore more difficult for poor people to get out of poverty. Education can only help one get out of poverty if they have money to bribe to get a job or if they have a godfather. If one has few livestock they cannot meet the expenses for education. He hopes the government effort to provide free education can be extended to all school levels.

Some of the severe problems that have affected people's capacity to live a good life include more frequent droughts such as occurred in 1980, 1992, 1994, and 2000, the clashes between Boran and Burji communities, and the 1997/98 *El Nino* rains which swept away livestock and crops. Wars bring about shocks that are difficult to cope with. Men lose their lives when defending their property. The land is exhausted due to erosion ad some crops like bananas have disappeared while kales, sorghum, and miraa have emerged. There are few farmers that are interested in getting better breeds of livestock but the knowledge is limited. For people with livestock, pastures and water are very important natural resources while soils are important for growing crops and trees.

Case study 12: Tunu Duba: Nonpoor – Nonpoor (increase)

Tunu was born in 1965 during the worst period of war known as olki roboi. Salo Sabelo, who led Somali raiders in invading the Boran, led the war. Tunu's family had about 10 cows and 1 donkey and they were all taken. Many people were killed and livestock taken away. A lot of people were left poor and some had to live in the bush to save their lives. Tunu has gone to school up to form 4. He is married and they have 3 children; only the first-born is going to nursery school. Tunu is an employee of the government in the general service police unit. He has no land of his own and still lives in his father's compound. He has 5 cows and 10 shoats; he bought 2 of the cows and his father gave the other 3. He belongs to Dirib Gombo livestock group, which was initiated by CEC. Their activities include trading in livestock and they contribute KShs. 100 each per month, which they save. This money is used to help members when they are in need and they can borrow small loans. He knows of only 1 other organized group (Malka Lakose women group) but people work collectively during weeding, harvesting, and shelling maize. His family has gone through a period of poverty after they lost their livestock in 1973 drought and most of his clan members were in a similar situation. His salary has helped him to climb out of a worse state of poverty and he says that majority of the people in the community are poor.

For Tunu, poverty means having no property and being in an unhealthy state of mind. Some indicators of poverty are poor shelter, lack of sufficient food, poor clothing, no livestock, and no land. When poverty strikes, women are most affected; men can migrate to urban centres to look for other alternatives while mothers and children remain at home with little to do to make a living. In the past,

people were relatively better off because they used to support one another. Poverty is increasing and the poor get treated worse than in the past. New strategies include sending children to school so that they can get an education and hopefully get a job or be able to make informed decisions on their lives. But educating children has been a struggle because of the high expenses. If the father is successful it would be good for children to follow his example but then children can become rebellious against their parents. When one becomes poor it takes more time to get out of that poverty because people do not help as they used to do. Risks that push people into poverty are ethnic clashes like those that occurred between Boran and Burji communities in 1994 and raids such as those between Boran and Rendille. Due to drought many Borans moved from Marsabit to Isiolo district and some to Ethiopia. As they moved to Isiolo the Rendille and their livestock stolen also raided them.

Cropping patterns have changed with bananas and sweet potatoes disappearing. People who live near water points (borehole) can grow kales and miraa. Wildlife, especially elephants, destroys crops and there is no compensation so this contributes to poverty. New adaptations include keeping camels and poultry. Soils are important for supporting crops, pasture, and trees but due to continuous cropping they are exhausted. There is little or no addition of manure or fertilizers to improve soil fertility so productivity is declining. Lifestyles are changing and many good aspects of culture have been abandoned in favor of religion.

Appendix 2: Key informants interviews

Michael Ngutu (formerly an extension officer with the MoARD)

Ngutu has now been working with farmers in the mountain region for more than 2 years. His work in the area involves research on farming systems focusing on technologies for improving crop production, testing of technologies for improving farmers' incomes, and water harvesting and saving technologies. Based on surveys done in 2000 (Ngutu and Kioko, 2000) there is a marked increase in settlement in the area and introduction of cropping in the more marginal areas. This has put a strain on the various resources especially water. Cropping has offered new opportunities for generating income but due too production practices, the environment is destroyed as evidenced by erosion and large areas of bare land during the dry period. The community is poorly organized with respect to performing activities that require collective action such as maintaining and repairing the water sources and getting water to individual households. Due to the duality of the production system (pastoralism and cropping) it is not easy to get the best output from each. A large section of the area is still inaccessible due to poor infrastructure and it is difficult to supply water to the homesteads, which are quite spatially separated.

Most people do not have innovative ideas on how to overcome their own problems and they expect handouts most of the times, which has created an unfortunate dependency syndrome. This is also manifested in some people asking for or expecting to be paid something (either in cash or in kind) for giving information especially to researchers making it very difficult for such people since they do not have a budget providing for such expenses. Although the community has several committees that are formed to deal with various issues such as security, water, and natural resource management, such committees are largely externally initiated either by government agencies or development agencies and their impact is not clear. Rehabilitation of the infrastructure has to be supported by food-for-work programs with donations from the World Food Program. Income generating activities are limited to cattle and extensive cropping which are really dependent on weather conditions and there are regular crop failures and poor milk production. When poverty strikes, women and children are affected most since all aspects of property ownership, control, and decision-making is within the domain of men.

To cope with poverty the community mainly depends on social support systems where those in the extended family help their poor relatives. Poverty is worst during the dry seasons and during extended drought spells people have to be provided with relief food and this has become a significant feature of their livelihoods. In terms of land use there a has been a shift from land that was in the past used as a fallback grazing area to one that is increasingly used for crop production. Livestock is now mainly kept outside of the area when it rains, as there are crops in the field. The numbers and condition of the livestock changes with the season increasing during the wet season and reducing in the dry season due to deaths and distress sales. The area under cultivation has increased as more people move in and open up new land. However productivity is high only for a few years after which it goes down especially due to impoverished soils and erosion. With increase in population access to most resources decreases. The following interventions have been or are being tried.

Intervention	Remarks
Water harvesting pans	Developed in the last 1 year and in spite of the apparent community interest it still to early to evaluate their success
Water saving for vegetable production	This has generated a lot of interest and adoption is relatively high. Dirib Gombo could be a major source of vegetables.
Vegetable diversification	Not yet widely adopted but farmers realize they can grow different types of vegetables and not only kales.
Organic crop protection	Has made no difference

The above interventions have been tried in other dry areas with varying degrees of success.

For Dirib Gombo the major impacts include better management of vegetables and increased incomes. The major lessons learnt are that use of action research is useful for changing peoples production and consumption patterns and practices and that improved technologies are necessary to improve productivity and managing natural resources.

Galgallo Sori (farmer)

Galgallo settled in Dirib Gombo 3 years ago and he says that poverty is relatively high. The major factors that contribute to poverty include drought, low livestock productivity, and illiteracy, which limit peoples' opportunities for getting gainful employment. He says that the rains have decreased over the years resulting to reduced farm production and fewer livestock thus increasing the level of poverty. Households that depend only on planting crops are mostly affected by poverty because they have nothing to turn to when the crops fails but those with a mix of crops and livestock may be able to absorb some of the shocks engendered by crop failure. During drought people move with their livestock to where they can get good pasture for their animals. Some migrate to big towns to look for work. Many diseases are associated with poverty because poor people cannot afford to eat well or keep themselves in good hygiene. The good cultural elements of supporting those in need are no longer a significant feature of the communities' way of life.

He thinks that water is basic in fighting poverty as it can facilitate people to practice irrigated agriculture. People should therefore invest in conserving water, developing new water harvesting technologies such as water pans that can be constructed on individual homesteads, and accessing technologies for improved livestock productivity e.g. improved breeds for upgrading the local ones. Education, training, and taking farmers for study tours outside their area to enable them acquire more knowledge and skills in utilizing the resources they have to better their livelihoods are worthwhile investments.

George Sembe (community development worker-CIFA)

Sembe has interacted with the Dirib Gombo community for 8 months. The major socioeconomic changes that have occurred is an increase in poverty levels among agro-pastoralists, increased conflicts over resource use, increased sedentarization, and increased human and livestock populations. The biophysical changes include more unreliable and erratic rainfall both in space and time, and increase environmental degradation. The main challenges facing the people include rampant poverty, insecurity, endemic droughts, increased population pressure, animal/human conflicts, and poor water availability and accessibility. Immigration, conflicts, poor weather, unemployment, poor farming techniques,

and poor state of the economy are the major causes of poverty. Women and children are affected most by poverty because women are responsible for ensuring the household eats while they do not have control of the production resources, while children are adversely affected by malnutrition if there is a food shortage. To cope, people perform casual jobs, solicit support from relatives and friends, or depend on relief food. Mitigation strategies include diversification of the economic base by planting horticultural crops, invest small businesses, adopt water harvesting technologies, and increase school enrolment.

The numbers of settlements and settled people have increased and there are more farming activities. There are changes in livelihoods, which involve keeping small herds of cattle and goats, and to some extent camels while there is diversification from pastoralism to mixed farming. Land under crops is expanding but soil fertility decreases due to poor cropping practices and rampant erosion. Accessibility to resources has worsened and there are conflicts among settled communities of different ethnic orientations and between humans and wildlife. It is necessary to organize community-based committees to prevent, manage, and respond to conflicts under the guidance by various stakeholders.

For the first time CIFA is involved in supporting rehabilitation of water pans and roads in Dirib Gombo using food-for-work. The major impacts include increase water availability and accessibility to households, improved physical infrastructure. It is noted that food-for-work is more acceptable to the community than general relief for it leaves them with community assets while individual households benefit by getting food. The future depends on interventions for food security with community participation in identifying and prioritizing projects that enhance food security in the area. CIFA is collaborating with World Food Program, Arid Lands Resource Management Project, and Office of the President and is the implementing partner for the food support program.

Biga Godana (Chief, Dirib Gombo location)

Dirib Gombo is leading in charcoal burning hence destruction of the environment as many trees are cleared. Charcoal burning as an activity was initially started by a few young men from outside of Marsabit who came looking for opportunities but could not immediately get something useful to do; they formed small bands and started burning and transporting charcoal for sale in Marsabit town. Once they raised enough money many of them set up some small businesses in town. Later people started doing it individually and the locals were slowly getting inculcated into the business. Today it is mainly women, mostly those who are single and poor who are engaged in charcoal business; they travel up to 8 km to the burning sites and can sometimes stay up to a week until the charcoal is ready. Women whose husbands are involved have to take food to the kiln sites. Most of those trading in charcoal are also women who transport sacks of charcoal to Marsabit town on their backs or using donkeys. The clearing of trees

has affected the microclimate; "the thick early mist we used to see is no more, sometimes it would take up to a week before we could see the sun during the cold season" says Biqa. Land per se is not a problem; the farms are relatively large and there is still a lot of land especially in the lower slopes that is not yet settled. But there is less rain and the area is becoming drier with more frequent crop failure. Rainfall has declined faster compared to nearby Songa where much of the tree cover is still intact and people are planting trees on their farms. The soils, being fragile and pervious does not hold water for long. Grazing of animals on the farms after harvest (photo 1737), though ensuring that part of the nutrients taken up by the crops are returned to the soil, loosens the soils through continuous trampling thus exposing them to the risk of erosion by both wind and water later in the season. On the lower slopes the soils are too hard to work and most of the land is left fallow. In addition people here depend on hand dug wells and the water table keeps going down so they have to invest a lot of time and labor in rehabilitating these wells.

Women who have no reliable means of earning a living do engage in brewing of illicit liquor. Some of those who used to engage in this business came together and formed a group (Malkanagaya women group) and they benefited from a posho mill donated by the Drought Recovery project. However they are unable to effectively utilize the mill due to lack of customers for maize flour (not a common diet among the locals) and sometimes scarcity of maize when there is crop failure. They are now looking for alternatives; they are planning to get a tank for storing water, which they can sell to other people. Men with no reliable means of livelihood mainly depend on casual labor on the farms, looking after other people's animals, or doing menial jobs at construction sites. There are a lot of idlers being seen hanging around Dirib Gombo centre.

But there are opportunities that have not been exploited effectively, if at all. For instance there is a lot of water going to waste in the rainy season. A lot of this is through run off and because the soils are poorly protected there is a lot of soil being carried away and this affects the fertility and yield of crops. Forming catchment groups for soil and water conservation and introducing irrigation agriculture during the dry season is key to tackling these problems. However there is a problem of maintaining the machines for the boreholes. The contradiction is that as we talk about this an investment on the Chief's plot which cost about 70,000/- is going to waste because the borehole from where they were getting water has broken down (photo 1719). People with land near the boreholes are now demarcating off small plots and selling to those keen on practicing agriculture. These plots are being used for production of vegetables and miraa (photos 1718 and 1722). There is also involvement of the community in rehabilitation of the road infrastructure in return for food (photo 1717). This is food-for-work program is supported by the World Food Program and managed by CIFA, a local NGO. About 390 households are involved with each sending one representative. They work for 6 hours a day and at the end of two weeks each takes away 37 kg of maize, 9 kg beans and 3 liters of cooking oil. Those who are physically incapacitated to do the work are also benefiting from the program. They find this more acceptable and dignified compared to getting relief food as they are now having an input as a community investment.

Appendix 3: HH listing by wealth category

HH category	HH head name	HH
- '		number
1.1 Poor-Poor decrease	1. Qanchu Boru	1114
	2. Karu Shama	1127
	3. Dima Duba	1120
	4. Karu Dabaso	1124
	5. Dima Tari	1121
	6. Galam Galgallo	1130
	7. Gedi Happi	1113
1.2 Poor-Poor no change	8. Doyo Buke	1111
	9. Guyo Wario	1122
	10. Doyo Waqo	1128
1.3 Poor-Poor increase	11. Guyo Jaldesa	1104
	12. Elema Ibraye	1109
	13.Kula Galgallo	1123
	14. Chuqullu Jillo	1105
2. Nonpoor-Poor	15. Galma Diba	1129
	16. Gababa Galchu	1106
	17. Waqo Jaldera	1102
	18. Jillo Duba	1118
	19. Jillo Godana	1116
	20. Rach Godo	1117
3.1 Nonpoor-Nonpoor decrease	21. Tadole Galgallo	1126
3.2 Nonpoor-Nonpoor no change	22. Jarso Duba	1119
3.3 Nonpoor-Nonpoor increase	23. Tunu Duba	1112
	24. Biqa Godana	1103
4. Poor-Nonpoor	None	

Appendix 4: Checklist for organizations

- Your name and what you do/your role in this community/area? (Marsabit in general and Dirib Gombo in particular)
- How long have you lived/worked in this community?

- What major socioeconomic and biophysical changes have occurred in this area in the last ten/twenty years? How have these affected peoples lives?
- What are the major challenges facing development in this area?
- What has the community themselves tried to do to address these challenges?
- What are the key factors contributing to poverty in this area? Who among men, women, and children is most affected by poverty? How do the people cope with poverty?
- What changes have taken place in relation to land use patterns? Are people keeping the same type and number of livestock? Explain. And crops? What can you say about soil fertility in this area? Do people have the same access to water, grazing pastures, trees, and firewood as they used to have before?
- Are there less or more conflicts in relation to use of natural resources?
 How are these addressed?
- What activities does your organization engage in to help the communities here? What have been the major interventions tried here? Which have succeeded, failed, made no difference and why? Have any of these been tried in another area before. If yes where? Did they succeed? Why?
- What have been the major impacts? What are the major lessons learnt? What interventions have you planned for the future?
- What is your vision for the future in terms of enhancing the success of these and other planned interventions?
- Which other organizations have supported the community in tackling these challenges and how do you relate to them?

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