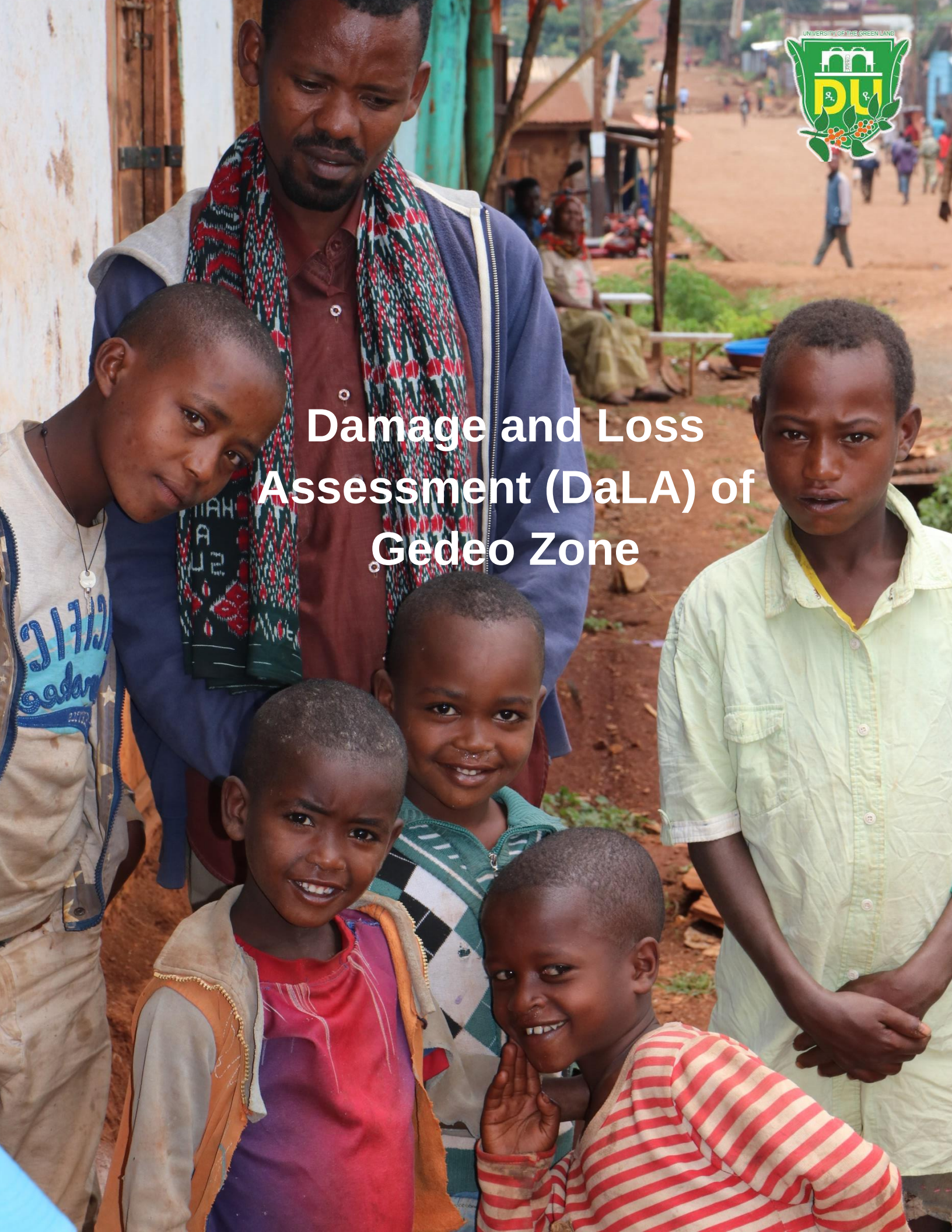

Damage and Loss Assessment (DaLA) of Gedeo Zone

ACRONYMS

DaLA	Damage and Loss Assessment
GDP	Gross Domestic Product
DNA	Damage and Needs Assessment
FAO	United Nations Food and Agriculture Organization
GDP	Gross Domestic Product
ICT	Information and communication technology
IDP	Internally Displaced Person
NGO	Non-Governmental Organization
IOM	International Organization for Migration
PDNA	Post Disaster Needs Assessment
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WFP	World Food Programme
ICT	Information and communication technology
IDP	Internally Displaced Person
NGO	Non-Governmental Organization

EXECUTIVE SUMMARY

The Gedeo zone is one of the zones in Southern Nations, Nationalities, and People's Region (SNNPR) which lies between 5and 7 degree in North latitude and 38 and 40 degree East longitude. The zone named after its ethnic group and speaks the Gedeo language which belongs to Afro-asiatic languages. The Gedeo and Guji people of Oromia region have long history of harmonious coexistence that has been built on cultural, economic and ancestral ties. However, recently the two groups entered into inter-communal conflict along the borders of Gedeo (SNNPR) and West Guji (Oromia region) zones in April, 2018. Due to the conflict large number of people has displaced from both Gedeo and Guji zone. According to survey made by Dilla University Damage and loss Assessment in four conflicted affected woredas of Gedeo zone, 60,681 people from 8261 households were displaced from conflict with average family size of 7.35per family. The conflict had also resulted in damage and loss in Agriculture and livestock, private houses, household assets, public buildings, social infrastructures, looting of other properties and assets which have adversely affected the livelihoods people. To restore the livelihood of the people Government and Different NGO organization has been putting their effort. To estimate the need for recovery livelihood and reconstruction, Dilla University in collaboration with UNHCR, OCHA, and National Disaster Risk Management Commission of Ethiopia has made damage and loss assessment in four woredas of Gedeo Zone. The DaLA process was conducted in according to the UN-ECLAC (2003) methodology for disaster damage and loss assessment strategy. Using this assessment methodology properties with estimated value of 830,558,911 ETB were damage. From this 814,847,935 damages were attributed to private sector whereas 15,710,976 ETB were attributed to public sectors. These high damage estimate values were attributed to the social sectors (421,878,028 ETB)and private productive sectors (356,147,360 ETB) which received considerable amounts of damage followed by infrastructure sectors (52,533,523 ETB). The assessment had also proceeded to estimate the loss due to the conflict. According there were 368,365,485 ETB loss in three sectors of which 367,370,608 ETB were private and 994,477ETB were public loss. Highest loss estimated for the private productive

sectors (335,533,923ETB) followed by the private social sectors (29,461,490 ETB), and infrastructure sectors (2,375,195 ETB).The result of assessment indicated that displaced people has lost both their houses and the means of their livelihood which is dominantly based on agriculture.

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CHAPTER ONE

1.1 Introduction

The Gedeo zone is one of the zones in Southern Nations, Nationalities, and People's Region (SNNPR). The zone named after its ethnic group and speaks the Gedeo language which belongs to Afro-asiatic languages. According to the 2007 Ethiopian national census, Gedeo zone has a population of 847,434 members, of whom 424,742 are men and 422,692 are women. The average household size of the family in the zone is 5.1 from which urban average are (5.9) and rural average (5.1). In addition, 12.72 percent of populations live in urban areas whereas the remaining 87.28percent live in the rural areas.

The Gedeo and Guji people of Oromia region have long history of harmonious coexistence that has been built on cultural, economic and ancestral ties. Economically, both groups were engaged in similar economic activities. Both Guji Oromo and the Gedeo shared many common cultural values, customs and practices including shared rituals. They also trace themselves to common their ancestry roots, which enabled them to build strong social ties and solve any forms of disputes as family members.

Since the 1970s, there have been conflicts between Gedeo and Guji over land and water resources. However, these two groups entered into serious of conflicts since 1991. The first round of conflict took place in 1995 that was followed by the 1998 conflict mainly in question of border demarcation and self-government. Although the post-1998 period was relatively stable and peaceful for nearly two decades, recently the two groups entered into another inter-communal conflict along the borders of Gedeo (SNNPR) and West Guji (Oromia region) zones in April, 2018.

Due to the conflict large number of people has displaced from both Gedeo and Guji zone. According to survey made by Dilla University Damage and loss Assessment 60,681 people have been displaced from conflict affected four woredas of Gedeo zone with 8261 head of households. The conflict has brought two main types of effects on a society and economy: total or partial destruction of productive and physical assets, and subsequent changes or losses to the economic flows in the affected area.Due to the latest conflict, thepeople have lost social, economic and environmental assets.It has resulted in damage of Agriculture and livestock, Houses and

buildings, social infrastructures, looting of properties and assets which have adversely affected the livelihoods people.

The conflict resulted in a situation in which thousands of families were living under emergency conditions where basic needs were not being met. Thus, it was necessary to undertake damage and loss assessment in Gedeo zone to have reliable information on the nature, scope and value of damage and losses to ensure measures that will be put in place to restore returnees' quality of life back to its pre-conflict state. It was in this context United Nations Higher Commission for Refugees (UNHCR) in coordination with United Nations Office for the Coordination of Human Affairs (OCHA) has initiated the current damage to be done in collaboration with Dilla University. Accordingly, the Damage and loss assessment were made by team of assessment team in four woredas of conflict affected Gedeo zone in areas of agriculture and livestock, household assets, buildings, educations , health , energy, water and sanitation and transport and communications. The assessment has employed census method of data collection using structured and semi-structured questionnaires. The collected data were used by team of experts to estimate the extent of damage and loss in Gedeo Zone. The reports of were organized in four chapters. The first chapter in introduction, the second is review of concepts and empirics; the third chapter is about methodology employed whereas the last chapter is about the result of damage and loss assessment.

1.2. Objectives of Assessment

The main objective of the DaLA is to assess the damage and loss incurred due to recent 2018 conflict between Gedeo and Guji people and to estimate financial need for reconstruction of the affected area. Specifically the assessment will be aimed:-

- To identify socioeconomic characteristics of households in conflict area
- To identify the nature, type and scale of damage in conflict areas of Gedeo Zone
- To assess and estimate total and partial damage and loss of Productive Sectors sectors
- To assess and estimate total and partial damage and loss of house private houses and hold assets
- To assess and estimate total and partial damage and loss of social sector in conflict affected areas of Gedeo Zone

- To assess and estimate total and partial damage and loss of Infrastructure Sectors in conflict affected areas of Gedeo Zone
- To estimate financial needs for recovery and reconstruction in conflict areas of Gedeo Zone
- provides a quantitative basis to monitor progress in the execution of post-displacement recovery and reconstruction in conflict areas of Gedeo Zone

1.3. Scope

The assessment is done in Gedeo zone where the displacement crisis happened since the outbreak of inter-communal conflict between Gedeo-Guji in April 2018. To assess Damage and loss due to conflict four woredas which has been affected by conflict between Gedeo and Guji were included in assessment. Accordingly Kochere, Kochere-Gedeb, Wenago and yirgachefe woredas were included in assessment. During assessment total of 8261householdheads (60,681 family members) were found to be affected by the conflict of which 8205 are returns and 56 wereIDPs. All of them were included in the study. However, house hold Damage and loss assessment for IDPs was not made as they were not in place where their assets were affected. The DaLA methodology uses a 'bottom up' approach to gather data by sector-by-sector approach in order to understand the overall effects of the inter-communal conflict to the society. Accordingly, the important sectors included in assessment agriculture and livestock, household assets, Housing and buildings, educations , health , energy, water and sanitation and transport and communications.

1.4. The Assessment

Prior to the start of the Detailed Damage and loss Assessment, coordination and consultation with all stakeholders was ensured in the development of the forms and the decision to limit the scope of the assessment to property damages. Throughout the Assessment, stakeholders were consulted for guidance and advice. The following sectors were covered in the assessment:

Socioeconomic characteristics of households, Personal or Household Income Recovery, Housing, Education, Health, Agriculture, transport, Water Supply and Sanitation, Electricity, Communications

Although each sector was approached slightly differently depending on its nature, there was a common approach:

- The selection of professionals and experts with sufficient experience to conduct the Assessment. The individuals were selected from area of engineering, statistics, geography, agriculture and economics. Then, a joint DaLA assessment committee was formed to undertake the assessment task.
- Assessment committee in Consultation with UNHCR was developed proposal which was submitted for funding. The proposal was also presented to different stake holders in Dilla town to have common consensuses among stakeholders.
- Standard data collections Instrument were designed by team members along with experts from UNHCR. Members of team were trained by senior expert from UNHCR on the form as well as the tablet. Extensive explanation and discussions were held among the teams to clarify the information to be collected. Then the team members have trained data collectors selected from postgraduate students of Dilla University on data collection instruments, tablets usage and how to act in the field.
- All damaged premises and locations were visited and properly documented utilizing tablets to identify respective locations and nature of the damage. All field visits were carried out jointly with stakeholders assigned by respective woreda of Gedeo Zone.
- DaLA assessment team members continuously surveyed groups to ensure quality control. All team members were responsible to carry out proper planning for the groups in order to respond to the timeframe allocated for the process. The numbers of supervisors were distributed according to the expected workload within each locality.
- Stakeholders were continuously approached for coordination and guidance throughout the Assessment.
- A unified scheme for valuation of costs was established, building on previous similar experience. Consultation was made with specialists/stakeholders for specific sectors whenever needed

1.5. Limitations of the Assessment

Limitations in this assessment was mainly constrains researching team faced during data collection due to shorter time given for the entire assessment. Use of GPS embedded applications

needs clear sky. Environmental constraints like being rainy season as research team were working with application embedded with GPS, undulating topography, damaged villages were far away both from kebele center and uncomfortable to transport services as a result housing units are scattered and inaccessible to work and take much time on fetching the next one which contribute to challenge in data collection. Besides, some returnees back after we clear our job that we planned for specific kebeles so that preplanning was mandatory to make sure total surveying so that the work load was more than planned, therefore these and other problems were among constrains of the study.

CHAPTER TWO

2. Literature Review

2.1. Damage and Loss Assessment (DaLA) Methodology

The methodology for the macro-socio economic and environmental disaster assessment was developed by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), based on its work in Central America in the early 1970's. It has come to be known by its short name Damage and Loss Assessment methodology (DaLA) which is considered to be best practice in the area of disaster/conflict impact assessment. The Damage and Loss Assessment (DaLA) Methodology has since been improved in collaboration with WHO, PAHO, World Bank, Inter-American Development Bank, UNESCO and ILO to capture the closest approximation of damage and losses due to disaster/conflict events and develop recovery and reconstruction plans. Here, the updated and simplified version of the damage and loss assessment methodology developed by the World Bank is presented as it informs Gedeo-Guji conflict damage and loss assessment.

A disaster/conflict has two main types of effects on a society and economy: destruction (total or partial) of physical assets, and subsequent changes or modifications to economic flows in the affected area. For the purpose of this study, the following standard definitions of **disaster effects (Damage andLosses)** have been adopted.

Damage: rafters to total or partial destruction of physical assets existing in the affected area. Disasters/ conflicts usually damage different types of assets like buildings, infrastructure, equipment and machinery, furniture and household goods, means of transportation and storage, and irrigation works. Damage occurs during and immediately after the disaster/ conflicts and is measured in physical units. Their monetary value is expressed in terms of replacement costs prevailing at the time of the event (disaster/ conflict).

Losses: entail changes in the economic flows arising from the destruction of assets. Losses normally include decline in production and sales, increased operational costs and lower revenues in the provision of basic services, and unexpected expenditures to meet emergency needs. **Losses** occur until full economic recovery and reconstruction of assets has been achieved. Typical losses include the decline in output in productive sectors (agriculture, livestock, fisheries, industry and commerce) and the lower revenues and higher operational costs in the provision of basic services (water and sanitation, electricity, transport), as well as the unexpected expenditures to meet humanitarian needs during the post-disaster/conflict emergency phase. Losses are expressed in current values.

2.2. Uses of the Damage and Loss Assessment

The task of estimation of the damage and losses is one of the critical components of the assessment methodology. The second critical component is the impact analysis on the economy and the society, which is based largely on the estimate of losses. Together, these two components can be said to comprise the DaLA. DaLA is used to determine post-disaster/conflict needs including economic recovery planning, and reconstruction program design. It may be used as well for monitoring progress of both economic recovery and reconstruction. There are two distinct potential uses of the results of a damage and loss assessment: in the short term, to define government interventions in the immediate aftermath of the disaster that aim towards the lessening of people's suffering and to initiate economic recovery; in the medium to long term, to define the required financial needs to achieve overall recovery and reconstruction based on a preliminary strategy for post-disaster recovery and reconstruction. The assessment of damage and losses – in addition to revealing the amount of effects caused by a disaster – provides information to define effects and impacts in most affected geographical areas and sectors of the economy, as well as on overall economic performance. Overall, the value of **damage**is used as the basis for estimating reconstruction needs while the value and type of **losses**provide the means for estimating the overall socio-economic impact of the disaster and the needs for economic recovery.

2.3. The Damage and loss assessment procedure

The methodology requires the use of two sets of data: the baseline data which provides

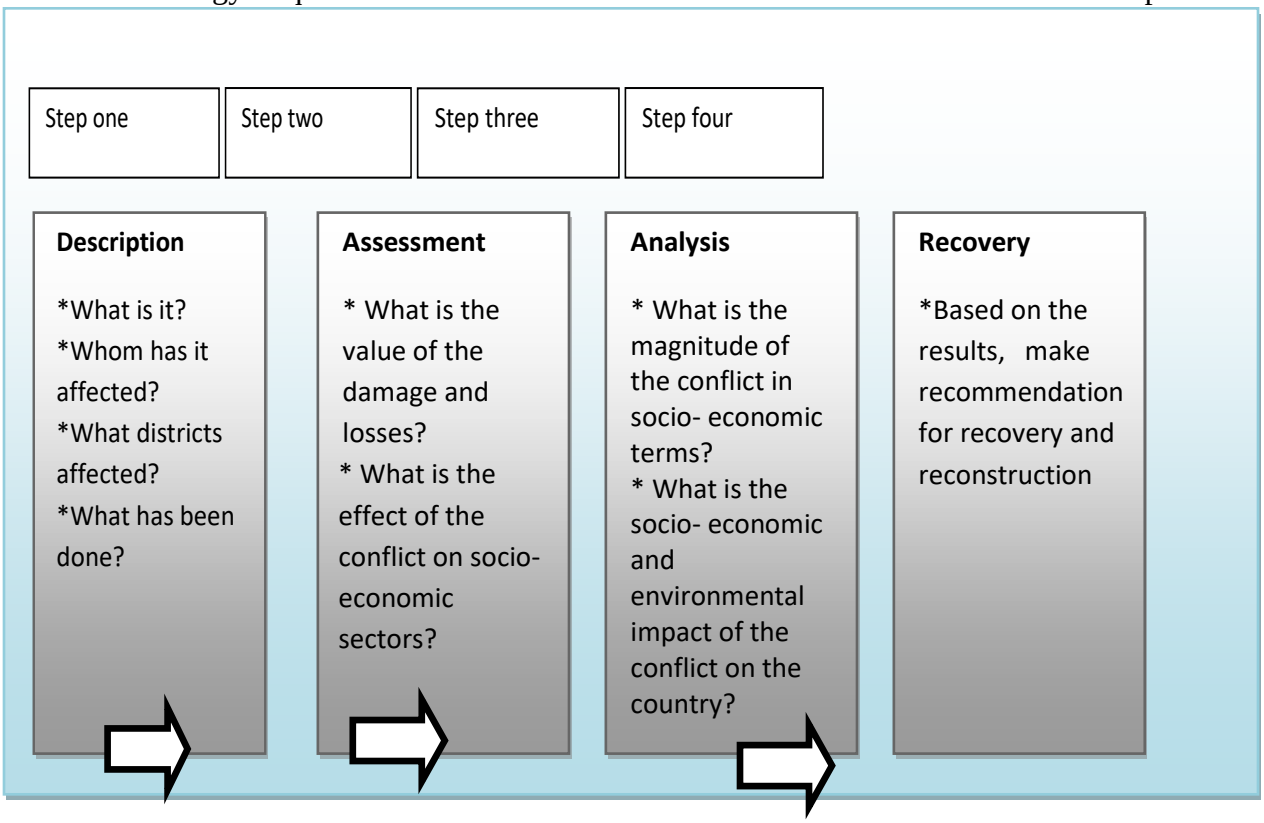

Figure 1**: Damage and Loss Assessment (DaLA) methodology schema**

2.4. Baselines of prevailing conditions

Baseline of prevailing conditions before disaster/conflict is obviously used as the basis for the estimation of damage and losses. Two sets of pre-disaster baseline are required: (1) a baseline on physical assets, and (2) a baseline on the performance of production and sales. The baseline of physical assets refers to the existing physical facilities before the occurrence of the disaster/conflict within the affected areas, and should include *inter alia* the number and type of housing units, the number and type of educational and health facilities, the extent of irrigated agricultural areas, the number and capacity of electricity, water supply and sanitation systems, the length and types of roads, and so on. In the case of some sectors, this baseline should also include the available facilities of nearby areas that may be used on a temporary basis to provide services in the affected area. The second baseline refers to the manner in which all economic

activities perform in the affected area under non-disaster conditions, referred to the volume and value of production, sales of goods and services.

2.5. Estimation of damage and losses

The estimation of damage and losses for each and every sector is to be made through a comparison of the pre-disaster/conflict and post-disaster/conflict conditions. Damage figures are to be presented in terms of the replacement value prevailing at the time of the disaster/conflict, and losses should be estimated in current values. To determine the overall amount of disaster/conflict effects, damage and losses for all affected sectors must be added, giving due attention to avoid possible gaps and double accounting in the assessment. The overall amount of disaster/conflict effects will later on be compared to main macro-economic variables in order to define the relevance of each type of effect and its impacts on the economy and society, as well as to define economic recovery and reconstruction needs.

2.5.1. Sectors to Be Assessed

The DaLA methodology uses a 'bottom up' approach to gather information sector-by-sector in order to arrive at the overall effects of the disaster/conflict to the economy and the society. The data which is collected in each sector is essential to the success of the DaLA. Of course, different sectors can be included in the assessment of damage and losses. Nevertheless, it is necessary to note that the assessment team must make the necessary adaptations on the basis of the actual conditions in the disaster/conflict affected area.

2.5.2. The water and sanitation sector

Damage must be estimated for each of the drinking water supply, wastewater and solid waste subsystems. A further breakdown is required for the main individual components of these subsystems, including *inter alia* dams, wells, and water-treatment plants, pumping stations, pipelines, storage tanks, distribution grids, sewerage facilities, latrines and septic tanks in the rural areas, and solid waste collection, treatment and disposal facilities. The replacement value of destroyed assets must be ascertained using present construction or replacement costs, that can be obtained from private contractors presently involved in similar work in the affected area, as well as from the planning department of the affected utility that may have new, similar projects in the planning stage. It must be remembered that the replacement values to be adopted are those not yet affected by scarcity or inflation, as adjustments for these factors are to be dealt with later on

when discussing overall reconstruction needs after the disaster. In order to ascertain losses, it is essential that an objective calendar of repair and replacement of the affected assets be developed that take into consideration the availability of adequate financing, as well as replacement materials, equipment and machinery, and that will permit returning to pre-disaster/conflict conditions of service.

2.5.3. The transport and communications sector

A field visit to directly observe the effects of the disaster on the entire transport and communications sector is essential. In many cases, an initial aerial survey can provide the necessary overview on which to base subsequent, detailed field visits by road, boat or foot to key points of the transport and communications system. During the field visits, the specialist assessing the effects of the disaster must draw its own conclusions in regard to the post-disaster status of the entire system, the requirements for rehabilitation and reconstruction, and the manner in which the system may function or perform under abnormal, port-disaster conditions. There are two possible ways to estimate the value of damage. The first one involves the estimation of the cost required to bring the road to its pre-disaster conditions (rehabilitation), since it may have been in bad state of repair and maintenance. The second one involves the estimation of the replacement cost for the asset through its full reconstruction or through extensive repairs. The decision to rehabilitate or to reconstruct depends on a number of factors, but as a rule of thumb it may be indicated that full reconstruction would only be justified when changing the design criteria, location and route is required to ensure the continuing functionality of the road in case of future disasters.

2.5.4. Housing sector

Damage should be estimated as the cost to repair and rebuild the number of housing units that may have been partially or totally destroyed plus the value of replacing the household goods that were similarly destroyed. To do this, the number of units in each type of housing unit identified must be combined with the estimated repair and reconstruction unit costs that will enable building back the units to the same level of quality and extent they had prior to the disaster. The costs of replacing the destroyed household goods must also be added into this estimation of damage. It must be remembered here that the unit costs for repair, reconstruction and replacement of destroyed and damaged assets are those prevailing at the time of the disaster. In

order to estimate losses, it is necessary examine local availability of construction materials, equipment and labor, and considerations about other possible constraints on reconstruction execution such as timely financing availability.

2.5.5. Education sector

To enable the estimation of damage and losses for education sector, use is to be made of available damage reports – no matter how partial they may be – in combination with additional information collected by the assessment team during special field survey visits to the affected areas. This should enable to estimate the number of units that may have been partially or totally destroyed due to the action of the disaster, for each school type that had been predefined. Verification of the furniture, equipment and education materials contents of each type of school must also be made during the field visits. Consultations with private contractors and government officials should also be made during the field survey visits to ascertain unit costs of repair and construction for the different types of schools and other ancillary buildings, as well as visiting local markets to ascertain prevailing unit costs for furniture, equipment and education materials used in the schools.

2.5.6. Health sector

A field trip is to be undertaken in order to become acquainted with the effects of the disaster on the sector's capacity and ability to meet post-disaster demands for health care in the affected area, and to estimate damage and losses. On the basis of the findings of the field survey as well as from existing reports, the number and capacity of each hospital or health center that may have been totally or partially destroyed are to be defined. In addition, the field trip should enable the verification of the equipment, furniture and medical supplies that may have been destroyed or rendered useless. Direct interviews with private contractors or government officials involved in construction and repair of hospitals and health centers should be included during the field trip in order to ascertain unit costs to repair or reconstruct those assets, as well as to determine replacement costs of furniture, equipment and supplies. During the field survey also, the necessary consultations with health sector authorities are to be held in order to ascertain the need for establishing temporary field hospitals or health care centers, in case the permanent structures have been destroyed or significantly damaged.

2.5.7. Agriculture

Following the disaster/conflict, it is important to determine the post-disaster/conflict situation in the crop sub-sector i.e. for both the annual and perennial crops. This would require the determination of the extent and severity of disaster effects on annual and perennial crops in terms of area and yield in the areas affected by the disaster/conflict. In addition, there is a need to take an inventory of all the physical assets used in the crop sub-sector that have been affected by the disaster, including soil (land); agricultural infrastructure such as buildings, internal farm roads, irrigation system; farm machinery and equipment, including irrigation equipment; perennial crops; and agricultural stocks (such as seeds, other inputs and produce) stored at the farm. This information should be available with the national ministry of agriculture and the provincial departments of agriculture. This information, however, needs to be supplemented through surveys, field visits, satellite maps and interviews with farmers. The concept and broad principles for damage and loss assessment for the livestock and fisheries sub-sector are very similar to the damage and loss assessment for the crop sub-sector that has been described above.

2.5.8. Agro-industry sub-sector

Depending on the disaster/conflict, the physical assets of the agro-industry can be totally or partially destroyed. This includes processing plants, warehouses, transport facilities, access roads, buildings and stocked raw material as well as processed products. On the other hand, any production losses in the agricultural sector also affect the level of production in the agro-industrial sector as well as the commerce in the supply chain. For example, any reduction in the production of coffee due to /conflict will reduce the supply of coffee as raw material to the coffee processing establishments. As a result, the existing coffee processing establishments will not be able to operate at full capacity and some of them may not even be able to operate at all. Same thing (i.e. low capacity utilization rate and reduced production) happens to other respective processing plants in the agro-industry if there is a reduction in production (and hence sales to the agro-industry as raw material) and/or quality in the crop, livestock or fisheries sub-sectors following a disaster/conflict. The magnitude of these losses, however, depends on whether agriculture is commercial or subsistence.

The value of total losses may be higher depending on the nature and magnitude of forward and backward linkages in the supply chain. The value of production loss for a particular commodity

in the agro-industry can be estimated by multiplying the production loss as a raw material with the price difference between the farm current gate price and the wholesale price. The value of total damage to physical assets can be estimated by taking the number of destroyed assets and multiplying them with the replacement value (e.g. for infrastructure) or current market price (e.g. stored raw material or finished products). Similarly, the value of partial damage to physical assets can be estimated by multiplying the number of partially damaged units with the average unit cost of repair or rehabilitation. This can be done for each affected areas and then aggregated to obtain the total value for damage and loss at the national level.

2.5.9. Manufacturing sector

A field visit to determine the effects of the disaster/conflict in the affected industries must be carried out, in combination with a sample survey of typical industrial establishments, in order to be able to assess the value of damage and to estimate losses. The value of damage in this sector is to be estimated on the basis of the cost to rebuild or repair the buildings and other associated facilities that were totally or partially destroyed, as well as the replacement value of the furniture, equipment, machinery and supplies that were also destroyed, assuming that they are being replaced with the same capacity and quality they had prior to the disaster/conflict. In view of the usually very large number, size and type of industrial establishments existing in the affected area, the damage assessment must rely on information obtained from the already-mentioned, parallel sample survey to define average values of damage for each type of industry, and on counts of the number of each industry type that were either totally or partially destroyed. Then, an extrapolation of the value of damage to cover the entire industrial establishments in the disaster/conflict affected area must be made based on an assumed ratio of destructed versus total number of industry shops, using perhaps the same ratio that may have been derived from the housing sector. The assessment team should devote sufficient time in order to discuss and agree on such ratio, so that results are reliable.

2.5.10. Commerce sector

The value of damage in this sector is to be estimated on the basis of the cost to rebuild or repair the buildings and other associated facilities that were totally or partially destroyed, as well as the replacement value of the furniture, equipment and stocks of goods to sell that were also destroyed, assuming that they are being replaced with the same capacity and quality they had

prior to the disaster. Since it is likely that in the disaster/conflict affected area there will exist a very large number, size and type of commerce establishments, the damage assessment must rely on information obtained from field visits, parallel sample survey to define average values of damage for each type of commerce, and on counts of the number of each commerce type that were either totally or partially destroyed. Then, an extrapolation of the value of damage to cover the entire trade establishments in the affected area must be made based on an assumed ratio of destructed versus total number of shops, using perhaps the same ratio that may have been derived from the housing sector. The assessment team should devote sufficient time in order to discuss and agree on such ratio, so that results are reliable. The losses to be estimated should include both possible sales decline and operational cost increases.

2.5.11. Tourism sector

The tourism sector is highly vulnerable to the effects and impacts of disasters of every kind. This is due to three main reasons: first, the location of its assets in vulnerable coastal areas; second, to the volatility of tourism demands due to fear or misinformation about the possible consequences of disasters /conflicts; and, third, in view of the seasonality of the high-demand tourism season, it often occurs that after disasters disaster/conflict, one may lose the income from the entire tourism season. The value of damage must be estimated as the cost to rebuild or repair each and all the buildings and associated facilities that were (totally or partially) destroyed, as well as the replacement value of the furniture, equipment and other goods that were contained in the buildings and were destroyed, assuming they are replaced or rebuilt to the same standards of quality and quantity they had prior to the disaster. Needless to say, these costs are to be based on the actual unit costs of construction and repair obtained by the assessment team after visiting reputable building contractors, and/or after revising the insurer's estimations. The team must make sure that damage to environmental assets and services that make tourism attractive to the users is properly included in the assessment of the environment sector. In addition, damage to roads leading to and within the premises of the hotels and damage to the services of water and sanitation, electricity and communications, is only included within the tourism sector in those cases where the roads and services are owned and operated by the hotels.

2.6 Conclusion

The estimation of damage and losses for each and every sector is to be made through a comparison of the pre-disaster and post-disaster conditions, described above. Damage figures are to be presented in terms of the replacement value prevailing at the time of the disaster, and losses should be estimated in current values. To determine the overall amount of disaster effects, damage and losses for all affected sectors must be added, giving due attention to avoid possible gaps and double accounting in the assessment. This requires that special care be exercised to ensure that the existing linkages between sectors are duly considered in the estimation of losses. The overall amount of disaster effects will later on be compared to main macro-economic variables in order to define the relevance of each type of effect and its impacts on the economy and society, as well as to define economic recovery and reconstruction needs. Overall, concerning disasters/conflict' impact the "indicator" is a simple monetary value of the sum of damage and losses.

CHAPTER THREE

3. Methodology

3.1. Description of Study Area

The study will be conducted in Gedeo zone with specific focus on damage and loss assessment in areas of socio-economic, infrastructural, productivity, environmental, and cultural impacts. Gedeo Zone is located in South Nation Nationality and People Regional State (SNNPRS) situated between $5^0$50’26’’to $6^0$12’48’’N latitude, $38^0$03’02’’to $38^0$18’59’’E longitude at 365 km from Addis Ababa.

The zone shares boundaries in the East, West and South with Oromia regional state, and in the North with Sidama zone. The total area of the zone is 134,708 hectares. It consists of six woredas and two administrative towns

Gedeo is the second major coffee producers Zone in Southern Regional State, after Sidama Zone. Gedeo Zone accounted for 5.7% national and 18.4% of regional coffee production in 2014/15. Coffee was grown by 196,544 holders on 29,668.9 ha from which about 23,868.5 tons of clean beans was produced (CSA, 2015). The major coffee grower Weredas in Gedeo Zone are Yirgachefe, Wenago, Dilla Zuria and Kochore Weredas. In Yirgachefe wereda, 27 of 31 rural Kebeles are coffee livelihood kebele (USAID, 2005). Yirgachefe Wereda a natural home for Yirgachefe specialty coffee type which is so distinct, well-recognized internationally and is sold at premium price. This uniqueness of the yirgachefe specialty coffee is due to both genetic and environmental factors.

3.2. General Methodological Considerations

Disasters can be classified in many different ways. They are usually sudden and unexpected events –often accompanied by a loss of human life– that inflict on all or part of society suffering and harm, a temporary breakdown of existing vital systems, material losses and considerable obstacles to social and economic activities. Depending on their origin, disasters can be classified in two major groups: those deriving from natural hazards and those brought about by human activity. In this study the researcher’s team focused on the disasters that brought by human activities.

The analysis were begun with an evaluation of the population affected by the disaster with an eye toward defining the different degrees of impact; one should also keep in mind the differential impact on men and women and their differing roles during the emergency, rehabilitation and reconstruction stages. As a second step, identifying and analyzing damage to the social sectors (housing and human settlements, education and culture, and health), highlighting the situation of the most vulnerable groups. Third, the economic sectors (agriculture, trade and industry, and services) and infrastructure were approached. The analysis of the effects of the disaster on environmental assets and services were undertaken concurrently.

The ultimate goal of the assessment methodology presented herein was to measure in monetary terms the impact of disasters on the society, economy and environment of the affected woreda's and kebele's in the Gedio zone.

Application of this methodology provides affected zone with the means to determine the value of damage and lost assets and define reconstruction requirements. It enabled the identification of the most affected geographical areas and sectors, together with corresponding reconstruction priorities. In addition, it provided a way to estimate effects on economic flows, the affected woreda's capacity to undertake reconstruction on its own and the extent to which international financial and technical cooperation are needed. Moreover, it was used to identify the changes to public policy and development programmes or plans needed to deal with needs arising from the disaster and to avoid undesirable effects in economic performance and public well-being.

The assessment was begun by gathering all existing quantitative and qualitative background information needed for an appreciation of both conditions before the disaster and the magnitude of damage and losses and their macroeconomic effects after the disaster. The reliability of the information obtained was verified in the field. A census method was conducted to determine both the number of units affected and the magnitude or extent of damage, applying appropriate assessment criteria in each case. Assessment results were provided an accurate estimate of the disaster`s impact, including its geographic and sectoral scope. In this section a proposed classification of a disaster's damages and effects that requires the application of two criteria: the methodology applied was provided an assessment of the full socio-economic and environmental effects at the time the disaster occurred as well as during its aftermath, and it could able to do so at different geographical levels and sectors.

The first two types of effects (direct damages and indirect losses) were added together to obtain an order of magnitude of the total amount of damage, provided that it was duly indicated that the summation includes both assets and economic flows. The macroeconomic effects represented a different view of the assessment, however, since they described the effects of the disaster on the functioning of the economy and the resulting macroeconomic imbalances arising from the event.

Physical units (number of damaged or destroyed units, square meters of construction, hectares, tons, and so forth) were the starting point for any damage estimate. Using them was permitted the adoption of the most suitable valuation criteria in each special case.

Direct damages (complete or partial destruction) were caused on immovable assets and on stock (including final goods, goods in process, raw materials, materials and spare parts).In essence, this category consists of damage to assets that occurred right at the time of the actual disaster. The main items in this category include the total or partial destruction of physical infrastructure, buildings, installations, machinery, equipment, means of transportation and storage, furniture, damage to farmland, irrigation works, reservoirs and the like. In the special case of agriculture, the destruction of crops ready for harvest must also be valued and included as direct damage.

The effect of indirect losses refers essentially to the flows of goods and services –expressed in current values– that didn't produced or rendered over a time span that begins after the disaster and may extend throughout the rehabilitation and reconstruction periods. These indirect losses result from the direct damage to production capacity and social and economic infrastructure. Indirect losses also include disaster-induced increases in current outlays or costs in the provision of essential services, as well as diminished expected income in cases where these services cannot be provided under normal conditions or at all.

The assessment specialist must be aware that some indirect effects of a disaster might generate benefits to society, instead of damage, costs, harm or losses. Indeed, indirect effects sometimes produce major benefits that can be estimated and must be deducted from the total damage estimate.

3.4. Steps in the Application of the ECLAC Methodology

The DaLA process was conducted in according to the UN-ECLAC (2003) methodology for disaster damage and loss assessment strategy. The Damage and Loss Assessment (DaLA) methodology uses objective, quantitative and qualitative information on the value of destroyed assets and temporary production losses to estimate, first, government and nongovernment interventions for the short term and, second, post-disaster financing needs from donors. The following section outlines were the steps needed to undertake damage and loss needs assessment in this project (GOB, GFDRR, and World Bank, 2007).

Step 1: Develop Baseline for Assessment (Pre-Disaster); Step 2: Develop Post-Disaster Situation; Step 3: Post-Disaster Sector Performance; Step 4: Estimating Total Value of Damage and Losses; Step 5: Estimate Macro-economic Impact of Damage and Losses; and Step 6: Estimate Impact on Personal/Family Income.

3.5. Target Population

The target population of this study was the Internally Displaced Persons (IDPs) and Returnee due to inter-communal conflict in Gedeo Zone, SNNPR in April 2018. Basically the study was focused on Returnees. The damage and loss assessment was covered four woreda and thirty kebeles of Gedeo Zone in SNNPR where the displacement crisis happened since the inter-communal outbreak of Gedeo (SNNP) with west Guji (Oromia). The woredas are: Kochere, Kochere Gedeb, Wenago, and Yirgachefe. Whereas, the kebeles: Bariti, Baya, Buno, Chalba, Chelchele, Chiriqu, Chito, Dadato, Dako, Dibandibe, Domarso, Galcha, Gotiti, Gubata, H/Haranja, Halobarit, Hanchabi, Hanqu, Harmufa, Haru, Jaldu, Mora layo, Qadida, Qedida, Rasiti, Shifo, Sigiga, Sisota, Suke, and Tutiti were covered in the study. In general, 56 IDPs and 8,205 Returnee were participated in the study. All sectors of economic activity, viz. productive, social and infrastructure were covered for the damage and loss assessment. Each sector was assessed based on the economic activities, based on the individual or household level, societal and/or macro-economic impact to the country.

3.6. Data Collection Procedure

To answer the question raised, the researcher's team was gone through a serious of data gathering procedures. These helped the researchers to get authentic and relevant data from the census units. After obtaining the necessary and pertinent information through different data collecting instruments, the data was checked and refined to check their completeness, accuracy and uniformity; the obtained data was arranged. Moreover, the data obtained through open-ended questions and interviews were coded, categorized and analyzed qualitatively in the form of narrative descriptions. Direct quotes were used to depict the view of participants as they reflect it.

Both primary and secondary data were utilized in the project. Also, Interview and focal group discussions (FGD) conducted with concerned bodies. The primary data were directly obtained from the householders and public representatives, using self-administered questionnaire through kobo tool mobile technology while the secondary data were obtained from stakeholders for additional information.

Publications, documents and reports containing background information prepared by secondary sources (institutions or persons other than the assessment specialists) would be fundamental sources of information. Regardless of the damage assessment methodology adopted, it required a comparison of the post-disaster situation with a pre-disaster one. Secondary sources were the assessment specialist's best alternative when it comes to ascertaining pertinent values and the situation prior to the disaster. Moreover, pre-disaster background information was provided the starting point for an assessment of the disaster's effects. Without it, an objective damage assessment is impossible.

In this study census method was conducted to collect the information from IDP and Returnees.

A census is an attempt to list all elements in a group and to measure one or more characteristics of those elements. The group is often an actual national population, but it can also be all houses, businesses, farms, books in a library, cars from an assembly line, and so on. A census can provide detailed information on all or most elements in the population, thereby enabling totals for rare population groups or small geographic areas. A census and a sample survey have many

features in common, such as the use of a questionnaire to collect information, the need to process and edit the data, and the susceptibility to various sources of error.

3.7. Tools for data collection and Analysis

There are many different tools available that can help optimize the way we conduct our survey, depending on what method we choose for data collection. These include using an app on a mobile device, by sending out an online survey or by conducting SMS surveys. Tools such as KoBo Toolbox and ODK can be helpful platforms for both survey design and data collection.

KoBo Toolbox is free and open software that offers unlimited use for humanitarian organisations provided by UN OCHA and is based on the Open Data Kit (ODK) technology.

Most users work in humanitarian crises, or are aid workers or researchers. KoBoToolbox is based on Open Data Kit and is collected using its own version of ODK Collect and Enketo Webforms. ODK Collect can be used to collect information instead of the KoBo Collect application.

These applications can be used online and offline, facilitate data collection by smart phones or tablets, and they can generate an excel output. This output can be used for further data analysis.

The choice of software was depend on researchers' needs, capacity and personal preferences about the interface. Outputs from both platforms were required some cleaning, mostly to convert float to strings (text to numbers) to calculate mean scores.

Once they researchers have a clean excel and SPSS output file with the results of the survey, meaning that there were no empty cells or columns and that we have deleted columns we didn't not need for further analysis and added strings where needed, the quantitative and qualitative data were analyzed using the computer software called Statistical Product and Service Solutions (SPSS 20.0 version) which is used for conducting statistical analyses, manipulating data, and generating tables, charts and graphs that summarize data.

3.8. Variables in the Study

Variables are key elements in research. It is defined as a characteristic of the participants or situation for a given study that has different value in that study. In quantitative research,

variables defined operationally and are commonly divided into independent variables (attribute or measured), and dependent variables (Nancy L.L., Karen C.B., and George A. M., 2005).

3.8.1.Dependent Variables

The dependent variable (sometimes known as the responding variable) is what is being studied and measured in the study. It's what changes as a result of the changes to the independent variable. In this study the dependent variables are: Estimated cost for household shelter, Estimated cost for source of income and property of the household, Estimated cost for possession of property, Estimated cost for damaged public building, Estimated cost for damage in the transport, Estimated cost for damaged water supply and sanitation, Estimated cost for damaged electricity, and Estimated cost for damaged communication sectors.

3.8.2. Predictor Variables

The independent variable (sometimes known as the manipulated variable or predictor variable) is the variable whose change isn't affected by any other variable in the study. Either the researcher has to change the independent variable himself/herself or it changes on its own; nothing else in the study/experiment affects or changes it. In this study the predictor variables are attributes or measurable independent variables. The predictor variables considered in this study are: Woreda, Kebele, Age, Sex, Marital status, Family size, Type of shelter, Length of shelter, Width of shelter, Number of rooms, Scale of damage, Types of sources of income, Total income before conflict, Total income after conflict, Type of assets, Area/Number of the lost assets, Average weekly expense, Type of public building structure, Type of road available, Type of road network, Type of water network system, Type of main water reservoir, Type of electric equipment, Type of communication equipment, and Others.

3.9. Methods of Data Analysis

Along with descriptive statistics and inferential statistics the following statistical methods were employed for data analysis purpose: Tabulation, Diagrammatic method, Graphical method, Frequencies, Valid percents, Crosstabs, Means, Standard deviations, Ranges, and One-way ANOVA methods. The collected data were tabulated, cleaned, analyzed and interpreted systematically through some scientific research protocols.For the present study, IBM SPSS

Statistics version 20 was used for analyzing the collected data through KoBo Toolbox and ODK device technology.

The damage observed in housing and buildingswere categorized as: (A) massive total destruction or full damage; (B) partial damage but reparable with varying magnitudes from minor to substantial (C) severely damage not reparable

Classification of the shelter damages was done according to the following table.

Table 3.1: Shelter Damage Scale Types

Full Damage	Partial Damage But Reparable	Severely Damage Not Reparable
Housing units that are totally in rubble or where at least 50% of the structure of the house has incurred severe damage.	Housing units that incurred damages while the house is still adequate for living with minor damages. However, it can be repaired. 100% Roof structure damages.	Housing units where at least 75% of the structure of the house skeleton incurred heavy damages to such an extent that it has become unsuitable for living and it cannot be repaired.

Throughout the assessment, the teams always referred to senior engineers for deciding about complex situations especially to decide upon whether the unit was severely or partial damaged.The assessment teams followed the coding provided by the data expert and depended on building photographs in most of the areas assessment estimate value of damage.All data collected were extracted for review and verification of different technical assessments conducted utilizing the expertise of the engineers and the past experience. The ownership documents and ID data were also reviewed and crosschecking was done in order to avoid any duplication

3.10. Validity and Reliability of Questionnaires

Checking the validity and reliability of data collecting instruments before providing to the actual study subject is the core to assure the quality of data (Yalew, 1998).

3.10.1. Validity of Questionnaires

To ensure validity of instruments, the instrument was developed under close guidance of the supervisors, experts and co-workers and also a pilot test study was carried out on more than 40 households to pre-test the instruments. The pre-test was provided an opportunity for the researchers to check the questionnaire and to minimize errors due to improper design elements such as wording or sequence. Necessary modifications or amendments on some items and complete removal and replacement of unclear questions were done. (Adams: et.al, 2007).

3.11. Reliability of Questionnaires

Reliability analysis was concerned with the internal consistency and accuracy of the research instrument. (Hair et al,.2010) defined reliability as the extent to which a variable or a set of variables is consistent with what it is expected to measure. *To check internal consistency of the instrument* each scale was listed for internal consistency using *Cronbach data alpha coefficient*.

CHAPTER FOUR

4.1. Socio-Economic Characteristics of IDPs and Returnees

4.1.1 Demographic Characteristics

Based on the assessment, the distribution of IDPs and returnees by woreda was analyzed.

Table 4. 1:The Distribution of IDPs and Returnees by Woreda

Woreda	Sex	Head of HH	% of total HH	Total population	% of total of total population	Mean	Std. Devi.	Minimum	Maximum
	Female	309	3.7	2149	3.5	6.95	2.329	2	15
	Male	1162	14.1	9036	14.9	7.78	2.826	1	20
Kochere	Total	1471	17.8	11185	18.4	7.6	2.749	1	20
	Female	572	6.9	4267	7.0	7.46	2.619	2	18
	Male	2263	27.4	18281	30.1	8.08	3.108	1	20
Kochere Gedeb	Total	2835	34.3	22548	37.2	7.95	3.026	1	20
	Female	33	0.4	186	0.3	5.64	1.981	2	10
	Male	68	0.8	436	0.7	6.41	2.287	1	11
Wenago	Total	101	1.2	622	1.0	6.16	2.212	1	11
	Female	832	10.1	5308	8.7	6.38	2.293	1	15
	Male	3022	36.6	21018	34.6	6.95	2.51	1	18
Yirgachefe	Total	3854	46.7	26326	43.4	6.83	2.476	1	18
	Female	1746	21.1	11910	19.6	6.82	2.456	1	18
	Male	6515	78.9	48771	80.4	7.49	2.834	1	20
Total	Total	8261	100	60681	100	7.35	2.772	1	20

Based on the assessment, the distribution of IDPs and returnees by woreda was analyzed. IDPs are those who were displaced from their homes since the start of the conflict and who continued to be displaced at the time of data collection. Returnees identified by study team include those who had been displaced since the start of the conflict and returned to their homes between the end of the conflict and the time of data collection. As can be seen from table 1, there were 8261 head of households which was affected by conflict with average family size of 7.35 per

household. The total population which was displaced by conflict in four woredas of Gedeo zone were 60681(sixty thousand six hundred eighty one). Of total households included in the assessment 56 of them were IDPs who have not yet returned to original places during the time of the assessment. Compared with other woredas, Yirgacheffe woreda returnee share the highest proportion of household returns than other three conflict affected woredas. Total number of household returness from Yirgacheffe was 3854 (46.7%) followed by Kochore-Gedeb 2835 (34.3%), Kochore 1471 (17.8%) and Wonago101 (1.2%).

4.1.2 Sex and Family Size of IDPs and Returns

With regard to the sex of the households heads 1746(21.1%) are females whereas6515 (78.9%) were male household. While males face increased risks and hardship under conditions of forced displacement, women and children suffer even more and face even greater risks when they are displaced from their home communities.

Table 4. 2: Distribution of IDP and returnees by woreda and marital status

Woreda	Marital Status of IDPs and returnees							
	Married HH		Single HH		Widowed HH		Total HH	
	N	%	N	%	N	%	N	%
Kochere	1,452	17.60%	2	0	17	0.20%	1,471	17.80%
Kochere Gedeb	2,803	33.90%	14	0.20%	18	0.20%	2,835	34.30%
Wonago	100	1.20%	1	0	-	-	101	1.20%
Yirgachefe	3,757	45.50%	37	0.40%	60	0.70%	3,854	46.70%
Total	8,112	98.20%	54	0.70%	95	1.10%	8,261	100.00%

The other variable used to characterize IDP and returnee is marital status. Accordingly, as the distribution by marital status of IDP and returnees in four Woredas indicates(table 4.2), married people were much more affected by the conflict than single and widowed, that is 8118 married people (98.2%) against 54 single (0.7%) and 95 widowed (1.1%), respectively.

Table 4. 3: Distribution of IDP and returnee by living with vulnerable people

Woreda	IDPs and returnees living with Vulnerable people/ Person with specific Needs					
	No		Yes		Total	
	N	%	N	%	N	%
Kochere	1,249	15.10%	222	2.70%	1,471	17.80%
Kochere Gedeb	2,265	27.40%	570	6.90%	2,835	34.30%
Wonago	59	0.70%	42	0.50%	101	1.20%
Yirgachefe	3,178	38.50%	676	8.20%	3,854	46.70%
Total	6,751	81.70%	1510	18.30%	8,261	100.00%

During the assessment, attempt was made to know whether the IDPs and returnees live with vulnerable people or persons with specific needs. As the distribution of IDPs and returnees by living with vulnerable people indicates, 1510 (18.3 %) of the IDPs and returnees covered by the assesment live with vulnerable people or persons with specific needs and the rest 6751 (81.7 %) of the IDP and returnees reported otherwise (Table 4.3). Vulnerable people or persons with specific needs such as the elderly people and people with disabilities may not have easy access to assistance, and are vulnerable and exposed to risks of neglect, violence and exploitation. Others who are particularly vulnerable, including to general violence and domestic violence, are women especially female heads of households, mothers with young children, the chronically ill, and women with disabilities.

4.1.2 Housing conditions of IDPS and returns

In an attempt to provide an insight into the effects of Gedeo-Guji conflict, returnee profile usingcurrent housing conditions is constructed.

Table 4. 4: Distribution of IDP and returnee by housing conditions

Woreda	frequency	Emergency	Permanent-Hallow Concrete	Permanent - mud with grass	Permanent- mud with Metal sheet	Transitional	Other	Total
Kochere	Count	31	11	608	702	61	50	1463
	% of Total	2.10%	0.80%	41.60%	48.00%	4.20%	0.60%	100.00%
Kochere Gedeb	Count	41	34	1348	1235	95	56	2809
	% of Total	1.50%	1.20%	48.00%	44.00%	3.40%	2.00%	100.00%
Wenago	Count	0	1	73	8	19	0	101
	% of Total	0.00%	1.00%	72.30%	7.90%	18.80%	0.00%	100.00%
Yirgachefe	Count	30	39	1785	1647	211	120	3854
	% of Total	0.80%	1.00%	46.60%	43.00%	5.50%	3.10%	100.00%
Total	Count	102	85	3814	3592	386	226	8205
	% of Total	1.20%	1.00%	46.50%	43.80%	4.70%	2.80%	100.00%

Accordingly, as the distribution of IDPs and returnees by current housing conditions indicates (table 4.4), 3814 (46.6%) of the returnees covered by the assesment live in permanent grass-touched housing units constructed of wood and mud. On the other hand, 3592 (43.0 %) of the IDPs and returnees live in permanent housing units constructed of wood and mud, with a corrugated iron roof. The rest returnees were shown to reside in transitional (386 people) and emergency houses (102 people) that are hastily and precariously erected through a self-build process, in permanent housing units constructed of hallow concrete *blokate*, with a corrugated iron roof (85 people) and other undetermined shelter settings (226 people). There are safety concerns that could be linked with such conditions and are identified as a key concern by IDPs and returnees themselves.

Table 4. 5: Distribution of IDP and returnee by damage scale of housing units

Woreda	Frequency	Damage scale of housing units of IDPs and returnees				Total
		IDPS	Fully damaged	Partially damaged but reparable	Severely damaged and not reparable	
Kochere	Count	7	1219	226	19	1471
	% of Total	0.10%	14.80%	2.70%	0.20%	17.80%
Kochere -Gedeb	Count	26	2432	365	12	2835
	% of Total	0.30%	29.40%	4.40%	0.10%	34.30%
Wenago	Count	0	94	7	0	101
	% of Total	0.00%	1.10%	0.10%	0.00%	1.20%
Yirgachefe	Count	22	3354	445	33	3854
	% of Total	0.30%	40.60%	5.40%	0.40%	46.70%
Total	Count	55	7099	1043	64	8261
	% of Total	0.70%	85.90%	12.60%	0.80%	100.00%

The characterization of IDP and returnee by damage scale of housing units was also analyzed. Accordingly, 7099 (85.9 %) of housing units of returnee covered by the assesment are fully damaged, 1043 (12.6%) of housing units partially damaged but reparable (need some work to be healthy to live in) and the remaining 64 (0.8%) of the housing units were severely damaged (buildings with substantial damage) and not reparable at all. Fully damaged housing units are mainly found in Yirgachefe (3354 housing units), Gedeb (2432 housing units) and Kochere woredas (1219 housing units). Partially damaged but reparablehousing units are mainly found Yirgachefe (445) and Kochere Gedeb (365) and Kochere (225) woredaswhereas severely damaged and not reparable are mainly found Yirgachefe (33) and Kochere (19) woredas. The IDPs and returnees who own a dwelling (either where they currently live or in their areas of origin) started some minor repair but consistently mentioned two key issues: the high costs of available materials and the difficulty for people to access liquidity (cash).

Table 4. 6: Distribution of housing types by damage scale

Type of House	Frequency	Damage scale			Total
		Fully damaged	Partially damaged but reparable	Severely damaged not reparable	
Emergency	Count	91	11	0	102
	%	89.20%	10.80%	0.00%	100.00%
HCB cover metal sheet	Count	61	21	3	85
	%	71.80%	24.70%	3.50%	100.00%
Permanent-Mud cover with grass	Count	3538	261	15	3814
	%	92.80%	6.80%	0.40%	100.00%
Permanent-Mud cover with Metal Sheet	Count	2851	699	42	3592
	%	79.40%	19.50%	1.20%	100.00%
Transitional	Count	361	24	1	386
	%	93.50%	6.20%	0.30%	100.00%
Other (please specify)	Count	196	27	3	226
	%	86.70%	11.90%	1.30%	100.00%
Total	Count	7098	1043	64	8205
	%	86.50%	12.70%	0.80%	100.00%

Damage scale by types of housing units was also assessed. As can be seen form table 4.6, of the total 7098 fully damaged housing units identified, the majority (3538 housing units) were permanent grass-touched housing units constructed of wood and mud followed by permanent housing units constructed of wood and mud, with a corrugated iron roof (2851 housing units) , transitional housing units (361), emergency housing units (91), permanent housing units constructed of hallow concrete bloket with a corrugated iron roof (61) and other types of housing units (196). Among 1043partially damaged but reparable housing units, 699 were permanent housing units constructed of wood and mud, with a corrugated iron roof accounts, 261 were permanent grass-touched housing units constructed of wood and mud, 24 were transitional housing units and 21 were permanent housing units constructed of hallow concrete bloket with a corrugated iron roof and 11 were emergency housing units. The rest 196 were 'Other types' of partially

damaged but reparable housing units. On the other hand, 64 severely damaged not reparable housing units were identified, of which 42 were permanent housing units constructed of wood and mud, with a corrugated iron roof and 15 were permanent grass-touched housing units constructed of wood and mud. Thus, damage to the housing assets is considerable.

Table 4. 7: Distribution of damaged housing units by availability family member who can build them

Damage scale	Frequency	Family member able to build		Total
		No	Yes	
Fully damaged	Count	5239	1859	7098
	%	73.80%	26.20%	100.00%
Partially damaged but reparable	Count	744	299	1043
	%	71.30%	28.70%	100.00%
Severely damaged not reparable	Count	45	19	64
	%	70.30%	29.70%	100.00%
Total	Count	6028	2177	8205
	%	73.50%	26.50%	100.00%

The characterization of IDP and returnee by damage scale of housing units and availability of family member(s) who is (are) able to builddamaged housing units was analyzed. Of the total 8205 IDP and returnee included in this damage and loss assessment, the majority (6028 IDP and returnee) reported that they have no family member who is able to builddamaged housing units. These IDP and returnee include those whose housing units were completely damaged (5239), partially damaged but reparable (744) and severely damaged and not reparable at all (45). On the other hand, 2177 IDP and returnee included in this assessment reported availability of family member(s) who is (are) able to builddamaged housing units. These IDP and returnee include those whose housing units were completely damaged (1859), partially damaged but reparable (299) and severely damaged and not reparable at all (19).

Table 4. 8: Distribution of IDP and returnee by family size and number of rooms/shelter

Family size	Frequency	Number of rooms/ shelter			Total
		1	2	3	
Size 1-5	Count	161	1439	626	2226
	% within Family Size	7.2%	64.6%	28.1%	100.0%
Size 6-10	Count	197	2891	2043	5131
	% within Family Size	3.8%	56.3%	39.8%	100.0%
Size 11-15	Count	19	393	373	785
	% within Family Size	2.4%	50.1%	47.5%	100.0%
Size 16 & above	Count	5	28	30	63
	% within Family Size	7.9%	44.4%	47.6%	100.0%
Total	Count	382	4751	3072	8205
	% of Total	4.7%	57.9%	37.4%	100.0%

The characterization of IDP and returnee by family size and number of rooms the live in was also analyzed. Accordingly, as table 4.8 shows, of the total 8205 IDP and returnee included in this damage and loss assessment, the majority (5131)have large family size (6 to 10 family members), of which 197 live in one room, 2891 live in two rooms and 2043 live three rooms housing units, whereas those with 1-5 family members (2226 IDP and returnee) live in live in one room(161) , in two rooms (1439) and in three rooms (626) housing units. On the other hand, 785 IDP and returnee included in this damage and loss assessment have family size of 11-15 members and mainly live two rooms (393) and three rooms (373) accommodation. A high rate of fertility (due to the value of a large family size associated with labor, security, and social prestige) and poor family planning services at the community level have been factors of rapid population growth and large family size in Gedeo. The size of the family obviously has a strong impact on the family's living condition. Typically, large family size has significant relationship with much greater risk of poverty.

Table 4. 9: Distribution of IDP and returnee by sleeping conditions of teenagers (sleeping in the same area)

sleeping condition	Frequency	IDP and returnee		Cumulative Percent
		Count	Percent	
Do Teenagers sleeping in the same area	No	1	1.8	1.8
	Yes	55	98.2	100
	Total	56	100	100

In an attempt to provide an insight into the effects of Gedeo-Guji conflict, attempt was made know whether teenagers (girls and boys: 13 years and above) sleep in the same area or not. As can be seen form table 4.9, the overwhelming majority (98.2 %) of the IDP and returnee included in this damage and loss assessment reported that teenagers (girls and boys: 13 years and above) sleep in the same area, there by living in crowded conditions. On the other hand, as can be seen form table 49, the overwhelming majority (98.2 %) of the IDP and returnee reported that men and women sleep in the same area in conditions where 'lack of privacy' is the rule.

Table 4. 10: Distribution of IDP and returnee by shelter support received

Woreda	**Frequency**	Shelter support from any NGO/Agency		Total
		No	Yes	
Kochere	Count	1238	233	1471
	%	84.20%	15.80%	100.00%
Kochere Gedeb	Count	2525	310	2835
	%	89.10%	10.90%	100.00%
Wenago	Count	82	19	101
	%	81.20%	18.80%	100.00%
Yirgachefe	Count	3036	818	3854
	%	78.80%	21.20%	100.00%
Total	Count	6881	1380	8261
	%	83.30%	16.70%	100.00%

4.1.3 Socioeconomic Characteristics

During the field assessment, characterization of IDP and returnee by shelter support they received from any NGO/agency was analyzed. As can be seen from table 4.10, of the total 8261 IDP and returnee included in this assessment, the majority (6081 IDP and returnee) did not receive shelter support fromany NGO/agency to date. Others (1380 IDP and returnee) reported that they received shelter support they were in need of from NGO and other agencies like UNHCR (311 shelter) World Vision (300 shelter), IOM (56 shelter) Care Ethiopia (4856 shelter) and World Vision (23 shelter) and others NGOs not mentioned hare (569 shelter) (Table 4.11)

Table 4. 11: Distribution of IDP and returnee by NGO/Agency form which they received shelter support

Beneficiaries	Frequency	NGO/Agency											Total
		World Vislon	Care Ethiopia	Catholic Relief Service	Gov/ment	IOM	NGO	OMO	Red Cross	UNHCR	World Vision	others	
IDP and returnee	Count	23	48	14	2	56	569	5	20	311	300	32	1380
	%	1.7%	3.5%	1.0%	0.1%	4.1%	41.2%	0.4%	1.4%	22.5%	21.7%	2.3%	100%

Table 4. 12: Distribution of IDP and returnee by benefit from IGA program

Benefit	Response	IDP and returnee	
		Frequency	Percent
Benefit from IGA program	No	7881	95.4
	Yes	380	4.6
	Total	8261	100

During the assessment, attempt was made to know whether the IDPs and returnees or any family member benefited from IGA program. As can be seen from table 4.12, of the total 8261 IDPs and returnees who responded to the question, the majority (7881) did not get any benefit fromIGA program. Only 380 IDPs and returnees got benefit fromthe program.

Table 4. 13: Distribution of IDP and returnee by source of income affected by the conflict

Source of Income	Frequency	Income source affected by the conflict			Total
		Fully affected	Not affected	Partially affected	
Agriculture / Sales of agricultural products	Count	4421	301	2023	6745
	%	65.50%	4.50%	30.00%	100.00%
Financial transfers form family member living abroad	Count	21	1	2	24
	%	87.50%	4.20%	8.30%	100.00%
Livestock / Sale of animals and livestock products	Count	3010	92	976	4078
	%	73.80%	2.30%	23.90%	100.00%
Salary (official, contractor or retired, daily work)	Count	8	6	4	18
	%	44.40%	33.30%	22.20%	100.00%
Sale of handicrafts	Count	102	16	43	161
	%	63.40%	9.90%	26.70%	100.00%
Other (Please specify)	Count	154	6	4	164
	%	93.90%	3.70%	2.40%	100.00%
Trade	Count	1268	63	201	1532
	%	82.80%	4.10%	13.10%	100.00%
Total	Count	8984	485	3253	12722
	%	70.60%	3.80%	25.60%	100.00%

Distribution of IDP and returnee by source of income affected by conflict is present in Table 16. For the majority (6745 IDP and returnee) agriculture / Sales of agricultural products was the main source of income. As can be seen from the table, 4421 IDP and returnee whose housing units were fully affected, 301 IDP and returnee whose housing units were not affected, and 2023IDP and returnee whose housing units were partially affected belong to this major income source category (agriculture / Sales of agricultural products). On the other hand, for 4078 IDP and returnee, livestock / sale of animals and livestock products was major source of income affected by the conflict, of which 3010, 976 and 92 IDP and returnee were those whose housing units were fully affected,partially affected and not affected at all, respectively. Of the total 1532 IDP and returnee who reported trade a major sauces of income, 1268 were those whose housing units were fully affected, 201 were those whose housing units were partiallyaffected and the rest 63 were thosewhose housing units were not affected by the conflict. Sale of handicrafts and

financial transfers form family member living abroad were also income sources reported by the IDP and returnee.

Table 4. 14: Distribution of IDP and returnee by pattern of their daily expense (expenditure)

Top three expense of respondents												Total
level of exepense	Frequency	Buy water	Buying food	Livestock food	Medical care	Other (Pease specify)	Purchase of wood / energy source	Repayment of debt	Shelter repair	Trans-portation	Tuition/fee	
Top 1	Count (%)	1(.0)	**7977(96.6)**	5(.1)	**20(.2)**	1(.0)	**224(2.7)**	5(.1)	13(.2)	9(.1)	6(.1)	8261(100.0)
Top 2	Count (%)	38(.5)	169(2.0)	300(3.6)	**1935(23.4)**	23(.3)	**2129(25.8)**	279(3.4)	661(8.0)	**2560(31.0)**	167(2.0)	8261(100.0)
Top 3	Count (%)	29(.4)	19(.2)	366(4.4)	**4088(49.5)**	159(1.9)	122(1.5)	321(3.9)	**940(11.4)**	**2057(24.9)**	160(1.9)	8261(100.0)

During the field assessment, IDP and returnee were asked to identify the pattern of their daily expense (expenditure). As can be seen form table 17, 7977 (96.6 %) of the IDP and returnee covered by the assessment spend much of their disposal income on food itemsfollowed by medical care which is the second expenditure category (49.5% IDP and returnee) and transportation which is the third major expenditure category identified (49.5% IDP and returnee) with exception in Wonago wheretransportation as a third major expenditure category is underreported owning to access to transport service (see appendix 9). Other expenditure categories include purchase of water, purchase of livestock feeddebt repayment, and shelter repair. The data provides the impression that the majority of IDPs and returnees covered by this damage and loss assessment used most of their income to meet their priority needs: food, medical care, transportation and shelter repair and. Price sensitivity limits IDPs and returnees' access to these priority needs. This suggests that the one-off assistance packages, although vital, are insufficient to restore IDPs and returnees' quality of life back to its pre-crisis state.

4.2 Results of the Detailed Damage Assessment

This sub-section of chapterfour contains Damage and loss assessment on area of Agricultural sectors, private house, household asset loss, public building and social sectors.

4.2.1. Agricultural sectors

A) General Context of Gedeo Agriculture

Ecologically, Gedeo zone has three agro-ecological zones. From total area of 1352.4 (sq km)of cultivated agricultural land 15% used for annual crops, 73.3% permanent crops, 0.7% range land, 3% forest and shrubs, 0.62% productive land, 0.48% non productive land, and the remaining 6.9% of land classified for other uses. The zone is known for coffee and Enset production, which are the two major resources for the economy of the people. More importantly, Gedeo zone produces the world-class coffee that also significantly contributes to the national economy which accounts for 5.7% national and 18.4% of regional coffee production in 2014/15. In addition, 51.7% offarmers have less than 0.5 hectare and food insecure. However, majority of population in the zone lies under poverty line despite due to substituent agriculture and limited engagement in off-farm activities. Due to these four woredas of Gedeo zone namely Dilla Zuria, Wonago Yirgacheffe and Kochore have been in Productive Safety Net Program (PSNP) since 2005.

B) Damage and Loss assessments in Agricultural sector

Table 4. 15: Damage and loss in d agriculture and farm related assets

Agriculture and Farming Assets	Fully Damaged			Partially Damaged			Total			
	No	Damage	Loss	No	Damage	Loss	No	Damage	Loss	Average Cost
Animals	4,708	305,666,000	86,243,481	-	-		4,708	305,666,000	86,243,481	83,243
Coffee plantation	1,007	7,305,600	193,127,768	96	961,440	3,941,383	1,103	8,267,040	197,069,151	186,162
Farm	1,750	20,133,840	49,964,201	-	-		1,750	20,133,840	49,964,201	40,056
Farm tools	5,654	21,964,800	2,234,519	67	115,680	22,571	5,721	22,080,480	2,257,090	4,254
Total	**13,119**	**355,070,240**	**331,569,969**	**163**	**1,077,120**	**3,963,954**	**13,282**	**356,147,360**	**356,147,360**	52,077

The data presented in table 4.15 showed that total damage in agricultural sector amounts damage 356,147,360 damaged whereas the loss related with agricultural sector is 356,147,360ETB due to the conflict in four woredas of Gedeo zone. From the damage in thehighest damage was found

in animals due to theft and looting of their lives tocks, followed by farm tools, farm fields and coffee plantations.

Animals (cows, oxen, sheep, goats etc.) were one of the main damaged agricultural assets of the community. About 4,708 animals were fully damaged during the conflict with estimated cost of 305,666,000 ETB. The average estimated cost of lost animals was 64,924.81 ETB.The other agricultural damaged asset was coffee plantation, damaged fully and partially. The total damage in coffee plantations were 8,267,040 ETB while total loss associated with coffee plantation with 197,069,151 ETB estimated cost.

Regarding to the farmland in the conflict area, 1750 farms hectares of land which were used for growing crops amounts 20,133,840 whereas the loss of income and cost of restoration of land of farm land estimated to be 49,964,201ETB. With regard to farm tools total of 5,721 farm tools were damagedby which amounts 22,080,480 ETB with associated loss of replacement of this tools costs 2,257,090ETB.

4.2.2. Social Sectors

4.2.2.1. Private Houses

The housing sector was severely affected by the recent conflict between west Guji Zone of Oromo region and Gedeo zones of SNNPRS. According to assessment made 8205 the housing stock was damaged with different scale of damage.While all total number of displaced by the conflict and currently returned to their original place from Gedeo Zone reaching as many as 60,718 people at the time ofassessment.

A) General Background and Context

Houses in Gedeo zone are most built using local material like woods, grass, metal sheets and plastic covers. Most of them have 2 rooms average and family members share common rooms for different purposes. Since the roofs of many houses in conflict areas were covered by grass, they were full damaged by fire set during conflict and the and also many household assets were burnt and damaged along with the houses. The damage in housing sector was calcified in to damage in private houses and public buildings. The results of assessment are presented in the following sub-sections.

B) Damage and loss assessment of private buildings

The damage and loss associated with Private house damaged within four conflict affected woredas of Gedeo Zone is presented in following table

Table 4. 16: Damage and loss in private buildings

	Full Damage			Partial Damage But Reparable			Severely Damage Not reparable			Total			Average cost
Woreda	No	cost	loss	No	cost	loss	No	cost	loss	No	damage	loss	
Kochere	1,218	44,565,100	3,045,000	226	3,594,419	452,000	19	1,070,268	47,500	1,463	49,229,787	3,544,500	36,073
Kochere Gedeb	2,432	85,926,796	7,296,000	365	5,839,356	912,500	12	431,769	36,000	2,809	92,197,921	8,244,500	35,757
Wonago	94	1,947,374	169,200	7	79,268	9,100	-	-		101	2,026,642	178,300	21,831
Yirgachefe	3,354	116,445,445	6,708,000	445	7,205,091	667,500	33	1,472,290	66,000	3,832	125,122,826	7,441,500	34,594
Total(Gedeo zone)	**7,098**	**248,884,715**	**17,218,200**	**1043**	**16,718,134**	**2,041,100**	**64**	**2,974,327**	**149,500**	**8,205**	**268,577,176**	**19,408,800**	**35,099**

The data presented in table 4.16 illustrates that 8,205 private houses were damaged with estimated cost of 268,577,176 ETB during the conflict incurred by the two ethnic groups. From the total damage, 86.5% of the private houses (7,098) were fully damaged, 12.7% partially damaged but reparable (1043 houses), 0.78% severely damaged not reparable with estimated cost of 248,884,715 ETB, 16,718,134 ETB and 2,974,327 ETB, respectively.

Yirgacheffe, as the first most damaged woreda, which its 3,832 private houses were with total estimated cost of damaged houses amounts 125,122,826 ETB. In Gedeb, 2809 private housed were damaged during the conflict with the highest rate of fully burned housed (86.6%) with estimated cost of replacement amounts 92,197,921 ETB.Damaged private houses in Wonago woreda was fewer than the other three woreda of Gedeo zone. A total of 101 privatehouses were damaged with estimated cost to reconstruct amounts 2,026,642 ETB. With regard to loss associated with private house which will be incurred in clearing sites, transportation and extra labor cost of materials transportion is estimated to be 19,408,800 ETB. The highest loss is registered in Yirgacheffe followed by Kochore-Gedeb, Kochore and Wonago Woreds.

Figure 2: Damaged of Private Houses

4.2.2.2. Damage and Loss Private Household Assets

Table 4. 17**: Damage and loss private household Assets**

Type of Assets	Full Damage			Partial Damage But Reparable			Total			
	No	cost	loss	No	cost	loss	**No**	**Damage**	**loss**	**Average Cost**
Household furniture	7,129	66,386,930	8,198,350	118	1,016,160	60,770	7,247	67,403,090	8,259,120	10,440
Smart phone	2,013	15,637,500	432,795	20	65,250	10,300	2,033	15,702,750	443,095	7,942
Television	517	3,835,000	162,855	3	9,750	1,545	520	3,844,750	164,400	7,710
Others	6,498	55,301,649	1,137,150	95	419,735	48,925	6,593	55,721,384	1,186,075	8,631
Total	**16,157**	**141,161,079**	**9,931,150**	**236**	**1,510,895**	**121,540**	**16,393**	**142,671,974**	**10,052,690**	9,316

Table 4.17 indicates damages related to household assets were household furniture, smart phone, televisions and others such as jewelry, drinks, radio and baking stoves. The types of damages fall either full damage or partial damage but reparable. The estimated cost of household assets damages amounts **142,671,974**ETB. Of whichfull damaged household assets was estimated to be **141,161,079** ETB, and the cost of partial damage but reparable household assets was **1,510,895** ETB. The major damage of household assets belongs to the group furniture with affecting 7247 and which gave to cost of 67,403,090 ETB. The estimated cost of loss in household assets with was estimated taking transportation and maintenance cost is amounted 10,052,690 ETB. From which largest proportion accounted for Household furniture.

4.2.2.4. Public Buildings

A) General Background and Context

Public buildings in Conflict areas of Gedeo zone are under consideration in this assessment include premises ofAdministrative buildings/ Meeting halls of respective kebeles, Farmers training centers, and Church or mosque. They are basically built using local materials whose roof covers with metal sheets.

Figure 3: Public Properties Damaged

Table 4. 18: Damage and loss in Public buildings

Woreda	Building Type	Full Damage			Partial Damage But Reparable			Total			Average cost
		No	cost	loss	No	cost	loss	Total No	damge	loss	
Kochere	Administration office				1	139,265	10,027	1	139,265	10,027	149,292
	Farmers training center				1	267,388	19,252	1	267,388	19,252	286,640
	Church/Mosque				12	1,426,892	102,736	12	1,426,892	102,736	127,469
	Total				14	1,833,545	132,015	14	1,833,545	132,015	140,397
Kochere Gedeb	Administration office	12	502,518	36,181				12	502,518	36,181	44,892
	Farmers training center	2	217,381	15,651	1	22,282	1,604	3	239,663	17,256	85,640
	Total	14	719,899	51,833	1	22,282	1,604	15	742,181	53,437	53,041
Yirgachefe	Administration office	2	505,723	36,412				2	505,723	36,412	271,068
	Church/Mosque	6	1,760,648	126,767	3	212,047	15,267	9	1,972,695	142,034	234,970
	Total	8	2,266,371	163,179	3	212,047	15,267	11	2,478,418	178,446	241,533
Total(Gedeo zone)	Administration office	**14**	**1,008,241**	72,593	**1**	**139,265**	10,027	**15**	**1,147,506**	82,620	82,008
	Farmers training center	**2**	**217,381**	15,651	**2**	**289,670**	20,856	**4**	**507,051**	36,508	135,890
	Church/Mosque	**6**	**1,760,648**	126,767	**15**	**1,638,939**	118,004	**21**	**3,399,587**	244,770	173,541
	Total	22	2,986,270	215,011	18	2,067,874	148,887	40	5,054,144	363,898	135,451

The data presented in table 4.18 illustrates that a total of 40 public buildings were damaged with estimated cost of 5,054,144 ETB during the conflict. From the total damage, 55% of the public buildings (22 in number) were fully damaged and 45% partially damaged but reparable (18 buildings) with estimated cost of 2,986,270 ETB and 2,067,874 ETB respectively

In Kochere woreda 14 public buildings were partially damaged but reparable. The highest damage percentage (85.71%) was recorded in Churches/Mosques while the remaining(14.19%) goesadministrative office and farmers training center. The total damage in estimated was 1,833,545.00 ETB to recover the partially damaged 14 public building. Unlike Kochere woreda, Gedeb's woreda administrative offices were recorded with the highest (80%) damage during the ethnic conflict. The total estimated cost of damaged public buildings in Gedeb was 2,478,418.00 ETB.

Eleven public buildings in Yirgacheffe were fully and partially affected during the ethnic based conflict between Gedeo and west Guji. 8 buildings were fully damaged and the other 3 were partially affected. Most of the damaged public buildings (81.82%) in Yirgacheffe were Churches/Mosques while the others (18.18%) were administrative offices. The estimated costs to reconstruct the completely destroyed and recover the partially damaged public buildings were 2,266,371 ETB and 212,047 ETB respectively. The total loss in public buildings in four woredas accounted 363,898 ETB from which highest loss is estimated in 178,446 ETB in Yirgacheffe woreda and the lowest 53,437 ETB in Kochore Gedebworeda.

4.2.3. Education Sector

A) General background and context

Education in Gedeo zone has long been characterized by overcrowding and unsafe conditions with approximately 69 students per class. 80 percent of schools operate on a double shift system, Educational coverage of the zone 86 percent and 14 percent of adult population have not access to education, The 2018 conflict resulted in 7 primary schools being damaged, among them 3 schools damaged beyond repair.

B) Damage assessment

The following table displays the results of the assessment conducted by Dilla University in coordination with UNHCR:

Table 4. 19: Damage and loss in schools

Woreda	Full Damage			Partial Damage But Reparable			Total			Average cost
	No	cost	loss	No	cost	loss	No	Damage	loss	
Kochere	2	3,184,615	229,292	3	760,385	54,748	5	3,945,000	284,040	845,808
Kochere Gedeb	1	532,608	38,348	1	319,380	22,995	2	851,988	61,343	456,666
Total	3	3,717,223	267,640	4	1,079,765	77,743	7	4,796,988	345,383	734,624

The data presented in table 4.19 illustrates that 7 education centers were damaged with estimated cost of 4,796,988 ETB during the conflict incurred by Gedeo and west Guji ethnic groups. From the total damage, 3 schools were fully damaged and the remaining 4 schools were partially damaged. The estimated costs to reconstruct the fully damaged and recover the partially damaged schools were 3,717,223 ETB and 1,079,765 ETB, respectively. An average of 685,284 ETB is required to reconstruct or recover a damaged school. Most of the damaged schools (71.43%) were recorded in Kochere woreda while the rest damaged schools (28.57%) were assessed from Gedeb woreda. The estimated costs of damaged schools in Kochere and Gedeb woredas were 3,945,000 ETB and 851,988 ETB, respectively. As shown in table 4.19 the total loss in education sector amounted 345,383 ETB.

Figure 4: School Damaged and Loss

4.2.4. Health Sector

A) General background and context

Even before the recent conflict, health services in Gedeo zone were strained by a rapidly increasing population, financial constraints and scarcity of medical supplies; Medical equipment experienced frequent breakdowns and maintenances caused by power interruptions and water impurities; Most existing health facilities were in need of rehabilitation and upgrading in order to ensure quality services and to meet the needs of a growing population

B) Damage Assessments

Table 4. 20: Damage and loss in health facilities

	Full Damage			Partial Damage But Reparable			Total			Average cost
Woreda	No	Damage	Loss	No	Damage	Loss	No	Damage	loss	
Kochere				5	432,649	31,151	5	432,649	31,151	92,760
Kochere Gedeb	1	345,097	24,847				1	345,097	24,847	369,944
Total	1	345,097	24,847	5	432,649	31,151	6	777,746	55,998	138,957

The data presented in table 4.20 that 6 health institutes were damaged with estimated cost of 777,746 ETB during the conflict by Gedeo and west Guji ethnic groups. From the total damage, one health center was fully affected and the remaining 5 centers were partially damaged. Most of the damaged health schools (83.33%) were recorded in Kochere woreda while the rest damaged centers (16.67%) were assessed from Gedeb woreda. The estimated costs to reconstruct the fully damaged and recover the partially damaged health centers were 345,097 ETB and 432,649ETB, respectively. The total loss associated with damage in health facilities accounts 55,998 ETB.

4.2.3. Infrastructure sector

4.2.3.1. Water, Sanitation and Hygiene Sector

A) General background and context

Before to the conflict, it was estimated that 56.5 % of the people in rural areas of Gedeo Zone had access to water supply networks (GTPII of Gedeo zone). Water is abstracted from groundwater sources and consumers fetch from reservoir area through personal carried pots and

carriers. However, in spite of high coverage, the service is irregular and ground water is highly contaminated by nitrates with levels above the recommended international water quality guideline. This has resulted in the high cost of transportation to access drinking water from semi-urban areas.

B) Damage and loss assessment

The main damages revealed in the assessment areHousehold water tankers, Water transmission pipes Local Water reservoir, Local Water reservoir and Household Water gauges

Table 4. 21: Damage and loss in water and sanitation system

Woreda	Type water system damaged	Full Damage			Partial Damage But Reparable			Total			Average
		No	Damage	loss	No	Damage	loss	No	Damage	loss	
Kochere	Household water tankers	1	227,975	16,414				1	227,975	16,414	244,389
	Water transmission pipes Local Water reservoir				1	7,500	540	1	7,500	540	8,040
	Local Water reservoir				4	119,687	8,617	4	119,687	8,617	32,076
	Total	1	227,975	16,414	5	127,187	9,157	6	355,162	25,572	63,456
Kochere Gedeb	Local Water reservoir	3	683,925	49,243	4	547,140	39,394	7	1,231,065	88,637	188,529
	Household Water gauges	3	9,300	670			0	3	9,300	670	3,323
	Total	6	693,225	49,912	4	547,140	39,394	10	1,240,365	89,306	132,967
Total		7	921,200	66,326	9	674,327	48,552	16	1,595,527	114,878	106,900

The cost estimation for damaged water systems for Gedeo zone for two woredas is described in the above table4.21. We have different types of water systems which is affected by the conflict such as household water tankers, water transmission pipes, local water reservoir and household water gauges. Among them seven number of water systems was fully damage and nine number of water systems was partially damage but reparable. The cost estimation for unit price of each water system was made by different engineers. Total damage in water and sanitation amounts 1,595,527ETB. In woreda level, Kochere Gedeb woreda water system was highly affected than Kochere woreda and the total cost estimation of damaged water system at each woredais 1,240,365ETB and 355,162 respectively. The loss in water and sanitation system in both woreda

amounts 114,878 ETB where Kochore Gedeb received the highest proportion of the loss encountered due to the conflict.

4.2.3.2. Transportation Networks: Private Vehiclesand Bridges

A)General Background and Context

The transportation sector plays an important role in supporting the development process by facilitating the efficient movement of people and goods. The transportation network in Gedeo zone is limited to the graveled unpaved road networks that link woreda to woreda and kebeles to kebeles. Most of the roads from kebeles to kebeles are unpaved earth roads whose function are dominantly affected the weather conditions. Bridges are merely simple and substandard bridges linking the kebeles.

B) Damage assessment in Private Vehicles

Table 4. 22: Damage and loss inPrivate Vehicles

Type of Transportation	Fully Affected			Partially Affected			Total			
	No	Damage	Loss	No	Damage	Loss	No	Damage	Loss	Average Cost
Bicycle	93	786,500	54,126	-	-		93	786,500	54,126	9,039
Car	4	2,700,000	81,000	-	-		4	2,700,000	81,000	695,250
Motorcycle	619	33,768,000	1,013,040	4	168,000	13,000	623	33,936,000	1,026,040	56,119
Tricycle	10	1,500,000	45,000	-	-		10	1,500,000	45,000	154,500
Total	726	38,754,500	1,193,166	4	168,000	13,000	730	38,922,500	1,206,166	54,971

The data showed in table 4.22 showed that a total 730 assets from the transport sector were damaged with estimated cost of 38,922,500 ETB during the conflict between Gedeo and Guji ethnic groups. The total loss associated with private vehicle is estimated 1,206,166. From the total damage, 99.5% of the transport sector (726 in number) was fully affected with estimated cost of 38,754,500 ETB and a trace share of 0.5% (4 items) was partially damaged with estimated cost of 168,000ETB. The average estimated cost of transport assets (Bicycle, Car, Motorcycle and Tricycle) were 887,928.90 ETB.

From the transport sector 4 cars were fully damaged during the conflict with estimated cost of 2,700,000 ETB. The average estimated cost of damaged cars was 675,000.00 ETB.Motorcycle

is the other fully damaged asset from the transport sector. 623 Motorcycles were fully damaged with 33,936,000 ETB estimated cost while 4 Motorcycles were partially affected with 168,000 ETB estimated cost. From the total damage, 99.4% of Motorcycles were fully damaged compared to the partial damage that shares only 0.6%. A total of 10 Tricycle were also fully affected by the conflict incurred by the two ethnic groups. The total and average estimated costs of the damaged Tricycles were 1,500,000.00 and 150,000.00 ETB, respectively.

C) **Damage assessment in Damaged of bridges**

Table 4. 23: Damage and Loss in Rural Bridge Damage

Woreda	Roads that link	Full Damage			Partial Damage But Reparable			Total			**Average**
		No	Damage	Loss	No	Damage	Loss	No	Damage	Loss	
Kochere	Kebele to Kebele				1	28,350	7,371	1	283,500	7,371	290,871
	Kebele to Woreda	1	28,350	7,371	3	85,050	22,113	4	850,500	29,484	219,996
	Total	1	28,350	7,371	4	113,400	29,484	5	1,134,000	36,855	234,171
Kochere Gedeb	Kebele to Kebele	2	56,700	14,742	5	255,150	66,339	7	2,551,500	81,081	376,083
	Kebele to Woreda	1	28,350	7,371		-		1	28,350	7,371	35,721
	Total	3	85,050	22,113	5	255,150	66,339	8	2,579,850	88,452	333,538
Total		4	113,400	29,484	9	368,550	95,823	13	3,713,850	125,307	295,320

Bridge is important structures to pass obstacles such as rivers, gorges, roads and railways. Generally bridges serve twopurposes first to pass obstacles and second to facilitate the transportation system. Therefore,it was observed that locally available bridge were made from stones and cement concrete which is used to link kebele to kebele and kebele to wereda. As we see from table 4.23 above 13 bridges were damaged by the conflict. Among them 9 bridges were partially damaged but reparable and 4 number of bridge was fully damage by the conflict. The total cost of repairing and reconstructing of 13 bridges costs 3,713,850 ETB with average cost of 285,681ETB per bridge damaged. In wereda level, KochereGedebwas highly affected by damage of the bridge total cost of repairing bridge in Kochere Gedeb is 2,579,850 ETBand Kochere wereda were the is 1,134,000 ETB. The total estimated loss associated with bridge damage is 125,307 ETB.

4.2.3.3. Energy and Electricity

A) General background and context

The energy supply in the Gedeo Zone faces a chronic shortfall in power supply where the majority of the population has not access to electricity power. Before conflict, there were four sources of electricity power supply in the Gedeo Zone A) wood and charcoal C) solar energy C) Kerosene D) electricity. Among these sources only 26.1 percent of population has access to electricity energy despite high potential of the zone to generate hydroelectric power from local available rivers in zone.

Table 4. 24: Damage and Loss in Energy Sector

Type of electric Instruments	Full Damage			Partial Damage But Reparable			Total			
	No	Damage	loss	No	Damage	loss	No	Damage	loss	**Average Cost**
Solar panel	2,988	3,094,650	971,100	47	19,500	17,625	3,035	3,114,150	988,725	1,352
Generator	494	5,149,000	160,550	3	28,500	2,670	497	5,177,500	163,220	10,746
Electric pole				7	9,996	6,497	7	9,996	6,497	2,356
Total	3,482	8,243,650	1,131,650	57	57,996	26,792	3,539	8,301,646	1,158,442	2,673

As it can be seen in the table 4.24 due to inaccessibility of electricity energy in conflict affected areas, people dominantly use solar panel as source of light energy. The table shows also that 3, 539 equipment had damaged inenergy sub-sector total cost of whose total cost of replacement amounted 8,301,646 (eight million three hundred one thousand six hundred forty six) ETB. In damage scale perspective 3,482equipment's which amounts 8,243,650(eight million two hundred forty three thousand six hundred fifty) ETB are fully damaged whereas 57 equipment's were partial damaged with possibility of repairing with total estimated cost of 57,996 (fifty seven thousand nine hundred ninety six) ETB. Total estimated loss of energy sector is 1,158,442 ETB from which the highest proportion goes to solar panel.

4.2.4. Summary of Damage and loss.

Summary of damage and loss of all sectors included in assessment are presented in table 4.25 below.

Table 4. 25:Summary of Damage and Loss in Gedeo Zone

Sector and sub-sectors	Damage			Loss		
	Values	*Ownership*		*Values*	*Ownership*	
		Private	*Public*		*Private*	*Public*
Productive						-
Agriculture and livestock	356,147,360	356,147,360	-	335,533,923	335,533,923	-
Sub-Total	**356,147,360**	**356,147,360**	-	**335,533,923**	**335,533,923**	-
Social Sectors			-			-
Private House	268,577,176	268,577,176	-	19,408,800	19,408,800	-
House hold assets	142,671,974	142,671,974	-	10,052,690	10,052,690	-
Public Buildings	5,054,144	-	5,054,144	363,898	-	363,898
Education	4,796,988	-	4,796,988	345,383	-	345,383
Health	777,746	-	777,746	55,998	-	55,998
Sub-Total	421,878,028	411,249,150	10,628,878	30,226,769	29,461,490	765,279
Infrastructure					-	
Electricity	8,301,646	8,291,650	9,996	1,158,442	1,151,945	6,497
Water and Sanitation	1,595,527	237275	1,358,252	114,878	17,084	97,794
Transport (Private Vehicles and Bridge Damage)	42,636,350	38,922,500	3,713,850	1,331,473	1,206,166	125,307
Sub-Total	52,533,523	47,451,425	5,082,098	2,604,793	2,375,195	229,598
Total Damage	830,558,911	814,847,935	15,710,976	368,365,485	367,370,608	994,877

As shown in table 4.25 above total estimated value of damaged in conflict affected area is amount 830,558,911 ETB were damage. From this 814,847,935 damages were attributed to private sector whereas 15,710,976 ETB were attributed to public sectors. These high damage estimate values were attributed to the social sectors (421,878,028 ETB)and private productive sectors (356,147,360 ETB) which received considerable amounts of damage followed by infrastructure sectors (52,533,523 ETB). The assessment had also proceeded to estimate the loss

due to the conflict. According there were 368,365,485 ETB loss in three sectors of which 367,370,608 ETB were private and 994,477ETB were public loss. Highest loss estimated for the private productive sectors (335,533,923ETB) followed by the private social sectors (29,461,490 ETB), and infrastructure sectors (2,375,195 ETB).

CHAPTER FIVE

5. Scope for Further Research

As this damage and loss assessment highlighted, households are not stand-alone entities; neither are their livelihoods independent of the prevailing socio-economic and political environment. If

any of the dimensions of the environment change – social, economic or political, - peoples' livelihood status also changes. In this case, IDP and returnee in Gedeo are obviously forced to adopt and find means of livelihood survival (if possible to grow) and restart a new life in the environment in which the find themselves. But, this cannot be seen as easy as it may sound. The damage and loss assessment team strongly believe that devising sound strategies/ mechanisms and helping the IDP and returnee in Gedeo to restore their quality of life back to its pre-conflict state is a cause of great concern; it is both a moral and development imperative. To that end, it is necessary to closely examine the new and difficult social, economic environments that determine the way in which the IDP and returnee find their means of livelihood; which is not studied yet. Thus, further research regarding the livelihood dynamics and patterns of the IDP and returnee and the associated **socio economic impact of conflict at personal house hold and community level should be studied** science the current assessment mainly focus on quantitative aspects of conflict living the room for further studies in qualitative aspects of conflict to ensure sustainable livelihood of returnees.

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Appendix 1

Shelter construction material specification

S.N	Shelter types	Specification/Description
1	Emergency	The shelter which constructed from local material – earth basement – bahirzaf wood and mud for wall – Roof cover enstet byproduct /offee.
2	Permanent-Hallow Concrete Block(HCB) cover metal sheet	The shelter which constructed from local material: – For basement concrete slab and masonry – Wall and partition constructed by bahirzaf wood and mud – For Roof cover by metal sheet over bahirzaf wood truss.
3	Permanent-Mud cover with grass	The shelter which constructed from local material: – Earth basement – Wall and partition constructed by bahirzaf wood and mud – For Roof cover by grass over bahirzaf wood truss.
4	Permanent-Mud cover with Metal Sheet	The shelter which constructed from local material: – Earth basement – Wall and partition constructed by bahirzaf wood and mud – For Roof cover by metal sheet over bahirzaf wood truss.
5	Transitional.	The shelter which constructed from local material – Earth basement – Bahirzaf wood and mud for wall – Roof cover enset byproduct /offee.
6	Other	The shelter which constructed from local material – Earth basement – Bahirzaf wood and mud for wall – Roof cover by plastic /warro.

Appendix 2

List of construction material with their unit cost.

S.N	Constriction Material Types	Unit	Unit rate /Current/-1(ETB)	Unit rate /Current/-2(ETB)	Unit rate /Current/-3(ETB)	Unit rate /Current/-Average(ETB)
1	Metal Sheet	PCS	225	230	250	235
2	Large size (Teshegagari and quami)) Bahirzaf Wood (#14)	PCS	110	100	115	108
3	Medium size (Quami) Bahirzaf Wood (#12)	PCS	90	80	70	80
4	Medium size (Dmdmat) Bahirzaf Wood (#10)	PCS	65	60	70	65
5	Small size (Roof Mager)) Bahirzaf Wood (#8)	PCS	50	40	45	45
6	Small size (Wall Mager)) Bahirzaf Wood (#6)	PCS	18	15	14	16
7	Kifef 4m length	PCS	190	200	215	202
8	Filt/Terb for wall	PCS	12	15	17	15
9	Nails					
9	#8	Packet	300	280	290	290
9	#9	Packet	300	280	290	290
9	#10	Packet	300	280	290	290
9	#12	Packet	300	280	290	290
10	Roof Nail	Packet	310	320	330	320
10	Cement	Quntal	415	450	435	433
11	Sand	m^3	594	563	656	604
12	Stone for Basement Masonry	Number	3.5	4.0	4.5	4.0
13	Stone for Hard Core	m^3	156	175	188	173

Appendix 3

Skilled and Non skilled worker which participated on shelter construction with their value.

S.N	Shelter work category	Unit	Executing unit cost(ETB)			
			Unit rate /Current/-1	Unit rate /Current/-2	Unit rate /Current/-3	Unit rate /Current/-Average
1	Mud work	M^2	267	225	246	246
2	Masonry Work	M^2	104	139	167	137
3	Carpentry work	M^2	122	104	104	110

Based on the above material list and unit price a shelter which have a length and width 6m and 4m respectively cost estimated as follow.

Appendix 4

Shelter type: Permanent-Mud cover with Metal Sheet

Table 4: Size 6x4m which have no Masonry Work on the basement

S.N	Required Construction Material for Roof Work	Unit	Quantity	Unit price	Total Cost

				(ETB)	(ETB)
1	Metal Sheet (roof cover)	PCS	25	235	5,875.00
2	Medium size (Weraj) Bahirzaf Wood	PCS	8	80	640.00
3	Medium size (Dmdmat) Bahirzaf Wood	PCS	0	65	0.00
4	Small size (Roof Mager)) Bahirzaf Wood	PCS	16	45	720.00
5	Kifef 4m length	PCS	5	202	1,008.33
6	Nails				
6.1	#8	Packet	0.5	290	145.00
6.2	#9	Packet	0.5	290	145.00
6.3	#10	Packet	0.5	290	145.00
6.4	#12	Packet	1	290	290.00
6.5	Roof Nail	Packet	1	320	320.00
7	Skilled and Non Skilled labour force (Carpentry work)				840.00
Sub Total					**10,128.33**
Contingency (10%) for roof work					1,012.83
Sub grand Cost for Roof Work					11,141.17
Unit cost per area					464.22
S.N	Required Construction Material for Wall Work	Unit	Quantity	Unit price(ETB)	Total Cost (ETB)
8	Large size (Teshegagari and quami)) Bahirzaf Wood	PCS	22	108	2,383.33
9	Small size (Wall Mager)) Bahirzaf Wood	PCS	160	16	2,506.67
10	Filt/Terb for wall	PCS	160	15	2,346.67
10	Nails				0.00
10.1	#8	Packet	1.5	290	435.00
10.2	#9	Packet	0.5	290	145.00
10.3	#10	Packet	0.5	290	145.00
10.4	#12	Packet	0.5	290	145.00
11	Stone for Hard Core	m^3	6.5	173	1,123.96
12	Skilled and Non Skilled labour force (Carpentry work)				1,260.00
13	Mud work				4,956.00
Sub Total					**15,446.63**
Unit cost per perimeter					**716.13**
Total					25,574.96
Contingency (10%)					2,557.50
Grand total					28,132.45
unit cost per area					1,172.19

Appendix 5

Shelter type: Permanent-Hallow Concrete Block (HCB) cover metal sheet

Table 5: Size 6x4m which have masonry Work on the basement.

S.N	Required Construction Material for Roof Work	Unit	Quantity	Unit price	Total Cost

				(ETB)	(ETB)
1	Metal Sheet (roof cover)	PCS	25	235	5875
2	Medium size (Weraj) Bahirzaf Wood	PCS	8	80	640
3	Medium size (Dmdmat) Bahirzaf Wood	PCS	0	65	0
4	Small size (Roof Mager)) Bahirzaf Wood	PCS	16	45	720
5	Kifef 4m length	PCS	5	202	1008
6	Nails				
6.1	#8	Packet	0.5	290	145.00
6.2	#9	Packet	0.5	290	145.00
6.3	#10	Packet	0.5	290	145.00
6.4	#12	Packet	1	290	290.00
6.5	Roof Nail	Packet	1	320	320.00
7	Skilled and Non Skilled labour force (Carpentry work)				840.00
Sub Total					**10,128.33**
Contingency (10%) for roof work					1,012.83
Sub grand Cost for Roof Work					11,141.17
Unit cost per area					464.22
S.N	Required Construction Material for Wall Work	Unit	Quantity	Unit price (ETB)	Total Cost (ETB)
8	Large size (Teshegagari and quami)) Bahirzaf Wood	PCS	22	108	2,383.33
9	Small size (Wall Mager)) Bahirzaf Wood	PCS	160	16	2,506.67
10	Filt/Terb for wall	PCS	160	15	2,346.67
11	Nails				
11.1	#8	Packet	1.5	290	435.00
11.2	#9	Packet	0.5	290	145.00
11.3	#10	Packet	0.5	290	145.00
11.4	#12	Packet	0.5	290	145.00
12	Stone for Hard Core	M^3	6.5	173	1,123.96
13	Cement	Quntal	6	433	2600
14	Sand	M^3	4	604	2417
15	Stone for Basment Masonry	Number	450	4	1800
16	Skilled and Non Skilled labour force (Carpentry work)				1,260.00
17	Mud work				4,956.00
18	Masonry Work				2,500.00
Sub Total					**24,763.29**
Unit cost per perimeter					**1,056.97**
Total					34,891.63
Contingency (10%)					3,489.16
Grand total					38,380.79
unit cost per area					1,599.20

Appendix 6

Shelter Type: Other

Table 6: Size 6x4m which have no masonry work on the basement.

S.N	Required Construction Material for Roof Work	Unit	Quantity	Unit	Total Cost

				price	
1	plastic Sheet (roof cover)	PCS	25	17	425.00
2	kircho for roof cover	m2	25	3	75.00
3	Medium size (Weraj) Bahirzaf Wood	PCS	8	80	640.00
4	Medium size (Dmdmat) Bahirzaf Wood	PCS	0	65	0.00
5	Small size (Roof Mager)) Bahirzaf Wood	PCS	16	45	720.00
6	Kifef 4m length	PCS	5	202	1,008.33
7	Nails				0.00
7.1	#8	Packet	0.5	290	145.00
7.2	#9	Packet	0.5	290	145.00
7.3	#10	Packet	0.5	290	145.00
7.4	#12	Packet	1	290	290.00
7.5	Roof Nail	Packet	1	320	320.00
8	Skilled and Non Skilled labour force (Carpentry work)				840.00
Sub Total					**4,753.33**
Contingency (10%) for roof work					475.33
Sub grand Cost for Roof Work					5,228.67
Unit cost per area					217.86
S.N	Required Construction Material for Wall Work	Unit	Quantity	Unit price	Total Cost
9	Large size (Teshegagari and quami)) Bahirzaf Wood	PCS	22	108	2,383.33
10	Small size (Wall Mager)) Bahirzaf Wood	PCS	160	16	2,506.67
11	Filt/Terb for wall	PCS	160	15	2,346.67
12	Nails				0.00
12.1	#8	Packet	1.5	290	435.00
12.2	#9	Packet	0.5	290	145.00
12.3	#10	Packet	0.5	290	145.00
12.4	#12	Packet	0.5	290	145.00
13	Skilled and Non Skilled labour force (Carpentry work)				1,260.00
14	Mud work				4,956.00
Sub total					**9,366.67**
Contingency (10%)					936.67
Sub Grand for wall cost					10,303.33
Unit cost per area					429.31
Unit cost per perimeter					515.17
Grand total cost					15,532.00
Grand unit cost /area					647.17

Appendix 6

Shelter type: Emergency and transitional

Table 7: Size 7x7 m for rectangular shelter and a diameter of 7m for circular shelterwhich have no masonry work on the basement.

S.N	Required construction material	Unit	Quantity	Unit price	Total cost
1	Grass for roof cover (ooffe)	PCS	25	30	750
2	:saga" verticla members for roof	PCS	18	180	3240
3	'Mager" horizontal members for roof	PCS	45	14	630
4	Rope for tie vertical and horizontal members of roof	PCS	6	50	300
5	#8 (nails)	Packet	0.5	145	73
6	#9	Packet	0.5	145	73
7	Skilled and Non Skilled labour force				600
Sub total					5665
8	Terb for wall" supporting members "	PCS	80	13	1040
9	Trench excavation	Daily	6	60	360
10	Construction material transportation cost	Ls	1	500	500
11	Top tie beam single member supporting pile member at center of home	PCS	1	100	100
12	Supporting pole	PCS	5	80	400
13	#8 (nails)	Packet	0.5	145	73
14	#9	Packet	0.5	145	73
15	Tewilla and guben	Pcs	6	150	900
16	Skilled and Non Skilled labour force				900
Sub total					4,345.00
Grand total					10,010.00
Contingency (10%)					1,001.00
Total					11,011.00
Unit/area					224.71
Unit/peri					197.50

Appendix 7

Shelter type: Permanent-Mud cover with grass,

Table 8: Size 7x7 m for rectangular shelter and a diameter of 7m for circular shelterwhich have no masonry work on the basement.

S.N	Required construction material	Unit	Quantity	Unit price	Total Cost
1	Grass for roof cover	PCS	25	100	2,500.00
2	“Saga" vertical members for roof	PCS	18	180	3,240.00
3	'Mager" horizontal members for roof	PCS	90	14	1,260.00
4	TOP OF ROOF "CIRCLE MEMBERS "gibe(tie=mechagna)	PCS	5	50	250.00
5	Tie for vertical and horizontal members of roof	PCS	12	50	600.00
6	Skilled and Non Skilled labour force(car				2,440.00
Sub total					**10,290.00**
7	Terb for wall" supporting members "' xerb	PCS	273.33	13	3,553.29
8	Trench exaction	daily	12	60	720.00
9	Construction material transportation cost	Ls	1	1500	1,500.00
10	Vertical supporting pile member at center of home	PCS	1	250	250.00
11	Nails				
11.1	#8	Packet	2	290	580.00
11.2	#9	Packet	2	290	580.00
12	Tewilla and Guben	pcs	10	150	1,500.00
13	Mud work				1,500.00
14	Skilled and Non Skiled labour force				2,760.00
Sub Total					**12,943.29**
Contingency (10%)					**1,294.33**
Total wall cost					**14,237.62**
Grand total					**23,233.29**
Contingency (10%)					**2,323.33**
Total					**25,556.62**
Unit cost value/area					**521.56**
Unit cost value per perimeter					**647.16**

Appendix 8

Loss estimation methodology for Shelter and Public Building

Loss for shelter which their damage scale recorded as fully damage and severely damaged not reparable:

Shelter loss included transportation and laborer cost of new construction material for new shelter construction and cost for removal of damaged wastage. The loss estimation that concerned for transportation and laborer cost of new construction material done by taking Dilla town as center of new material location especially a material for roof covering such that metal sheet and nails. By taking an assessment of vehicle transportation from Dilla to each woredas with their perspective kebels average loss estimated as indicated in following table. The vehicle material hauling cost include laborer cost associated to material loading and unloading.

The loss estimation that concerned local new material transport cost and loss associated to cost for removal of damaged wastage related to directly to laborer cost and animals like mule, donkey and horse rent. Locally those cost estimated to average of **800ETB**.

S.N	Woreda	Estimated average shelter material hauling cost (ETB)	**Total loss (ETB)**
1	Wenago	**1000**	**1800**
2	Yirgacheffe	**1,200**	**2000**
3	Kochere	**1,700**	**2500**
4	Kochere gedeb	**2,200**	**3000**

Loss estimation for shelter which their damage scale recorded as partially damage concern only roof material hauling from Dilla town and so the cost associated to vehicle transportation and labourer cost for local material transportation that estimated as indicated in following table

S.N	Woreda	**Average Total loss (ETB)**
1	Wenago	**1300**
2	Yirgacheffe	**1500**
3	Kochere	**2000**
4	Kochere gedeb	**2500**

Appendix 9

Table 17: Distribution of IDP and returnee by pattern of their daily expense (expenditure)

			Top 1										Total
			Buy water	**Buying food**	**Livestock food**	**Medical care**	**Other (Pease specify)**	**Purchase of wood / energy source**	**Repayment of debt**	**Shelter repair**	**Trans-portation**	**Tuition fees**	
Kochere,	Top 1	Count (%)	0 (0.0%)	1411 (17.1%)	3 (0.0%)	1 (0.0%)	0 (0.0%)	46 (0.6%)	1 (0.0%)	3 (0.0%)	1 (0.0%)	5 (0.1%)	1471 (17.8%)
	Top 2	Count (%)	9 (0.1%)	32 (0.4%)	72 (0.9%)	340 (4.1%)	3 (0.0%)	413 (5.0%)	33 (0.4%)	125 (1.5%)	398 (4.8%)	46 (0.6%)	1471 (17.8%)
	Top 3	Count (%)	7 (0.1%)	5 (0.1%)	54(0.7%)	710 (8.6%)	24 (0.3%)	16 (0.2%)	15 (0.2%)	170 (2.1%)	430 (5.2%)	40 (0.5%)	1471 (17.8%)
Kochere Gedeb	Top 1	Count (%)	0 (0.0%)	2751 (33.3%)	1(0.0%)	10 (0.1%)	1 (0.0%	60 (0.7%)	0 (0.0%)	8 (0.1%)	4 (0.0%)	0 (0.0%)	2835 (34.3%)
	Top 2	Count (%)	16(0.2%)	56 (0.7%)	114(1.4%)	646 (7.8%)	9 (0.1%)	699 (8.5%)	64 (0.8%)	281 (3.4%)	906(11.0%)	44 (0.5%)	2835 (34.3%)
	Top 3	Count (%)	13(0.2%)	4 (0.0%)	122(1.5%)	1362 (16.5%)	26 (0.3%)	50 (0.6%)	108 (1.3%)	388 (4.7%)	725 (8.8%)	37 (0.4%)	2835 (34.3%)
Wenago	Top 1	Count (%)	0 (0.0%)	100 (1.2%)	0(0.0%)	0 (0.0%)	0 (0.0%)	1 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	101 (1.2%)
	Top 2	Count (%)	0 (0.0%)	1 (0.0%)	1(0.0%)	43 (0.5%)	0 (0.0%)	14 (0.2%)	11 (0.1%)	2 (0.0%)	29 (0.4%)	0 (0.0%)	101 (1.2%)
	Top 3	Count (%)	0 (0.0%)	0 (0.0%)	11(0.1%)	34 (0.4%)	0 (0.0%)	1 (0.0%)	5 (0.1%)	24 (0.3%)	26 (0.3%)	0 (0.0%)	101 (1.2%)
Yirgachefe	Top 1	Count (%)	1 (0.0%)	3715 (45.0%)	1(0.0%)	9 (0.1%)	0 (0.0%)	117 (1.4%)	4 (0.0%)	2 (0.0%)	4 (0.0%)	1 (0.0%)	3854 (46.7%)
	Top 2	Count (%)	13 (0.2%)	80 (1.0%)	113(1.4%)	906 (11.0%)	11 (0.1%)	1003 (12.1%)	171 (2.1%)	253 (3.1%)	1227 (14.9%)	77 (0.9%)	3854 (46.7%)
	Top 3	Count (%)	9 (0.1%)	10 (0.1%)	179 (2.2%)	1982 (24.0%)	109 (1.3%)	55 (0.7%)	193 (2.3%)	358 (4.3%)	876 (10.6%)	83 (1.0%)	3854 (46.7%)
Top 1	Top 1	Count (%)	1(.0)	**7977(96.6)**	5(.1)	**20(.2)**	1(.0)	**224(2.7)**	5(.1)	13(.2)	9(.1)	6(.1)	8261(100.0)
Top 2	Top 2	Count (%)	38(.5)	169(2.0)	300(3.6)	**1935(23.4)**	23(.3)	**2129(25.8)**	279(3.4)	661(8.0)	**2560(31.0)**	167(2.0)	8261(100.0)
Top 3	Top 3	Count (%)	29(.4)	19(.2)	366(4.4)	**4088(49.5)**	159(1.9)	122(1.5)	321(3.9)	**940(11.4)**	**2057(24.9)**	160(1.9)	8261(100.0)

Appendix 9

004: Kebele

_____

Location

latitude (x.y °)

_____

longitude (x.y °)

_____

altitude (m)

_____

accuracy (m)

_____

IDENTITY OF THE PERSON INTERVIEWED AND GENERAL INFORMATION

Sex

◯ Male ◯ Female

ID number

_____

What is the head of the household birth date?

yyyy-mm-dd

Civil status (head household)?

◯ Married ◯ Single ◯ Widow

do you live with your spouse in the same shelter?

◯ Yes ◯ No

What is your family size?

_____

PROTECTION ASPECTS

Do teenagers (girls and boys: 13 years and above) sleep in the same area?

- ( ) Yes
- ( ) No

Do men and women sleep in the same area?

- ( ) Yes
- ( ) No

Is there a vulnerable or person with specific needs in the household?

- ◯ Yes
- ◯ No

Is there a family member able to build / repair the dwelling?

- ◯ Yes
- ◯ No

SHELTER/HOUSE TYPOLOGY

What is the type/material of shelter?

- ( ) Permanent-Mud cover with Metal Sheet
- ( ) Permanent-Mud cover with grass
- ( ) Permanent-Hallow Concrete Block(HCB) cover metal sheet
- ( ) Transitional
- ( ) Emergency
- ( ) Other (please specify)

Please specify

Damaged infrastructure photo

Click here to upload file. (< 5MB)

Have you received a shelter materials from any NGO/Agency?

- ( ) Yes
- ( ) No

When did you receive this materials?

yyyy-mm-dd

Who did you receive this materials from?

Observation: Are the below construction materials available around the site?

Wooden pole?

- ( ) Yes
- ( ) No

Roofing grass?

◯ Yes ◯ No

Local rope?

◯ Yes ◯ No

What is the length of the shelter (in meter)?

_____

What is the width of the shelter (in meter)?

_____

What is the number of rooms in the shelter?

_____

What is the scale of the damage?

◯ Fully damaged ◯ Partially damaged but reparable

◯ Severely damaged not reparable

SOURCE OF INCOME AND PROPERTY OF THE HOUSEHOLD

1

* **What are the household sources of income?**

◯ Livestock / Sale of animals and livestock products

◯ Agriculture / Sales of agricultural products ◯ Trade

◯ Sale of handicrafts ◯ Salary (official, contractor or retired, daily work)

◯ Financial transfers form family member living abroad ◯ Other (Please specify)

* Please specify

_____

* **How was the income source affected by conflict?**

◯ Not affected ◯ Partially affected

◯ Fully affected

* **What was your total income from this source before conflict?**

_____

* **What is your total income from this source after conflict?**

_____

* **Have you or a member of your family benefited from an IGA program?**

◯ Yes ◯ No

* Which year?

_____

POSSESSION OF PROPERTY

1

* **What are the assets that the household has?**

◯ Animals
◯ Household furniture
◯ Solar panel
◯ Smartphone
◯ Television
◯ Generator
◯ Car
◯ Motorcycle
◯ Tricycle
◯ Bicycle
◯ Farm tools
◯ Coffee plantation
◯ Farm
◯ Documents-Land Certificate
◯ Documents-Birth certificate
◯ Documents-National ID
◯ Documents-Bank Books
◯ Other (Please specify)

* Please specify

_____

* **How was the asset affected by conflict?**

◯ Not affected
◯ Partially affected
◯ Fully affected

* **Number/Area of the lost asset**

_____

* **How did you acquire the land holding right?**

- ◯ Inheritance
- ◯ Government grant
- ◯ Lease
- ◯ Rent from private individuals
- ◯ Other

* **Please specify**

_____

* **Do you have a land holding certifiate?**

- ◯ Yes, I have it
- ◯ Yes, but I lost it
- ◯ No, I'm registered but not certified
- ◯ No, I'm not registered nor not certified

*** Do you need any legal assistance to claim your asset in your place of origin?**

- ◯ Yes
- ◯ No

* **what kind?**

- ☐ Legal representation in litigation
- ☐ Legal Advise
- ☐ Assistance in Administrative Matters
- ☐ Involvement in ADR

Expenses

What is the average weekly amount of usual household expenses?

_____

What are these expenses usually allocated to during the week? (Top 3)

Top 1

- ◯ Buying food
- ◯ Shelter repair
- ◯ Livestock food
- ◯ Tuition fees
- ◯ Other (Pease specify)
- ◯ Purchase of wood / energy source
- ◯ Repayment of debt
- ◯ Transportation
- ◯ Medical care
- ◯ Buy water

Top 2

- ◯ Buying food
- ◯ Shelter repair
- ◯ Livestock food
- ◯ Tuition fees
- ◯ Other (Pease specify)
- ◯ Purchase of wood / energy source
- ◯ Repayment of debt
- ◯ Transportation
- ◯ Medical care
- ◯ Buy water

Top 3

- ◯ Buying food
- ◯ Shelter repair
- ◯ Livestock food
- ◯ Tuition fees
- ◯ Other (Pease specify)
- ◯ Purchase of wood / energy source
- ◯ Repayment of debt
- ◯ Transportation
- ◯ Medical care
- ◯ Buy water

General comments and recommendations

_____

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