

Effect of Intervention on Pastoralists' Development in some District: Several stakeholders in West Hararge Zone, Ethiopia

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Abstract

The purpose of this study was to evaluate the effects of particular development stakeholders on the livelihoods of pastoralists in a few districts in the West Hararge zone of Ethiopia's Oromia region. In order to conduct this investigation, 160 samples of primary data were surveyed, and the econometric model's logistic regression likelihood estimation was employed. Spearman's rank analysis was used to determine how development stakeholders ranked their engagement with government in the areas of education, productive safety net, cooperative Oromia promotion, Busa Gonofa government institution, pastoral development government sector, and water sector and care Ethiopia NGOs sectors, in order. The applied econometric logistic regression, shows from government and NGOs; were founded significantly a significant at a statistical significance level of five percent: Islamic Relief, Water sanitation and hygiene, Farm Africa, and rural road development from the government sector. Accordingly, the research findings indicate that the education sector for pastoralist development strength needs to be treated as such smoothly with some moderation to achieve its target with full rate, while government office responsible for the water sector needs to give priority to reaching its primary target at area than selected sectors also for Care Ethiopia NGOs sector needs urgent improvement.

Key words: *Intervention, logistic regression model, pastoralist, West Hararge zone*

1. Introduction

Pastoralism refers to a way of life where a people depend on their livestock as a source of income while searching for pasture and water. Declare (2013). According to Desta (2013), 12 million pastoralists live in Ethiopia, occupying an area that makes up 60% of the nation's total land area. As noted by Asresie, Zemedu, and Adigrat (2015), the primary source of income for the nation from the livestock industry is pastoralism. Three components of pastoralism are in symbiotic relationships with one another: people, livestock, and frequently fragile environments. The rate of illiteracy in pastoral areas is extremely high, and many of their children do not attend school (UNICEF, 2019). Pastoralists are frequently characterized as being highly vulnerable, prone to conflict, and experiencing food insecurity. Compared to other regions, basic social services such as health, education, electricity, roads, and communication, as well as agricultural extension service accessibility, credit availability, and insurance coverage, are typically less developed. As a result, pastoral areas are considered to have lower health and education indicators than the overall country at any given time (Suheri et al., 2019).

Throughout the world, several hundred million households depend on pastoralists representing 50 million households in sub-Saharan Africa, but politicians frequently overlook them (Holechek et al., 2017). It is a common misconception among researchers and scholars that pastoralists inflict their own suffering because they choose a traditional lifestyle that limits their capacity for innovation and adaptation to recent global change. However, this is untrue. Pastoralists suffer from a lack of inclusive government development policies rather than from choosing to live a traditional lifestyle (Sharifian et al., 2023). Political identities held by pastoralists include those of livestock-keepers, pastoralists, regional, ethnic, religious, and "indigenous peoples" (Andreas et al., 2017).

A web of social and economic ties that spans the nation's borders and extends well beyond lowland areas to highland economies makes pastoralism a plausible thought system in a variety of livestock and non-livestock activities (Kohn stamm, 2016). Making better decisions that impact pastoral areas and the people who live there requires a deeper comprehension of pastoralism (Andreas et al., 2017). Pastoralists are entitled to free land grazing, equitable use of natural resources, market access and reasonable prices, and protection from being forcibly removed from their own lands, according to the 1995 Ethiopian Constitution. Ethiopia's pastoral areas were the focus of development efforts until the government established a national policy and strategies (Mohammed A. A. 2019). However, these nationally created policies are in opposition to one another. For instance, Proclamation 819/2014 encourages the nation to sell and trade livestock as a major source of income; in contrast, Ethiopia's voluntary settlement policy discourages pastoralist activities.

According to Acheampong et al. (2014), vulnerability in both social and natural systems is defined as a lack of adaptive capacity, which includes sensitivity and exposure to danger. This concept of vulnerability in pastoralism has been invoked in various studies. Not only is pastoralism the way of life practiced by pastoralists, but it is also a way of life prevalent throughout much of Africa's semi-arid and arid regions, which are characterized by irregular rainfall and related uncertainties regarding the distribution of water resources both spatially and temporally as well as animal grazing. Grasslands, which make up 25% of the planet's surface, are the primary habitat for pastoralism (Follet *et al.*, 2008). Mobile herds and arid regions are strongly linked to it. Pastoralists employ mobility as a fundamental tactic in their systems of risk management and livelihood

development. Pastoralism is far from static, even though a sizable portion of the population considers African pastoral ecosystems to be their ancestral homeland and way of life. In many regions, pastoralists are adjusting to new developments such as improved access to contemporary communication tools and economic prospects.

It is very common for the majority of children in pastoral areas to be illiterate (UNICEF, 2016). Education is not accessible in pastoral communities. According to Nderumaki, V., Mkanda, F. X., and Saria, J. (2016), pastoralists are frequently characterized as confrontational, food insecure, and highly vulnerable. Since pastoral areas typically have lower standards of health and education than national averages at any given time, they are defined as having lower standards of these basic social services: health, education, electricity, roads, and communication; accessibility of agricultural extension services; and credit and insurance services.

Ethiopia's pastoral economy is susceptible to both food insecurity and environmental degradation. Many natural, social, and economic issues, such as ongoing droughts, a lack of basic infrastructure, and conflicts, limit the livelihoods of pastoralist communities in Ethiopia. Additionally, these communities have low resilience and are unable to recover from such difficult circumstances. Most of the year, the government provides food assistance to support the livelihoods of the vast majority. In Yaballo Woreda, Oromia Region, agropastoral communities' coping mechanisms and food insecurity are examined. According to Boru and Dilla (2017), 15% of pastoralists in Borena experience food insecurity on a year-round basis.

The Oromia regional state in Ethiopia's Borena pastoralist communities is home to determinants of livelihood diversification strategies. As a growing alternative for livestock destitute pastoralists, these pastoralists are settling in and around urban centers to take advantage of emerging livelihood opportunities, which are defined as non-pastoral livelihood options such as wage employment and petty trading that would not be available in rural pastoral areas (Dinku, A. M. (2018). Policy makers frequently overlook the importance of livelihood diversification for pastoral livelihoods, and technocrats generally believe that pastoral lands should be ploughed due to underutilization. Environmental disaster narratives in Ethiopia are a major factor contributing to the political ecology of famine (Biruk, A. 2020).

According to the study, the financial losses resulting from livestock deaths in the Borana plateau exceeded US \$300 million only between 1980 and 1997. The study goes on to say that every five to six years, during periods of low rainfall and high stocking, there are "cattle crashes," or large losses of cattle (DFID, 2000). Drought occurrence is still highly likely, and a number of factors are also contributing to the decline in livelihood diversification. Recuperating from such shocks and stresses is not easy. Among the contributing factors to this issue are issues with seasonal migration, the alienation of traditional pastoral rights to access pastoral resources, and limitations on the freedom of movement in search of pasture and water. Therefore, any attempt to improve livelihood must include a thorough understanding of the alternative livelihood strategies used by pastoral households and communities. Allocating a restricted resource for pastoral development on the basis of updated assumptions regarding the livelihood strategies of rural impoverished people is crucial.

Conflicts over water resources cause physical insecurity in 81% of cases, which has a detrimental effect on grazing and watering spots accessibility. Nine percent of those displaced are compelled to relocate to safer and drier areas due to external circumstances. But according to study results, over half (58%) of the population is compelled to relocate or relocate their animals to boreholes in the neighborhoods as a result of disputes at neighboring watering spots. Given that the conflicts center on water, the explanation offered is that frequent fighting occurs at watering spots, making the areas unsafe for both people and livestock. According to WASDA (2005), the outcome can include damage to the borehole that renders it ineffective, limiting the number of days that water can be accessed, and subsequently intensifying conflicts over water.

Fights result in the borehole being closed (99%). Due to limited water during the dry season, this becomes another source of conflict (Beyene, F. 2017). Pastoralists' only supply of water during the dry season is boreholes. According to Senay, G. B., Velpuri, N. M., Alemu, H., Md Pervez, S., Asante, K. O., Kariuki, G., and Angerer, J. (2013), it is imperative to establish an operational waterhole monitoring system in pastoral regions using satellite data and hydrologic modeling. Due to the fact that the men who are physically fit are also the ones who fight, people who need water must travel great distances in search of it when the borehole is closed. In order to meet their basic needs, families are forced to steal from others because they end up losing more livestock. It has also become easier for thieves to go undetected and target watering spots to steal livestock. At drinking spots, most disputes involving water begin with individuals and progress to families, communities, and clans. When there is competition for water resources, the conflict is typically perceived at the clan level as one between clans. As a result, a lot of people get sucked into or join conflicts that they don't fully comprehend. More conflict and dwindling resources follow in a vicious cycle as a result (Zurich, 2008).

Large-scale livestock production is the main source of income for people living in Ethiopia's pastoral areas, and sales of livestock and livestock products like milk, hides, and skins account for the majority of these earnings. Nonetheless, the effects of hunger, growing insecurity, and drought have resulted in a rise in sedentary lifestyles and the exploration of alternative sources of income (Davies, J., Niamir-Fuller, M., Kerven, C., and Bauer, K. 2013). In order to meet their needs for consumption and to withstand shocks from illness, the weather, and market failure, pastoralists in Ethiopia are turning more and more to non-pastoral income strategies (Getachew Demissie, 2016).

A number of natural, social, and economic issues, such as ongoing drought, a lack of basic infrastructure, conflict, and low resilience to deal and recover from such vulnerable situations, limit the pastoral areas of the Bale zone in general and Sawena district in particular. Because of this, most people in the pastoral area of the zone rely on food assistance from the government and various development partners during most seasons of the year (Ormrod, J.E., 2004).

Choice of Livelihood Strategies and Its Determinants in Pastoralist Area of Bale Zone: The Case of Sawena District, Oromia, South East Ethiopia were targeted by governmental and non-governmental organizations with permanent and pilot project in district had been spending many resources from year to year but were unable to bring about a workable change on the pastoral community's choice of livelihood strategy (Gebbisca, M. B., and Mulatu, G. 2020). This could be due to a lack of knowledge about the precise definition of livelihood strategies used by various

socioeconomic groups, the motivations behind household livelihood strategy decisions, and uncontrollably occurring natural phenomena like droughts. Effective decisions about the type and nature of interventions and the target beneficiaries were being hampered by the lack of such information and the incorrect approach (Getachew Demissie Desta, 2023). Accordingly, various households adopt various livelihood strategies based on their asset and asset status perceptions with regard to particular livelihood strategies. The researcher's knowledge regarding livelihood diversification strategies, determinants, and challenges for the district's pastoral and agro-pastoral community is limited to the lack of empirical research conducted in the area, including the Bale zone.

Based on the results of the most recent research, there are three challenges with developing an impact assessment methodology: first, evaluating a program's objectives and assessing its long-term impact are sometimes confused. Second, methodologies and instruments for evaluation are frequently underdeveloped. This leads to gaps in the line of reasoning from the data to the conclusions. Thirdly, qualitative impact assessment is a very complicated topic.

The impact of NGO development projects and programs was not well-documented, according to an OECD/DAC study (Kruse et al., 1997). This was attributed to "paucity of data and weakness of evaluation methodologies." Rather than analyzing the significance of the work completed, project evaluations frequently only included descriptions of the activities completed. Inadequate evaluation and assessment techniques are partially to blame for this (Ambelu, A., Birhanu, Z., Tesfaye, A., Berhanu, N., Muhumuza, C., Kassahun, W., and Woldemichael, K., 2017). An additional factor was the lack of focus on creating and implementing suitable monitoring protocols and guidelines (Akall, G. 2021). The fact that many projects change and evolve over time frequently made this worse. After reviewing numerous evaluation reports, the DAC Study came to the conclusion that there was a very weak correlation between the data acquired and the conclusions reached, making impact assessments exceedingly difficult.

The researchers basically started from scratch when creating a methodology for evaluating impact from a primarily qualitative perspective in order to minimize this issue. It used to clearly distinguish between the qualitative and quantitative approaches then. Firestone's definitions were utilised due to their usefulness in defining the parameters of an assessment, including its scope, methodologies, application, and time allotted. Firestone's principles state that when evaluating a large program, it is sufficient to evaluate just enough of the work to get a clear picture rather than every aspect of it. A specific assessment visit's scope must allow for the assessment to be valid, credible, and reliable. Credibility and validity are understood to imply "are the results credible?" Diverse perspectives exist regarding the evaluation of validity. While Maxwell (1992) takes a qualitative approach, Cohen and Manion (2017) adopt a very positivistic stance and view validity in contrast to others. They contend that the quality of data interpretation and conclusions drawn from it are crucial in qualitative research. Researchers like Patton, who view the validity of an assessment as based on quality "information-richness" and the researcher's analytical skills, find a middle ground between these two extremes (Patton, 1990).

Various studies with a stakeholder focus on development interventions conducted in Ethiopia to date highlight the factors that contribute to the vulnerability of pastoralist livelihoods both

nationally and in specific regions. However, because their findings are aggregate results, it is difficult to distinguish between the significant differences in impacts on pastoralist livelihoods, and the intervention's effects among particular stakeholders were not appropriately designed. Even while some studies have been conducted in particular fields, like (Martin et al., 2016), their focus and study area are entirely different from what study attempted to included. Furthermore, data from our most recent study indicates that developing an impact assessment methodology presents three challenges: First, there is a misunderstanding between assessing the program's long-term effects and evaluating its objectives. Second, methods and tools for evaluation are frequently badly designed. Evidence ranging from data collection to analysis and conclusions is impacted by this challenge. Thirdly, Singh, P. K., and Nair, A. (2014) argue that the problem of qualitatively assessing impact is extremely complex.

Due to a lack of data and methods, the study on the effect of development intervention on pastoralist livelihoods (Lwanga-Ntale, C., and Owino, B. O., 2020) came to the conclusion that there was a lack of "firm and reliable evidence" regarding the effectiveness of NGOs' development projects and programs. The DAC Study came to the conclusion that it was exceedingly challenging to assess impact because, after reviewing numerous evaluation reports, it was evident that there was little correlation between the data acquired and the conclusions reached.

Thus, in the case of the West Hararge zone choosing certain stakeholders, the Oromia region of Ethiopia, this study evaluated the effects of development stakeholders on the livelihoods of pastoralists in a few selected districts due to the lack of research done to close the aforementioned research gaps. In order to measure the outputs from the implementation of stakeholders' efforts, the researcher used a few chosen stakeholders: Pastoral Community Development, Water Sector Office, Cooperative Oromia promotion Busa Gonofa Institution, Education Sector for Pastoralist, Rural Road Development for Pastoralist, Productive Safety Net Program, Islamic Relief, Care Ethiopia, Water, sanitation and hygiene, and Farm Africa. Additionally, the researcher purposefully included outcomes for measuring the effectiveness of the organization in producing benefits over time and impacts for change that were stated to differ from the original problem.

In order to fill in these research gaps, researchers evaluated how development stakeholders affected the livelihoods of pastoralists in a few selected districts in case of West Hararge zone, as well as through recommendations for appropriate suggestion to study areas that would address the vulnerability of pastoralists in area. Consequently, the researchers focused on their particular objectives, which identifying the development interventions' stakeholders and the implications for pastoral livelihoods development. Thus, among the approaches the researchers considered were measuring impacts for change and measuring the outputs of efforts for outcomes measuring the effectiveness of the organization in order to close the identified research gaps.

2. Empirical Literature Review

Prior research on the effects of development intervention stakeholders on pastoralists' livelihoods made it wise to start this study by looking at what other researchers had identified.

In Ethiopia, community-driven development was successfully introduced as a means of empowering pastoralist communities, who carried out their line of responsibility by improving

livelihoods through access to financial services, social and economic infrastructure, and other resources (Komote, A. S., & Mwaura, F. O., 2017). Stakeholder sectors are responsible for pastoral community development projects within Ethiopian boundaries.

Ouma *et al.*, (2022) outlines the risks to water security and coping strategies among sedentarized pastoralists who are responsible for funding initiatives to improve rangeland land management practices, raise recipients' awareness of hygiene, and expand pastoral communities' access to sanitation.

According to the findings of his investigation into the socioeconomic factors influencing microfinance clients' loan repayment performance, Abebe, D. (2012)'s study reveals: The case study of Busa Gonofa Microfinance Institution-Ziway Branch, Oromia Regional State, Ethiopia, highlights the establishment of the institution with the primary goal of improving financial services to communities, including pastoralist communities.

According to Orodho, Waweru, Getange, K. N., and Miriti, J. M. (2013), the following conclusions are drawn from the investigation's progress toward achieving universal access to education for pastoralists who live nomadic lifestyles: Pastoralists must take responsibility for the education sector. The government's pastoralist education policy, which supports the involvement of stakeholders in the sector's development, was declared to be age-appropriate and contextualized for use in local schools serving areas that span the lower primary school cycle, specifically grades 1-4.

According to De Haan, C., Dubern, E., Garancher, B., and Quintero, C. (2016), it is crucial to take into account other investments in rural developments, such as the construction of roads for the truck-transportation of livestock, in order to address conflict issues related to pastoralism from stakeholders. As important beneficiaries, all rural producers, including farmers and pastoralists, must be consulted.

According to Cochrane, L., and Tamiru, Y. (2016), the investigation's findings demonstrate how Ethiopia's productive safety net program affects power, politics, and practice. Historically, the Ethiopian government launched the program in February 2005 with the goals of lowering household vulnerability, enhancing shock resilience, and fostering sustainable community development in rural Ethiopia's food-insecure areas, including pastoralist communities.

An additional researcher, Kaag, M. (2011), claims that Islamic relief organizations have been established to respond to global humanitarian crises and lessen the effects of natural disasters and conflicts. It was therefore created to enable quick reaction, offer emergency assistance, and safeguard those in need, especially those living in rural areas. It aids in government and community preparedness for disaster risk reduction initiatives.

According to Biza, N., and Mohammed, H. (2016); Pastoralism and antenatal care service utilization in Dubti District, Afar, Ethiopia, as part of Ethiopia revealed as Care Ethiopia's focused and long-term program approach to poverty eradication, we prioritize working with women and girls in rural and urban areas. Our longer-term programs focus on: Livelihoods and food security,

sexual and reproductive health child and early forced marriage HIV/AIDS prevention. In Ethiopia, care's humanitarian efforts started in 1984 in response to severe drought that devastated to address root causes of poverty and vulnerability and gender inequality more specifically.

According to UNICEF (2016), access to clean drinking water, proper sanitation, and hygiene services are crucial for the development, welfare, and well-being of pastoral communities in rural areas. The water, sanitation, and hygiene sector is a global organization.

According to Tsegaye, D., Vedeld, P., and Moe, S. R. (2013), pastoralist-based research in livelihood contexts was examined in a case from northern Afar, Ethiopia; Farm Africa is an international nonprofit organization whose mission is to mitigate poverty by empowering marginalized African pastoralists and smallholder farmers to enhance their well-being over the long term through improved natural resource management.

According to Stark (2015), pastoralism is defined in Ethiopian contexts as involving mobility. However, this definition may not hold true in other contexts where sedentary households occasionally manage large herds of livestock by simply allowing them to roam freely during the dry season. Mobile cannot accurately characterize pastoralism because people shift their focus from issues like conflict, animal disease, or drought to recently available resources. In a variety of livestock and non-livestock activities, pastoralism may be understood as a system connected by a web of social and economic ties that transcends national boundaries and extends well beyond lowland areas to highland economies (Kohn Stamm, 2016). As "ethnic identity, Indigenous and Tribal Peoples," the United Nations Convention No. 169(1989) defined L. Swepston (2018). A member of social groups with a strong traditional association with livestock keeping, where a significant portion of the group derives over 50% of household consumption from livestock products or their sales, where over 90% of animal consumption comes from natural pasture, and where household members are responsible for the full cycle of livestock breeding, is considered to be pastoralist. This definition is supported by scientific research.

According to Roger (2001), pastoralism never developed because population pressure on land remained limited, it strongly associated with presence of grasslands, but can be found numerous grasslands without pastoralists. But, I strongly disagree with this researcher because pastoralism can be developed and disappeared with the change of land use policy of the nation. In most parts of the world, except Africa, agriculture seems to be earlier than pastoralism and pastoralism was developed later. Pastoralism existence has had complex relationships with hunter-gatherers history of the human being, green revolution and the nature of land ownership in many parts of the world. Coppock et coll., 2014); Pastoralist Borana-Oromo: For Ethiopia, the Borana Plateau is a significant rangeland. For many centuries, the pastoralist mode of production has sustained human existence in this area, and today, animals are supplied to a wide range of domestic and international markets. Clans have historically possessed vital resilience in the face of conflict, the sharing of natural resources, livestock ownership, and basic daily necessities thanks to Borana systems of social solidarity. Gakuria (2013); the leaders of the Borana pastoralists, in contrast to other pastoralists in Ethiopia, redistributed cattle to people who were found to be in legitimate need due to circumstances beyond their control. A number of factors, such as population growth, rangeland

degradation, food insecurity, climate change, and declining livestock productivity, have contributed to the decades-long decline of the Borana pastoral system.

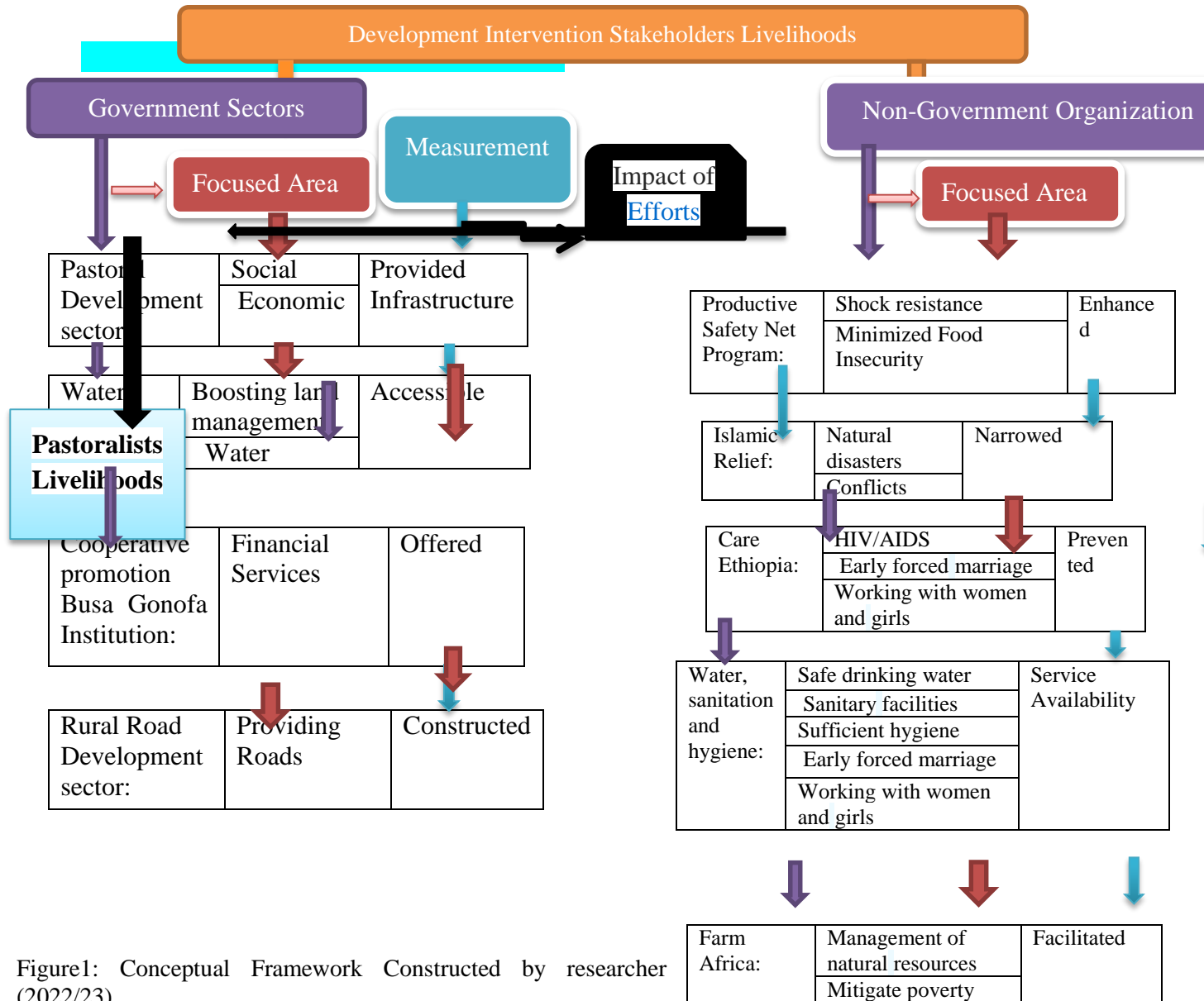


Figure1: Conceptual Framework Constructed by researcher (2022/23)

Additionally, the table below illustrates the relationship between the study variables and indicates the expected sign of each if the variables were applied successfully and ineffectively.

Sectors	Roles	Expected Sign	Pastoral Development
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Government	Pastoral Development	Enhancing social and economic infrastructure accessibility	+/-	According to the expected sign, it could be improved or not improved
	Water Sector	Boosting land management and water	+/-	
	Cooperative promotion Busa Gonofa	Offer communities financial services.	+/-	
	Education Sector	Covering 1-4 education grade	+/-	
	Rural Road Development sector	Constructing roads for the movement of livestock	+/-	
Non-Government	Productive Safety Net Program	Enhance shock resistance and sustainable development in where there is food insecurity.	+/-	
	Islamic Relief	Lessen effects of natural disasters and conflicts	+/-	
	Care Ethiopia	HIV/AIDS prevention, early forced marriage, and working with women and girls	+/-	
	Water, sanitation and hygiene	Provide clean water, sanitary facilities, and sufficient hygiene services available.	+/-	
	Farm Africa	Facilitate sustainable Management of natural resources for marginalized farmers and pastoralists to mitigate poverty.	+/-	

3. Research Methodology

3.1. Description of the Study Area

One of the Oromia Regional State Zones, West Hararge Zone is situated in Ethiopia's eastern region. The Gumbi Bordodde and Miesso woredas were the specifically chosen study areas. The zone has a population of 2,110,611, of which 1,081,442 are men and 1,029,168 are women. With 126 people per square kilometer, the estimated land area is 17,300 square kilometers (CSA, 2007). Arba Gugu is the highest mountain in this region at 3574 meters. This zone's agro-ecology is composed of 12% highland, 38% midland, and 50% lowland areas, respectively.

On the route to the Djibouti asphalt road, Gumbi-Bordode Woreda is located 275 kilometers northeast of Addis Ababa in Western Hararghe zone of Oromia Regional State, in the northern section of the Ethiopian Great Rift-Valley. With Mount Asabot (1523 meters) as its highest point, Mieso's elevation varies from 1107 to 3106 meters above sea level. Primary and secondary sources were the sources of the data for this study. Through in-person interviews and questionnaires, primary data was gathered from households. In contrast, secondary data on the means of subsistence of pastoral communities in the Oromia region were gathered from a variety of sources, including research reports, magazines, journals, and published and unpublished documents.

Using the SWOT analysis method, a few specific goals were examined to determine the degree of development progress made shortcomings of the development interventions, and the potential for stakeholder intervention to impact pastoralist economies.

Stratified sampling techniques were used to represent the proportion of the size group since the pastoral areas by zone from which the sample was taken do not constitute a homogenous number due to their different factors. Using stratification techniques, groups are created based on population. In order to achieve the study's goal of selecting a sample size from each of the districts that were chosen to represent the population of the study area, multistage sampling techniques were employed. Sample households were chosen at random based on size proportions once the total pastoral population of the chosen area was known. In this study, Abdi, K. (2015) explained that the purpose of stratification was to assign representatives to the sample according to certain attributes.

Pertaining to how sampled households were selected from each stratum to follow the method of proportional allocation which size of sample from different strata were kept proportional to size of stratum. This means if P_i represents proportion of population included in stratum i and n represents total sample size, the number of elements selected from stratum i is from P_i . Depend on above mechanism of selecting sample from strata: n_i is from pastoralist P_i , of each some sampled location (zone). Accordingly Yamane's (1967) sample size determination: $\frac{N}{1+N(e^2)}$ Where n is the sample size, N is total population size, and e is the levels of precision were followed. The researchers' progress in surveying all samples was hampered by the institution's insufficient budget for research development, despite fact that the research was funded through collaboration between the offices of community engagement and research at Oda Bultum University and the Oromia regional national state's pastoral development office. As a result, only 160 sample sizes were purposefully included in the total number of samples.

Study areas with a chosen sample included the education sector, cooperative promotion, market working at the study level, the office of finance development coordination, water, livestock, and natural resource development, as well as some selected NGOs that were chosen based on accessibility and security conditions. 160 respondents were used by the researchers in the relevant study. The study focused on various development stakeholders involved in pastoralist economic development, both from government and non-government organizations. These stakeholders included pastoral community development, the water sector, cooperative promotion Busa Gonofa, the education sector for pastoralists, and rural road development for pastoralists. From non-government sectors, the study included the productive safety net program, Islamic relief, care Ethiopia, water, sanitation and hygiene, and farm Africa.

Econometric models were employed in addition to descriptive analysis to evaluate the impact of development interventions on pastoral communities' means of subsistence in the study areas. According to Chris Williams (2014), an organization development intervention is a series of tasks, moves, and occurrences meant to improve an organization's efficacy and performance. Using STATA software version 14, data on identified stakeholders related to the study's goal were gathered, edited, and analyzed. Due to the dichotomous nature of the dependent variable—development intervention either fills the stated gap or does not—binary logistic regression, an econometric model with estimated probabilities falling between logical limits 0 and 1, was employed (Gujarati, 1995). Below is a general description of the chosen econometric model and how it is used. The study was employed logistic regression econometric model. The dependent

variable being a binary variable having value of one if pastoralist were under closed economic plan of stakeholders as stakeholders subject line, and a value of zero otherwise:

$$P_i = E\left(y = \frac{1}{X_i}\right) = \frac{1}{1 + e^{-z_i}} = \frac{e^{z_i}}{1 + e^{z_i}} \text{ --- Equation 1}$$

Where e is an exponential term, Pi is probability of pastoralist to be live under open economic plan of stakeholders as per of stakeholder’s subject line, Y is the observed status of a respondent regarding to intervention of development gaps. Xi is respondent set of stakeholders contribution as variables, Zi is a function of n-explanatory variables (Xi) which can be expressed in linear form as:

$$Z_i = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n$$

To legalize their movement regarding research work, the researchers were used formal letter on the behalf of Oromia pastoral and irrigation research office from Oda Bultum University, research and community engagement Office.

4. Results and Discussions

Table 4.1: Spearman's rank analysis matrix for sectors to forward direction

Sectors	Overall progress made towards pastoralist developments (%)	Rank	Overall sector’s current state, and sector’s subject lines intended state gaps (-vely in %)	Rank	Difference rank(d)	Difference square(d ²)
Pastoral Development Sector	198.75	1	226.25	3	-2	4
Water sector	155.63	2	245.63	2	0	0
Cooperative Oromia Promotion; Busa Gonofa Institution	100	5	212.5	4	1	1
Productive Safety Net Program NGOs sectors’	117.5	3	163.75	5	-2	4
Care Ethiopia NGOs sectors’	101.26	4	493.74	1	3	9
Education Government Sectors	41.88	6	58.13	6	0	0

Note: The intended state gaps (represented by a negative percentage) for various concepts are indicated, along with the rank of the sector as a whole at this time. The first and last ranks, therefore, suggest that the development of pastoral livelihoods should be prioritized with greater urgency. The last rank, on the other hand, indicates a somewhat improved and moderate level of sectorial intervention in the welfare of pastoral economic development. Additionally, rank indicates a sector's standing in relation to its accomplishments in relation to the topic area of its organization and its contribution to pastoralist development using an inverse rank indicator. Thus, the last rank represents the sectors' level of achievement, while the first rank represents a complete lack of contribution to the sectors' goals and thus calls for more pastoralist development. Thus, the sectors rank awarded among pastoralist development stakeholders based on their participations contribution to pastoral development were positively followed, based on matrix for overall Spearman's Rank analysis for gap of sectors to develop benchmarks to forwarded direction in addition to investigation results; The government sectors for pastoralist development are as

follows: first rank to Education; second to Productive Safety Net Program; third to Cooperative Oromia Promotion; Busa Gonofa Government Sector Institution; 4th to Pastoral Development; fifth to Water sector Government Office; and sixth rank to Care Ethiopia Non-Government Organization.

4.1. Econometric Model Analysis Results

Given the dichotomous nature of the dependent variable that is, whether or not development gaps exist—a binary logistic regression model was employed. Development gaps were classified as either present or absent in the dependent variable of a model. The maximum likelihood technique was employed to estimate the logit model. On the other hand, significant tests were conducted to determine whether or not the model's fundamental assumptions were met before estimating the given model. Also tested was the model's goodness of fit. Thus, the following tests were conducted. A variable is highly collinear with others if its VIF is greater than 10. In this case, the 1/VIF value is closer to one than it is to zero. Furthermore, the average VIF value rises to 1.67. As the result is less than 10, there is no issue with multicollinearity, indicating acceptable collinearity.

Variables(Stakeholders)	VIF	1/VIF
Pastoral Development	1.19	0.837577
Water Sector	2.62	0.381435
Cooperative promotion Busa Gonofa	1.17	0.855630
Education Sector	2.19	0.456263
Rural Road Development sector	1.21	0.826005
Productive Safety Net Program	1.75	0.572164
Islamic Relief	1.74	0.576124
Care Ethiopia	1.69	0.592126
Water, sanitation and hygiene	1.70	0.588260
Farm Africa	1.43	0.0.700061
Mean VIF	1.67	

The problem's heteroscedasticity test yields a negative result (Breusch-pagan/cook-Weisberg test), accepting H_0 : homoscedasticity. Given that the alpha in this case is 5% and the p value is greater than alpha (0.0588), H_0 : constant variance is accepted, as shown in the table below.

Breusch-Pagan/Cook-Weisberg test for heteroscedasticity	
Ho: Constant Variance	
Variables: fitted values of pastoral Households	
Regressed Values	Estimated Results
Chi ² (1)	3.57
Prob >chi ²	0.0588

Conversely, the researcher employed two alternative methods of testing: the Hosmer Lemeshow test and the likelihood ratio test model were employed. Using the contingency table of observed and expected frequencies, the Hosmer-Lemeshow goodness-of-fit statistic is calculated as the Pearson chi-square. A high p-value indicates a good fit according to the Hosmer and Lemeshow test (Wooldridge, 2001). As a result, the test result in this study indicates $p = 1.0000$, which is higher than the alpha of 5%, indicating that the model is appropriately fitted to the data as shown in the table below.

Logistic model for Pastoralist households, goodness-of-fit test	
Number of Observations = 160	
Number of covariate patterns = 126	
Regressed Values	Estimated Results
Pearson chi2 (115)	59.53
Prob >chi ²	1.0000

4.2.1. Identifying Pastoralist Stakeholders for Development Intervention

Table 4.2: Logistic Regression Analysis for Development Stakeholders

PastoralHHsDEVELOPMENT	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval]	
Pastoral Development	1.123352	.5318414	2.11	0.035	.0809617	2.165742
Water Sector	-1.186392	.5020087	-2.36	0.018	-2.170311	-.2024734
Cooperative promotion Busa Gonofa	3.267234	1.44974	2.25	0.024	.4257966	6.108672
Rural Road Development sector	-1.890737	2.619497	-0.72	0.470	-7.024856	3.243383
Productive Safety Net Program	-2.340766	.9794883	-2.39	0.017	-4.260528	-.4210038
Islamic Relief	-2.564439	2.259001	-1.14	0.256	-6.992	1.863122
Care Ethiopia	-2.154674	.7540934	-2.86	0.004	-3.632669	-.6766778
Water, sanitation and hygiene	.5285192	.7215986	0.73	0.464	-.8857881	1.942826
Farm Africa	-.2251781	1.034523	-0.22	0.828	-2.252806	1.802449
Education Sector	-3.589235	1.481291	-2.42	0.015	-6.492511	-.6859592
_cons	19.59467	7.598534	2.58	0.010	4.701821	34.48753
Number of obs = 160		Prob > chi2 = 0.0000		Pseudo R2 = 0.8776		
LR chi2 (10) = 194.65		Log likelihood = -13.578802				

Source: STATA, Version 14

Pastoral development government sectors; Plans for accelerated and sustained development to end poverty (PASDEP) (2006–10), GTP I and II (MoFED 2011), the Livestock Master Plan (LMP) of 2015, and the Poverty Reduction Strategy are some of the key high-level policy documents that provide emphasis and direction for Ethiopian pastoralists. These policies are based on the literature reviewed for pastoral development. The government sectors' coefficients for pastoral development, in addition to this framework of policies, are positive and significant at the 5% significance level, according to the researchers' findings. It follows that increasing the sector-specific applicability of policies to the pastoralist economy will result in a reduction of the pastoralists' open economic plan.

Water Sector of Government: Researchers identified the government's water sector as a crucial component of the pastoralist economy based on the justification provided in this literature, and at significance level of 5%, they identified sectors as important stakeholders. Productive safety net program: Furthermore, in 2005 the Ethiopian government initiated the PSNP for 5 million farming highlanders who were chronically food insecure (FDRE 2006). Its objective is to enhance the general well-being of individuals through an integrated approach, taking into account non-governmental development agencies' design as a governmental intervention, with planning and

implementation informed by local conditions, interests, and involvement. Its goal is to give pastoralists conditional food and cash as a wage so they can meet their short-term consumption needs while long-term strengthening the communal base. According to this body of literature, the researchers discovered that, at the 5% level of statistical significance, the PSNP program for pastoral community development intervention was a significant variable. Education sectors for pastoral development: As with most Sub-Saharan nations that signed the agreement, Ethiopia's progress toward universal education fell well short of the target year. Ethiopia has reaffirmed its commitment to the goals set forth by Owens, T. L. (2017) and Torres, R. M. (2001), which indicated that universal education would be the main goal by 2015. UNESCO (2015) revealed that Ethiopia has not met the target, despite official reports indicating good progress. At the 5% significance level, the researchers discovered that the schooling of pastoralist children, as an intervention, improved the development achievement of the children, in accordance with conference targets and efforts to meet stated goals. This is because those with more education are better equipped to make decisions that advance economic development.

Cooperative Promotion; Oromia Busa Gonofa Institution: The mission of the Busa Gonofa Microfinance Institution is to offer financial services to all communities, including pastoralist communities. The researchers' findings indicate that, at a 5% significance level, the variables under investigation are significant for pastoralist economic development, in line with the goals of this institution. Care Ethiopia NGOs sectors: In order to significantly impact the root causes of poverty, Care Ethiopia's mission is to work with impoverished men and women, boys and girls, communities, and institutions. In order to reach three critical impact on food insecure rural women (CFIRW), pastoral school-aged girls and women (PSAG), and resource-poor urban female youth (RPUFY)—the CARE Ethiopia team also identified five domains of change. The researchers discovered that, at the 5% significance level, Care Ethiopia is a significant variable for the pastoralist economy, in accordance with the sector's objectives.

4.2.2. Intervention Stakeholders' Marginal Effects on the Pastoralist Economy

PastoralHHsDEVELOPMENT	Marginal Effect	Standard errors	[95% Conf. Interval]
Pastoral Development	.2363244	.12231	-.003397 .476046
Water Sector	-.2495866	.12549	-.495541 -.003632
Cooperative promotion Busa Gonofa	.6873425	.39737	-.091497 1.46618
Rural Road Development sector	-.3977626	.52282	-1.42247 .626944
Productive Safety Net Program	-.4924372	.20475	-.893744 -.091131
Islamic Relief	-.5394924	.48371	-1.48754 .408559
Care Ethiopia	-.4532882	.18491	-.815711 -.090865
Water, sanitation and hygiene	.1111869	.16378	-.209813 .432186
Farm Africa	-.0473717	.22607	-.49047 .395727
Education Sector	-.7550832	.34823	-1.43761 -.072555
Number of obs = 160			Prob >chi2 = 0.0000
LR chi2 (10) = 194.65			Pseudo = 0.8776

Source: STATA, Version 14

The discrete change in intervention stakeholders' responses to the intervention, while maintaining the stability of other factors, is indicated by the coefficients of marginal impacts in pastoralism

economic development. Another thing that never changes is that the likelihood of pastoral households experiencing economic development will rise by 23.63 percent for every level of intervention from government sectors or organizations focused on pastoral development. This is because community-driven development, a crucial component of pastoralist development projects that effectively boosted the livelihoods of pastoralist communities by providing them with access to financial and social services, as well as social and economic infrastructure, was successfully implemented. The government's water sector coefficient for the pastoralist economy indicates that for every unit increase, the severity of the pastoralist economy's economic development decreased by 24.95866 percent. This outcome is the consequence of the government office responsible for the water sector in the pastoralist area increasing the goals of the sanitation and hygiene project, improving rangeland land management techniques, and improving target communities' access to water. According to the Busa Gonofa cooperative promotion sign, if sectorial provision increases by one unit, there is a 68.73 percent chance that pastoral households will improve while other factors stay the same. This is because a microfinance institution is a company that carefully plans and executes initiatives to offer financial services to all communities, including pastoralist ones.

According to the coefficient linked to the NGOS productive safety net program sectors result, there will be a 49.24 percent decrease in the likelihood of pastoral households going without food if programs are expanded by one term. Care Ethiopia's coefficients, which target household heads in pastoralist communities, indicate that a certain amount of increase in Care Ethiopia will likely result in a 45.3% decline in pastoralist livelihoods, other things being equal. This is because, as part of Ethiopia, Care Ethiopia prioritizes working with women and girls in both rural and urban areas; programs focus on: Livelihoods and food security, Sexual and reproductive health HIV/AIDS prevention in children and early marriage, reaction to the devastating drought, and a focus on addressing the underlying causes of poverty, vulnerability, and gender inequality in particular. In other words, as education for pastoralist communities increases by one level, the likelihood of pastoralist severity in their economy decreases by 75.5 percent, according to the sign coefficients for education for pastoralist communities. This is a result of the government's pastoralist education policy, which was implemented by stakeholders involved in the development of the education sector and was based on age-appropriate implementation for local schools serving areas that range from primary education, particularly the first cycle of primary school (grades 1-4).

5. Overview, Findings, and Suggestions

5.1. An overview and Conclusions

In the case of the West Hararge zone and certain selected stakeholders, Oromia regional national state, Ethiopia, this study was carried out specifically for pastoralists in order to evaluate the effects of development stakeholders on the livelihoods of pastoralists in certain selected districts. In order to accomplish the study's primary objectives, the following fundamental research question was looked into: who are the stakeholders in development interventions for pastoralist economic development, and what effects these interventions have on pastoralist development in the study area? Reliability was ensured by using primary data sources and conducting descriptive and regression analysis using econometric logistic likelihood regression models to identify key stakeholders and their effects on the economic development of the pastoralist economy in study area. The researchers used 160 respondents based on this methodology. Different development

stakeholders from both government and non-government organizations were purposefully chosen based on availability. These stakeholders included the following from the government sector: Pastoral Community Development; Islamic Relief; Care Ethiopia; Water, sanitation and hygiene; and Farm Africa; and Pastoral Education Sector, Education Sector, and Rural Road Development for Pastoralist. For pastoralist economic development, the following non-government and government sectors' contributions Islamic Relief, Water sanitation and hygiene, and Farm Africa were not significant at the 5% statistical significance level, but the remaining organizations' contributions were. These included rural road development for pastoralists. Ultimately, the findings of the research pointed to the following. In order to forward direction and recommend further interventions, spearman's rank (Charles Edward Spearman, 1863–1945) was utilized to demonstrate the inadequacy to achieve at stated subject line to each sector, as indicated in the table below. Consequently, the following conclusions were drawn from the research findings: care Ethiopian NGOs must work in concert with other sectors to reach their primary goal of developing pastoralist areas rather than focusing only on a few. The government office's water sector requires secondary consideration, but the education sector must be handled with some modifications to fully realize its goal.

5.2. Recommendation for the Study Area

Using the results as a basis, the study area's stakeholders were urged to take immediate action to reduce the vulnerability of pastoralist livelihoods to:

- ❖ Care Ethiopia Non-Government Organization sectors; when a large percentage of budgeted services were not delivered, resources were improperly allocated, making it impossible to implement an initiative's follow-up strategy. As a result, it needs the proper attention before everything else. Adolescent girls tend to have higher rates of HIV infection than their sexually active counterparts, so addressing early marriage and HIV/AIDS prevention requires immediate action. After early marriage and HIV/AIDS prevention, reduced gender inequality will also require a lot of attention. A small amount of food assistance was provided to prevent deaths and to help restore the local food supply as part of the livelihoods and food security projects. Pastoralists must thus receive the proper consideration. Attempts to address the underlying causes of poverty in response to the severity of the drought were uneven. However, it warrants thought. Unexpected events were handled in some way, but they must be excluded going forward.
- ❖ Water sector Government Office; Pastoralists' indicated access to water was too low, requiring ongoing attention. In addition, the amount of money allotted for non-delivered services was excessive, raising concerns about unpaid bills. Although the other line's service was listed as supplied, it fell short of the goals. In order to accomplish the intended goals, attention must be paid to the empowerment of pastoralists from the water sectors.
- ❖ Pastoral Development government Sector; given the results, which indicate a low level of land management practices provided by the sector, this is a problem that requires immediate attention. Additionally, pastoralists who follow land management practices need to have access to water. Moreover, the investigation's findings revealed non-delivered services that must be disregarded since they present a budgetary risk. In order to meet the intended goals, other line items that were supplied outside of targets must also be minimized.
- ❖ Cooperative Oromia Promotion; Busa Gonofa Government Sector Institution; Because unfulfilled service requests that exceeded the budget were found to be the result of neglecting

essential services, there is an immediate need to address this improper budgetary deficit. Furthermore, the investigation's findings indicated that the financial services offered to pastoralists that were development-oriented fell short of the organization's objectives. This will require careful consideration in order to improve it with the funds allotted. The percentage of pastoralists who benefited from food-aid services was shown as low. As a result, efforts must be made to reduce starvation and hunger among pastoralists, as this will help their economy. Furthermore, the utilization of underutilized resources was the focus of sector stakeholders' implementations, which calls for, last but not least, giving the sector framework base line attention from all angles.

- ❖ Productive Safety Net Program Non-Government Organization sectors; The investigation's findings demonstrate the study's reduced implementation-level oriented targets because the combination of services provided did not meet the stated targets. If the issues arose from unplanned goals, the provided services must be discontinued if and only if the budget allotted does not correspond to the services that will be provided. Additionally, it was suggested that in order to save lives and reduce injuries among pastoralists, food aid services should be provided to food insecure pastoralist areas. However, in order to do this, it must be made easier. Ultimately, the lack of predetermined objectives led to poor food service. Consequently, raising the degree of targeted target implementation will suit sector targets with a combination of partners' active participation.
- ❖ Education Government Sectors for Pastoralist development; according to the sector's topic line, targeted policies were not implemented effectively because only 58.13 percent of primary first cycle schools were covered. As a result, in order to alter this threat to opportunities, the sectors involved in education in pastoralist communities must exert additional effort. Due to the fact that, according to study analysis results, 58.13 percent of students are not covered for the first cycle of primary school (grades 1-4).

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